COMPARISON OF THREE PROGRAM PLANNING

VARIABLES IN CONTINUING EDUCATION IN

OCCUPATIONAL THERAPY IN BRITISH COLUMBIA

by

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ABSTRACT

The purpose of this investigation was to study variables important to the design of effective continuing education programs for clinical occupational therapists. The relationships between therapists' professional role and geographic location and three program planning variables were examined. The selected variables were: learning needs, barriers to participation, and preferred delivery systems. A secondary purpose was to gather specific information upon which to base continuing education opportunities for therapists in British Columbia.

The sample for this descriptive study was all members of the British Columbia Society of Occupational Therapists. An instrument was developed which examined the three program planning variables and a number of respondent characteristics. The learning needs section was based on the assessment of the gap between existing and desired level of expertise on 30 competency statements. These competencies focused on three skill areas frequently used by clinical therapists: evaluation, therapeutic procedures, and the use of therapeutic equipment and materials. The two categories of barriers to participation studied were situational (those arising from one's situation at a given point in time) and institutional (those planning practices and procedures which prevent participation). In relation to delivery system, a comparison was made between selected direct and distance systems.

The rank-ordering of learning needs revealed evaluation as the competency area in which the greatest need existed, particularly evaluation of perceptual-motor, cognitive and sensory function. Vocational assessment and treatment was also reported as a priority for planners when the high learning need and lack of training opportunities were both considered. The findings indicated situational barriers to participation were most frequently encountered by the respondents with family responsibility and lack of time receiving the highest ranking. The overwhelming preference of delivery system was the workshop; respondents indicated minimal interest in distance delivery systems.

Few significant differences were found between the perceptions of clinical and supervisory therapists or between urban and rural therapists in relation to the planning variables studied. Of the seven hypotheses studied, only the one suggesting differences in barriers to participation between urban and rural therapists was supported at the level of significance adopted for this study.

The major implication of this study is the utility of supervisors as a source of information for planning programs for clinical therapists. The need for developing new assessment tools was also suggested by the findings of the study. The continued use of workshops as a major delivery system, regardless of geographic location of the therapist, was supported. Considering the limited resources available, planners should emphasize increasing the numbers of participants and whenever possible, the introduction of innovative programs.

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CHAPTER ONE

INTRODUCTION AND PROBLEM DEFINITION

The ultimate goal of continuing education for occupational therapists is to maximize the well-being of those for whom the therapist is professionally responsible. As a principle means of knowledge dissemination, continuing education helps professionals maintain and increase their competence in the rapidly changing field of health care. Unless an education system is available which builds upon or modifies the previous experience of the therapist, knowledge and skills may soon become outdated.

In spite of the current acknowledgement of the importance of continuing professional education by occupational therapists and their employers, there exist a number of problems in the provision of these educational opportunities. By far the greatest problem is that often program planning is carried out by an individual as a responsibility secondary to another role. Common situations include the clinician who heads the continuing education committee of the local professional organization on a voluntary basis or the faculty member who devotes one day per week to planning continuing education (Brintnell, Note 1). It is recognized that professionals who have this responsibility to design and conduct learning opportunities possess varied backgrounds, the majority having minimal or no training in adult

education or program planning (Dowling, 1969). Therefore, although participation of therapists is strongly encouraged, the result is often a low priority given to the systematic planning of programs for which attendence is sought.

Madill (1979) summarizes the difficulties facing occupational therapists in the field of continuing education. She states the lack of long range planning and the lack of flexibility in delivery systems are among the significant problems to be confronted at present. She stresses the gathering of baseline information about different groups of therapists and the distribution of information regarding their needs to planners as one method of practically approaching problems in continuing education.

Therefore, the primary purpose of this study was to examine three variables of the program planning process relevant to the design of continuing education opportunities for clinical occupational therapists. The selected variables were learning needs, barriers to participation, and preferred delivery systems. As well, differences in therapists perceptions of continuing education as a function of professional role and geographic location were studied for their program planning implications. In addition, a secondary purpose of the study was to generate specific information upon which to base programs for therapists in British Columbia.

Professional Role and Continuing Education

One of the major problems that confronts the program

planner is deciding upon which information to base planning decisions. Although it is an implicit assumption in the majority of planning models that the potential participants are the primary source of planning information, information gathered from a number of practitioners is often conflicting in nature and thus of little practical help to the planner. One alternative commonly used in occupational therapy in order to save both time and money is to solicit from supervisory therapists information about the clinicians they supervise. The problem of determining which source of information to base programs on has been addressed in the field of adult education (Monette, 1977; Griffith, 1978) but has received little attention in the area of health care. This study attempted to determine if similarity in perceptions of clinical therapists' continuing education needs and preferences were held by clinicians and supervisors.

Learning Needs

Need has been defined by Bradshaw (1974) as the gap between an existing level of skill or knowledge and a desired one. He distinguishes between felt needs, a subjective assessment of wants or desires, and normative needs, which are based on the objective evaluation of an expert. One program planning area in which professional role contributes to differences in perception is learning needs. Differences in perception of clinicians' learning needs in continuing education held by clinicians and their supervisors is the conflict most frequently cited in the health care literature. Chatham (1979) suggests that

discrepancies in perception of need exist between clinicians and supervisors in five allied health fields while Smallegen (1981) acknowledges differences between these two groups within the area of nursing.

Needs assessment is often described as the first and perhaps most important step in program planning models. The use of needs assessment is based on the idea that identification of the potential participant's learning needs is a necessary step in planning relevant programs. When assessment is based on self-report, it is described as a felt need assessment. An underlying assumption is that participation is influenced by the individual's perception of their felt need for learning specific skills or knowledge. According to Knowles (1970) and Houle (1972) the potential participant is more likely to attend those activities that appear related to their personal needs and interests. In the case of providing continuing education for clinical therapists, the logical assumption would be that the clinical therapists themselves would be the best source of relevant information on learning needs.

Relevancy, however, may be influenced by the fact that few individuals are capable of identifying their own learning need. Atwood and Ellis (1971) and Knox (1980) contend that felt needs are not the most valid source of planning information. They suggest that individuals may be unable to evaluate their present level of knowledge or skill or may be unaware of the standard level for comparison. In addition, the interest inventories that most often represent felt need assessments rarely assess learning need as defined. Nakamoto (1973) states that because of

this inability of individuals to determine their own needs, the program planner should consider obtaining additional information from other sources.

This study focused on one alternative to the assessment of felt need which is the identification of normative learning needs. Normative need was defined as the supervisory therapist's perception of clinical therapists' needs in continuing education. This was based on the rationale that supervisors, by virtue of their role as leaders of clinical therapists are able to provide some degree of objectivity in the assessment of learning need. In order to reach a supervisory position in the field of occupational therapy, the therapist typically has accumulated a number of years practice, often in a variety of settings, which provides a more objective basis for assessment than does that of the clinical therapist whose ability to consider needs may be limited by inexperience. Assessment of felt need, despite its frequency of use as a form of needs assessment, may not provide the most valid source of information.

The variable that was proposed in this study as affecting the difference between a normative learning assessment and a self-assessment is the therapist's years of experience in occupational therapy. Houle (1980) identifies a number of factors which influence perception of need in continuing professional education, including educational background and work setting. He states, however, that years of professional experience is a major influence on perception of learning needs. In the case of therapists, it was suggested that the length of

time that the therapist had been practising would contribute to differences in perception held by clinicians and supervisors. The study attempted to determine whether significant differences exist between clinical therapists' perception of their learning needs (felt needs) and supervising therapists' perception of clinician's learning needs (normative needs). In examining these differences, it was not intended to determine which perceptions were better predictors of participation, rather the objective was to determine whether differences between felt and normative need exist and what implications this may have for the practise of program planning in continuing education in occupational therapy.

Barriers to Participation

Whether differences in perceptions exist in terms of barriers to participation in continuing education is another question which was addressed. Although this factor may not be considered as essential in the program planning models, identifying the factors which may prevent participation provides some basis upon which to modify the present type of program in order to facilitate participation. Barriers to participation can be considered as: situational, those arising from one's own situation at a given point in time; institutional, those program planning practises and procedures which discouragethe individual from participating in the program; or dispositional, those related to the attitudes and self- perceptions about oneself as a potential learner (Cross, 1980).

In terms of differences in perception of barriers to

participation the role of the therapist is an important consideration. The therapist having reached a supervisory position in the field of occupational therapy would likely have developed a strong commitment to the notion of continuing education. This commitment would be based partially on an increased personal orientation toward a career as jobs with increasingly more responsibility are undertaken and would be partially due to the necessity of participating in continuing education as a means of obtaining and maintaining such positions (White, 1975).

Because of the priority given to continuing education, situational barriers such as family responsibility and cost would likely be less significant than the institutional barriers which are frequently beyond the control of the therapist. For many clinical therapists, however, the length of time since their initial training would be minimal and thus the necessity of continuing education may be less. The employment patterns in occupational therapy support this notion that clinicians tend to have less than five years experience in the field and that therapists with more experience tend to be in supervisory positions (Maxwell, 1977). Dispositional barriers were not considered in this study because of the comparatively few instances that they were reported in studies similar to this one. It is likely that the nature of these barriers is such that it is socially unacceptable to report them, and thus they are only rarely indicated on surveys as reasons for non-participation.

Delivery Systems

An examination of the differences in preferred delivery systems for continuing education programs in relation to the role of the therapist is based on the influence of years of experience on perception. Considering the idea that supervising therapists would have had more opportunity to participate in continuing education and possibly a greater need to participate, their exposure to the traditional delivery systems of continuing education would be greater. When asked to express a preference among delivery systems, supervisory therapists would be more likely to identify a system which was familiar to them. In occupational therapy the direct delivery system has been by far the most frequently used and thus it could be expected that supervisory therapists would prefer this system. Clinicians, however, having fewer experiences and likely more access to new technological educational tools in their undergraduate education may prefer the distance systems to the traditional ones.

In summary, this study examined differences in perceptions held by clinical therapists and supervisory therapists in relation to learning needs, barriers to participation, and preferred delivery systems in continuing education. These differences were viewed in terms of their implications for determining the program planner's source of information upon which programs are based.

Geographic Location and Continuing Education

Another major problem for the planner of continuing education programs is the geographically isolated learner. In the case of occupational therapists in British Columbia, isolation is a major concern (Dickson, Note 3). For the therapist in outlying regions, continuing education has historically been made inaccessible both in terms of seeking input from rural therapists in planning and in their ability to participate. Although surveying rural therapists for planning information may not appear as problematic as facilitating participation, the cost involved and the time lag that is often associated with such surveys have tended to lower their utility. Because of financial demands, programs are designed to meet the needs of as many individuals as possible and a large number of participants is necessary in order to meet program budgets. The portion of the therapist population that provides the majority of participants and thus financial support is the two large urban areas in British Columbia, Vancouver and Victoria. Opportunities for continuing education in occupational therapy at present are restricted to those residing in these two urban centers or those who are able to commit time and finances to travel. Ironically, it is those same therapists who are unable to participate in continuing education because of the lack of program availability in their area or the financial support to travel to larger centers that are most in need. Without colleague contact, the inservice programs common in larger institutions, or the easy access to formalized programs, the

opportunity for rural therapists to update knowledge and skills is less than for urban therapists. Although the influence of geographic isolation on rural learners has received abundant attention in the distance education literature, research in the field of occupational therapy has been minimal.

This study considered the effects of geographic location on the therapists' perceptions of program planning variables. Specifically, the differences between urban and rural therapists' perceptions were considered in relation to three areas in program planning: learning needs, barriers to participation, and preferred delivery systems. The implications to the program planner in continuing education include determining whether the rural therapists require different program content than do urban therapists and whether as a subgroup of occupational therapists, they are in greater need of continuing education programs than their urban counterparts. Finally, the question of using distance types of delivery systems in occupational therapy was examined.

Problem Summary

This study attempted to address some of the problems of practice confronting the planners of continuing education in occupational therapy. Because of the marginal role that planners have in the field of occupational therapy, little information has been documented and made available to assist the planner in making decisions upon which to base programs.The source of such information was examined in this study through comparison of

perceptions of clinical therapists' learning needs and preferences held by supervisors and clinical therapists. A second problem studied was the effects of geographic isolation of occupational therapists on continuing education. Existing programs are often inaccessible to rural therapists because of the tendency for them to be located in large metropolitan centers. This study attempted to determine if rural therapists were sufficiently different from their urban colleagues to be considered for special programming procedures. The implications of studying these problems lie in the generation of baseline data on a number of issues basic to occupational therapy upon which specific planning decisions can be made for future programs in British Columbia.

Significance of the Study

Fear of professional obsolescence is cited by many as the major force behind the proliferation of continuing education courses that has occurred in the past decade (Hightower, 1973; Hoffman, 1979a; Houle, 1980; Koonz, 1978). Obsolescence, or erosion of technical knowledge within the profession due to the diminishing value of once proven methods, is a major concern in the field of occupational therapy (Madill, 1979). The fact that the half-life of medical knowledge is now estimated to be five years attests to the reality of this fear (Hoffman, 1979b). In this context, half-life is the amount of time that passes before an individual, because of new developments, techniques and knowledge, becomes roughly half as competent to do the job for

which they were trained. The implication of this for occupational therapists lies in the necessity of updating their skills and knowledge on a continuous basis in order to practise in a competent manner. In response to the threat of obsolescence, many health care groups have chosen to make continuing education mandatory in order for practitioners to retain their licence. In many jurisdictions in North America, medicine, dentistry, nursing, and pharmacy have introduced legislation that requires professionals to participate in a minimum number of hours annually in certified continuing education programs (Stross and Harlan, 1978). The influence of mandatory participation on the area of continuing education is direct. Although legislated continuing education is yet to be introduced in the field of occupational therapy, and therefore is not a direct influence on the growth of the field, a number of forces are creating an unprecedented demand for such opportunities.

Cooper (1973) states that direct and indirect changes in the field of health care result from alterations in the society that the profession serves. Social trends have their impact both on the health professionals as a distinct group within society and the population as a whole. For example, the increased mobility of the population is a factor in high employment turnover in the health care field which has implications for the frequency of orientation-related continuing education. The shift in the age distribution of the population is important to the content of programs. Considering that 12% of the population will be over the age of 65 years by the year 2001 (Marshall, 1980),

gerontological issues are becoming more prevalent. In addition this social trend has implications for the reactivation of therapists who wish to re-enter the work force after a long absence. Matthews and Schumasters (1979) describe the societal role of continuing education by stating that increasing demands for more and better health care are resulting in increasing use of continuing education to satisfy public pressure. Continuing education then, is necessitated by changes in the delivery of health care which have been created by the public's heightened awareness in the field of health. The current upsurge of programs dealing with the legal aspects of professional practise in health care is an excellent illustration of this.

Another force influencing continuing education that is associated with the increasing public involvement is government intervention. Partially due to public lobby, new health care programs and delivery systems have been introduced in all areas of health care. This has facilitated diversification and expansion of the roles of health care workers which may necessitate the practitioner's learning or relearning skills and knowledge to fulfill these roles. The recent attention to learning disabilities within the school system, for example, has created a new role for the therapist (Levangie, 1980; Punwar and Werdt, 1980). The change in focus of government policy, quite frequently accompanied by financial support, can increase the demand for continuing education through changing manpower needs. In addition to the influence of multiple settings for practise, both clinical and administrative competencies are required within each setting thereby placing dual demands on the

continuing education programs.

Changing employment patterns for women is another social influence on the area of continuing education. Trends such as increasing incidences of part-time employment, return to work in mid-life, and multiple career changes are especially noticeable in the field of occupational therapy where the majority of practitioners are women. Degree completion and re-entry types of continuing education opportunities in occupational therapy are one product of this trend.

Changes within the health care field itself are also having an impact on continuing education. Technological advancement and related medical developments have and will continue to have a profound influence on abililty of professionals to maintain competency. Innovations in procedures, techniques, research, and equipment have rendered obsolete many diagnostic and therapeutic practises. In addition, there has been a noticeable shift in the whole philosophy of health care away from cure to prevention, a shift that has been acutely felt in the field of occupational therapy. Basic training in occupational therapy can no longer adequately prepare the therapist for all the roles to be carried out in practise nor can it keep the therapist updated. Woodside (1977) states that the problem of advancement in the field of health care has been exacerbated by the lack of graduate programs in which therapists would have opportunity to update their knowledge. As a result of professional, scientific, and technological developments, the delivery of health care is becoming increasingly complex, the responsibilities of the health care worker more diversified, and the need for continuing

education more widespread.

As in many health professions, occupational therapy is in a period of major transition, one which according to Hoffman (1979a) is to continue. He suggests that the increasing numbers of older professionals, the proportion of female professionals, and the emphasis on re-licensing will contribute to the changing nature of the health care field in the future. Fear of technical obsolescence, rapid social change, and increased accountability to the public have placed professional competency in question. This concern for competence among health professionals is observed in a number of ways. Among practitioners the concern is often reflected in efforts to describe standards of care or establish quality assurance programs. Among educators, the concern is represented by the development of new and the reform of existing continuing education programs.

Research Questions

This study was designed to investigate three program planning variables in continuing education: learning needs, barriers to participation and preferred delivery systems. These variables were considered in relation to four subgroups of occupational therapists: clinical therapists, supervisory therapists, rural clinical therapists, and urban clinical therapists. The study addressed the following research questions:

1) Do differences in perceptions of clinical therapists' learning needs exist between clinical therapists and supervisory

therapists?

2) Do clinical therapists and supervisory therapists have different perceptions of the barriers to participation experienced by clinical therapists? Specifically, do supervisory therapists more often identify institutional barriers to participation than situational ones?

3) Do clinical therapists and supervisory therapists have different perceptions of the delivery systems preferred by clinical therapists? Specifically, do supervisory therapists more often identify direct delivery systems than distance ones while clinical therapists more often prefer distance delivery systems?

4) Do differences in learning needs exist between rural and urban clinical therapists?

5) Do rural therapists have a higher overall need for continuing education than do urban clinical therapists?

6) Do rural therapists and urban therapists have different perceptions of barriers to participation in continuing education? Specifically, do rural therapists more often choose situational barriers to participation than institutional while urban therapists more often choose institutional barriers?

7) Do differences in preference in delivery systems exist between rural therapists and urban therapists? Specifically, do rural therapists more often choose distance delivery systems than direct delivery systems while urban therapists more often choose direct systems?

CHAPTER TWO

RELATED LITERATURE

This review of related literature provides an overview of
the area being investigated. It summarizes the current status of
continuing education in the field of occupational therapy and in
other disciplines in the health sciences when appropriate. In
addition it provides background on the three program planning
variables studied, and on the hypothesized relationship between
these variables and two characteristics of the sample,
professional role and geographic location.

Introduction

A comprehensive review of the literature reveals that
although the need for continuing education in occupational
therapy is well documented, research efforts in the area have
been minimal. The information that is available typically
emphasizes the necessity of continuing education or describes
specific programs that have been implemented. Smorynski and
Panocha (1979) state that the small size of many allied health
professions and the diverse number of work settings in which
they are employed limit research opportunities in continuing
education. These restrictions would appear to apply to the field
of occupational therapy.

A number of health fields however, have a substantial amount of information available on continuing education. Medicine, nursing, and pharmacy in particular are sufficently similar in nature to occupational therapy to allow the generalization of research findings to occupational therapy. This review of related literature, then, is based primarily upon documentation from other health care fields. Houle (1980), however, cautions the readers of the continuing education literature that much of the material is difficult to synthesize. He states that this is because the majority of investigations are descriptive in nature and because few studies test hypotheses or permit comparison. In addition, he describes the data as being specific in time and limited in range. Acknowledging the limitations of this body of knowledge, a review of the related literature on each of the major variables in this study will be presented.

Continuing Education in Occupational Therapy

Woodside (1977) identifies continuing education as a priority in occupational therapy. She emphasizes the importance of lifelong learning and the notion that at no point can therapists consider themselves "finished products."

Madill (1979) summarizes the state of the art of continuing education in occupational therapy in her statement that beyond publicizing programs, little attention has been paid to continuing education in either the Canadian or American literature. Although she identifies several areas that require

investigation and challenges therapists to initiate research on these topics, to date nothing further has been published in the Canadian literature. Both of these writers build a solid case for the existence of continuing education programs, but beyond these statements of rationale, only a few studies were found which surveyed therapists in an attempt to generate baseline data on continuing education.

Biers and Murphy (1970) considered continuing education in relation to both active and inactive therapists. The conclusion reached by these researchers was that continuing education is important in upgrading the quality of professional performance but is less influencial in increasing the number of therapists active in the field by retraining those therapists who had been out of the work force for several years.

McGregor (Note 5) gathered data on occupational therapists in the province of British Columbia. Her study examined the distribution of therapists by such factors as job title, education and career goals, and location. A total of 22 variables were considered in relation to their implications for program planning in continuing education. One of her major findings was that inservice education and professional journals were frequently utilized as continuing education sources and that cost was a major barrier to participating in opportunities that were available at that time. Her results suggest that therapists attend at least one continuing education program every two years and that the most highly favored methods were the short course and correspondence. When learning needs were categorized and rank ordered, drug related information and

perceptual and vocational assessment were considered areas of highest learning need.

Another source of information on continuing education was the literature published by the professional organizations in occupational therapy. The Canadian Association of Occupational Therapists and the American Occupational Therapy Association have both described continuing education as a primary responsibility of the therapist and link participation to the maintainence of competency to practice. Their policy statements outline goals, suggest methods of needs assessment, and delivery systems but nothing beyond these general statements of support of continuing professional education is available.

Professional Role and Continuing Education

The professional duties that therapists carry out in their particular work settings are so diverse in nature that grouping therapists according to their professional role is difficult. Because of the structured nature of the health care system, two broad categories of role description may be identified, clinical therapist and supervising therapist. In his description of the work places of professionals Houle (1980) states that allied health professionals are frequently employed in hierarchical settings characterized by an ordered structure of authority. McGregor (Note 5) and Langwell, Wilson, and Paine (1981) observed that the majority of therapists are employed in some type of health care institution and that a common pattern of role identification exists. McGregor's data indicate that in

1975, 28% of therapists surveyed were employed in psychiatric hospitals, 24% in rehabilitation centers, 24% in general hospitals, and 22% in home care, extended care, or speciality units. All of these settings can be considered hierarchical in structure. Within this structure, therapists begin their professional career as clinicians who's primary responsibility is direct patient care. The clinical therapist may perform a variety of duties but is not responsible for other professionals. The supervisory therapists' role is characterized by a delegation of direct patient care in order that they may carry out supervisory/management functions (Stan, Note 8). Within this hierarchical setting the common pattern is for a clinical therapist to work in that position for approximately five years and then to assume either a senior therapist or supervisory position. According to Stan, the supervisory role tends to reflect a number of years in clinical practise rather than additional education. Baum (1978) describes the manager of occupational therapy services as having transferred the occupational therapy treatment process to an administrative situation which allows therapists to achieve the program objectives. Because of their familiarity and expertise in the clinical role, therapists are promoted to supervisory positions so that they can apply their experience to another set of problems.

Based on the differences in the activities performed by clinical and supervisory therapists, one would expect differences in perceptions about continuing education between the two groups (White, 1975). Although there has been no

research in the area of occupational therapy, a number of studies in other health care fields have documented this and suggest that these differences in perception may be attributed to the length of time that the supervisor has been practising in comparison to the clinician. Houle (1980) and Perry (1969) suggest that the number of changes in career line is a function of the increased length of time the individual is involved in the field and that this influences one's perceptions of continuing professional education.

Castle and Story (1968) suggest that the age of a person is related to their management or supervisory roles and that this influences perception of continuing education. Their study suggests that differences exist between management and non-management groups in the health care field. The most significant differences in perceptions occur in the statement of preferences in program content and method of delivery.

The Canadian Association of Occupational Therapists' official description of the functions of clinical and supervisory therapists support the notion of differences in perception between these groups. It is stated that although the supervisor should work with their clinical experience as a base, their perspective should be broader than that of direct patient care on a day to day basis (Stan, Note 8). In addition, the supervisory therapist's past experience in a variety of different work settings and allied health disciplines within these settings is described as essential to the decision-making processes of a therapist in a supervisory position.

There appears, then, to be a basis for differences in

perception about needs and preferences in continuing education between clinicians and their supervisors. Studies supporting these differences as a function of professional role have been mainly carried out in the field of nursing. This is likely a result of the almost universal existence of "head" or supervisory nurses and "staff" or clinical nurses. Chathan (1979) describes a study where significant differences exist between directors of nurses and staff nurses in the identification of learning needs. In the conclusions of the study, the relevance of the findings for obtaining program planning information is acknowledged.

In her survey on obtaining and developing ideas for program offerings, Smallgren (1981) identifies the existence of two groups of nurses, the practitioners and the experts who supervise these practitioners. She states that because differences in perception exist between these groups, different methods of planning must be utilized depending upon from which group the planning information is sought. Staub (1967) queries whether persons in leadership roles in the nursing field may have different perceptions about the educational process than non-leaders. She identifies years of experience and years of education as major differences between these groups.

These differences in perceptions are also the basis of White's (1975) study on differences in continuing education programs for clinicans and supervisors in the health care field. He states that differences in need assessment, teaching method, and curriculum construction should be considered separately for each group. He also questions the effect of having one of these

groups making decisons about the continuing education needs and preferences of the other but comes to no conclusion about how planners should address these differences in perception

Geographic Location and Continuing Education

Although the problem of providing learning opportunities for individuals who are geographically isolated has been addressed by the field of adult education since its development, it is only recently that health professionals have considered it in relation to continuing education. Weaver (1977) states that the health care field is becoming increasingly focussed on those people who are outside the range of existing continuing education facilities for whatever reason, be it physical disability, employment restriction, or geographic remoteness. He contends that planners in continuing education must do everything in their power to help the remote student, except to lower the standards of the program. Wagner (1977) discusses the relationship between education programs and geographic remoteness and observes that distance will influence both who will participate and their chances of successful completion of a program. He suggests that in order to overcome the barrier of geographic remoteness, a distance education philosophy and distance delivery systems must be considered.

In her review of the literature, Nakamoto (1973) emphasizes the fact that the geographic distribution of health professionals has been a barrier to the systematic development of continuing education. She observes that the effects of

geographic distribution are more profoundly felt in Canada than the United States because of the comparatively low density population pattern that is characteristic of Canada. As a result of the distribution pattern, there exists a large number of sponsoring agencies offering programs to health professionals. The lack of co-ordination and communication between these agencies creates redundancy in programming and inefficent use of the funds that are available for continuing education. In the case of occupational therapy, Dickson (Note 3) reports that there are a number of sources of continung education for therapists including: regional and provincial professional groups, universities, hospitals, treatment centers, and special interest groups.

The geographic location of occupational therapists in British Columbia was studied by McGregor (Note 5) who found that approximately 20% of the therapist population was employed in a rural setting. She stated that this distribution could be accounted for in a number of ways, but she concluded that it was largely based on facility distribution. The concentration of therapists in urban areas reflected the fact that the major teaching hospitals and rehabilitation centers are located in either Victoria or Vancouver. Therapists are often reluctant to relocate away from these specialty centers where they consider experience is best gained.

Devereaux (1978) states that many occupational therapists practising in rural areas of the Unites States are newly graduated and are there either because of inability to secure employment in a metropolitan area or for personal reasons. In a

more recent study of the geographic distribution of therapists in the United States, Langwell, Wilson, and Deane (1981) concluded that a geographic maldistribution in the occupation was evident. They found that the numbers of therapists in a given geographic region related directly to the population size and per capita income. In relation to the nature of the rural setting, the study revealed that 77% of the counties having relatively low numbers of therapists (0-5) were in rural areas; a finding which supports the notion of professional isolation.

The relationship between geographic isolation and continuing education was described by Bennett (1979) in her model of program development for use in semi-rural settings. She identified a number of barriers to the development of and participation in programs including scarcity of traditional academic resources, decreased access to experts and potential faculty, a small number of participants to support programs, and the travel restrictions imposed by geographic remoteness.

The most frequently stated result of geographic remoteness in the literature is professional isolation. Several studies investigating the reasons why health professionals do not practise in rural areas suggest that the fear of professional isolation and its effects on competent practise is a major factor (Castleton, 1970; Heald, Cooper, and Coleman, 1973; Taylor, Dickman, and Kane, 1973). Respondents identify opportunity to keep current, opportunity for professional consultation, and access to medical school or centers as important to the decision of where to locate. Such findings suggest that the lack of supportive health care facilities and

professionals in rural areas produce a demand for continuing education opportunities that will attempt to minimize the feelings of professional isolation. Continuing education then, can be seen as one alternative to the daily professional interchange with colleagues from which many therapists in rural areas are unable to benefit.

In her description of occupational therapy in the rural setting Devereaux (1978) states that being the only therapist in the community can be a lonely experience professionally. She acknowledges the lack of accessible continuing education offerings and suggests that therapists develop their own programs. In order to keep abreast of issues and concepts involved in current practise, she recommends that the rural therapist read journals, utilize interlibrary loans, and exchange reading material with other allied professionals.

There is some evidence to suggest that professional isolation is not an inevitable consequence of geographic remoteness in the health care field. Ducker's (1977) survey of rural physicians concluded that professional isolation was not a major concern. In his sample, many of the physicians viewed the fact that they were in a rural setting as a motivating force which increased their participation in continuing education programs. Because many of the resources were not available to rural practitioners, a more determined individual effort was made and more inconvenience accepted by the individual in an effort to keep knowledge and skills current. Although there is evidence that rural populations are disadvantaged because of their remoteness,it appears that in some cases those

professionals in the outlying areas attend more continuing education programs and are more satisfied by them than their urban colleagues.

Learning Needs

"Need" is among the most commonly used terms in adult and continuing education. Archambault (1966) states that its high profile can be traced to the educational philosophy which emphasizes learner-centered educational opportunities. The popularilty of the term however, has contributed to the obscurtiy of its meaning (Griffith, 1978; Komisar, 1961).

Monette (1977) states that the most general use of the term "need" in the educational sense is in the identification of a deficient state. The deficient state is a result of a discrepancy between an existing state and a desired one. Atwood and Ellis (1971) propose the term "real educational need" to describe a carefully established deficiency which detracts from the well-being of the learner; one that is correctable through a learning experience.

There are a number of variants of the term need in common use in the education literature. Knowles (1975) distinguishes between "operational or process" needs and "educational or learning" needs. Educational needs are those that are capable of being satisfied by means of an educational experience while operational ones, by implication, can not be met through educational experiences. Basic human needs have been described in the literature as a bio-psychological state similar to drive

which initiates a motive on the part of the individual (Kendler, 1961). Monette (1977) argues, however, that the basic human needs in program planning are not relevant to the educator's task and suggests that "need" be replaced by the term "motivation" in reference to program planning.

A major distinction is made in the literature between felt and normative educational needs. Bradshaw (1974) states that felt needs are synonomous with desires, wants, and interests and that normative needs denoted an objective evaluation or opinion by an expert. Archaubault (1966) uses the term "genuine need" to describe a need based on objectively demonstrable deficiency and discounts the subjective definition of need by the individual. The adjective "prescribed" is also frequently used in continuing education and implies a need relative to specific objectives, standards, or obligations. Koonz (1978) identifies the difference between felt and normative need as self-perceived wants compared to an objective estimation of a deficiency based on comparison to a minimum standard.

The key issue surrounding the concept of need according to Monette (1977) and Knox (1968) is that some educators believe a need is only a need when it is recognized as such by the potential learner, thereby providing motivation to close the gap or reduce the discrepancy. Popiel (1977) states that since adult learners enter educational programs voluntarily, selecting programs on the basis of felt need is essential. Others contend that needs are better recognized by objective individuals and that felt needs are not a valid source of information (Atwood and Ellis, 1971; Bradshaw, 1974.)

These two uses of the term need form the basis of the issue of who can best assess the learning needs of health professionals. Bradshaw (1974) asserts that assessments of felt need in health care are typically inadequate because they are limited by the perception of the individual and may therefore not be indicators of valid needs. Koonz (1978) states that real educational needs are generated by changes in the delivery of health care and that because of the global and far-reaching effects of these changes, needs may not be perceived by the individual health care practitioner. Popiel (1977) and Price (1967) maintain, however, that needs are best recognized by the potential learner in order that motivation is created.

Smallgren (1981) investigated felt vs normative needs in relation to the development of continuing education programs. She defines the programs that are quickly filled as meeting felt needs but advocates that normative needs are important. She states that continuing education programs have a leadership function in helping normative or future needs become felt as present needs. Programs must move between considering needs apparent to everyone, needs that exist but may not be apparent, and future needs. Chatham (1979) focuses on the differences between needs identified by an advisory committee which she terms normative needs assessment and felt needs identified by practising nurses. She defines normative need as the supervisor's or group of supervisors' judgement of what skills and knowledge are needed by the staff to best perform the job at some pre-determined level of competence. In her conclusions she queries the basis upon which the normative assessments are made

but she does not address this question in her study.

It is interesting to note that Chatham's study was the only one reviewed which attempted to predict in which areas differences in learning need would occur. She hypothesized that supervisor's would identify process-oriented needs in relation to clinical practise while clinicians themselves would indicate needs based on a lack of factually-oriented information. In other words, normative assessment would identify how goals were being achieved and felt need assessment would emphasize what was being done as areas where learning was required. The data supported this hypothesis but there was was no discussion of why these differences occured.

Needs Assessment

A fundamental principle of continuing education concerns the importance of conducting a needs assessment before planning and implementing a program. Needs assessment refers to a technical process wherein an individual's or organization's functional requirements are identified. Knox (1975) states the basic premise behind the assessment of need is that a participant is unlikely to change much unless a gap is identified between present performance and changed performance that is deemend desirable. Logically the program development process begins with problem identification and needs assessment (Popiel, 1977). The problem may be defined in a number of ways including inappropriate personnel assignment, low staff morale, or lack of a specific skill or competence. Needs assessments are then conducted to identify ways in which problems can be reduced

through continuing education efforts.

Nowlen (1980) states that the benefits of needs assessment are threefold. Firstly, adequate needs assessment provides a basis for more relevant programs. In addition, considering the limited resources that are available, needs assessment can yield a list of potential program areas in order of priority. A further use is to document existing need in order to support funding requests. In addition, planning without a needs assessment may create a lack of continuity for the individual learner and provide irrelevant programs at the expense of much needed opportunities.

Houle (1972) maintains that some program planners labour under the generalized notion that everyone ought to learn more than they know; a notion which fosters the "more is better" policy in program planning. He advocates the diagnosis of educational need as a method of preventing the proliferation of programs with minimal or no underlying rationale.

Despite the widespread acceptance of the principle of needs assessment, a comprehensive needs analysis of professionals is rarely carrried out (Quastel, Note 5). There appears to be a general consensus in the literature that needs assessment is a complicated task, typically involving more than one procedure if it is to be adequate, and that the time necessary to carry out a proper assessment is often prohibitive to the program planner.

Knox (1980) identifies four methods of needs assessment that are commonly used in adult education. These categories will be used to describe the variety of needs assessment found in the literature on continuing education in the health care field.

Comprehensive descriptions of assessment techniques are presented by Lorig (1977), Bell (1978), and Collart (1976), however, only the most prevalent will be included here.

The most common assesssment procedure consists of offering educational opportunities and then evaluating the numbers and types of participants. The approach of offering a sample program is often used to estimate a potential market. One method of using this technique is to conduct a survey at the end of the program; participants are asked to complete a reaction or evaluation form that asks for topics in which they would be interested in the future. Smallgren (1981) states that workshop evaluations are a fairly accurate indication of the needs of clinicians who are likely to attend similar programs. This method is most often used in the setting where a large number of programs are offered, one which has the resources to plan on a "trial and error" basis. The program sources in occupational therapy would likely consider this method relatively risky and costly considering the limited number of programs that offered.

The second type of assessment procedure described by Nowlen is the interest inventory. The most commom form is the questionnaire composed of a list of topics to which respondents are asked to indicate the extent of their interest in learning about each topic. This assessment taps felt or perceived needs in a specific program or subject area. Although used extensively in the literature reviewed (Hightower, 1973; McGregor, Note 5; Price, 1977; Smallgren, 1981), Hiemstra and Long (1974) found this method to be inadequate because interest does not always indicate the existence of an educational need.

A third type of needs assessment procedure depends on experts familiar with the group of potential learners to estimate their educational needs. These normative needs assessments are frequently carried out by an advisory committee made up of experts in the particular field. Johnson and Ware (1967) support the use of normative assessment in physiotherapy and describe the role of the educator as providing opportunity for collegues not only to maintain their present level of competency but also to anticipate and prepare for future demands. In their estimation, potential participants need not be represented directly in the diagnosis of need. Normative assessment may also take the form of analysis of statistical data, accreditation reports, critical incident notes, or chart audit for example. Walsh (1981) proposes a new system of continuing education planning based on assessing need in relation to patient care data and organizing programs around clinical problems rather than specific health care professions or disciplines. He suggests a number of sources of data including: morbidity and mortality rates, recidivism rates, review studies, and patient satisfaction surveys.

Nowlen describes one of the most effective needs assessment procedures as occuring in conjunction with performance review. Both employers and employees describe actual job performance along with desired changes and improvements, the purpose of the evaluation being to identify the gap between current and desired competence. Lessinger (1974) describes the use of job analysis as important in identifying the precise gaps in knowledge that can be addressed through training. Popiel (1977) also describes

the use of performance evaluations in the nursing field as a useful procedure in determining training needs.

Another method that is in common use not mentioned by Nowlen is the planning committee consisting of representitives of the client group with which the professional is working. In the health care field these may include representitives of patient support groups, stroke or burn patients for example, or advocates of clients, parents of disabled children for example.

Because of the number and diversity of studies reporting the results of learning needs assessments in the health care field, a summary of the information is impractical. A number of investigations, however, have concluded that clinically oriented programs are more frequently indicated on assessments than other types of programs, such as human relations, administrative, or liberal studies. Hightower (1973) and McGregor (Note 5) concluded that physio and occupational therapists are in greatest need of continuing education programs with a clinical orientation, particularily the areas of neurophysiology and orthopaedics.

Cafferata (1975), Ferguson (1971), and Chatham (1979) distinguish between factual and process orientations in learning needs identified by nurses. These three studies found that the need for practical treatment based programs were higher than that of administrative/management oriented programs. Price (1967) concluded that planners in continuing education would best meet the needs of clinical nurses by offering programs on basic skills information. Although these studies referring to differences in perceptions have more limited implications for

planners of programs in occupational therapy than of nursing because of the specific nature of the samples used, they illustrate that differences in perception exist. This study attempted to identify similar differences in the field of occupational therapy.

Barriers to Participation

To effectively provide continuing education programs, planners must be able to accurately assess the relative impact of a wide variety of factors that seriously limit attendance. Cross (1981) states that it is the people who "need" education the most who fail to participate. Typically planners carry out needs assessments which consider potential participants; Cross maintains that barriers to participation identified by non-participants are equally as important to the planning process. Identification of these barriers, then, can assist in the development of programs which minimize barriers thereby increasing the accessibility of the program.

There are a number of methods for identifying barriers to participation, the most frequently used being interviews or questionnaires. Survey questionnaires provide a broad coverage of potential barriers and are useful in identifying different barriers for various population subgroups. This method, however, is dependent upon the respondent's ability to analyze their own behavior and to interpret the definitions of barriers in the same way that the investigator does. In addition, survey respondents may identify some or all of the barriers as

pertinent to them and if a ranking system is not used, the information has limited practical value. Although both the questionnaire and interview are time consuming procedures, the interview is advantageous in that it allows for clarification and validation of the definitions of the barriers and often yields more detailed information. A third method of identifying barriers to participation is by observing participation levels when one aspect of a program is modified. Cross (1981) cites a number of examples where the effects of varying cost and location are considered in relation to decreasing these barriers.

The major difficulty with the identification of barriers is that studies tend to be based on information derived from participants in continuing education. The non-respondents eliminated from these studies are the individuals for whom barriers are the most relevant. In addition, the respondent's perception of barriers is dependent upon the method used to assess them, thus making it difficult to compare and validate data on this program planning variable.

Cross (1981) identifies three types of barriers experienced by adult learners: situational, institutional, and dispositional barriers. She describes situational as the most prevalent type and are those that arise from one's situation in life at any given time. Transportation would be a situational barrier for those in a rural area or the lack of child care for a professional with a family, and insuffecient time a situational barrier for the individual with heavy professional responsibilities. Institutional barriers are those practises and

procedures which exclude or discourage working adults from participating in educational activities. These are related to program characteristics and how they fit with the individual's personal and vocational sitution. The most commonly identified barriers of this type are: scheduling, poor location, lack of information about programs, and lack of suitable programs. This category would also include perceived irrelevance of existing programs from the individual participant's viewpoint or in relation to the profession as a whole. A study by Ruyle and Geiselman (1974) revealed that by changing such factors as schedule, admission policy, and location, participation was increased. Dispositional barriers are those related to attitudes and self-perceptions about oneself as a learner. Common examples include: lack of confidence in ability to succeed, disinterest in learning, and insufficient energy. Although dispositional barriers are least often identified, Cross suggests that these are underestimated because it is socially and professionally unacceptable to identify barriers of this type.

Although these three types of barriers are useful in organizing the numerous types of barriers that learners identify, it should be noted that many barriers fit into more than one category and may change categories over a period of time. Cost for example, is commonly identified as a situational barrier but it could be viewed as fitting the dispositional category in that willingness to pay and ability to pay are separate considerations. In some cases an individual may be willing to pay more tuition for a program that advances their career than one that is based soley on personal interests.

Likewise, job responsibilty as a barrier frequently arises from an individual's situation but in the case of programs with unreasonable or inflexible schedules, it would be classed as an institutional barrier.

The continuing education literature reflects a number of findings similar to Cross's (1981) review of adult learners. Cost, distance to travel, family responsibility, and job related responsibility were the most frequently identified barriers overall. Studies by Seymour, Connelly, and Gardener (1979), Broski and Upps (1979), Rodowskas and Evanson (1969), and Wechler (1969) suggest that these four barriers are commonly experienced by a number of health professionals including nurses, pharmacists, therapists, and physicians. All of the studies reviewed made reference to job related responsibilities as a major barrier. A study by Greenberg, Edelstein, and Benell (1978) posed the question of whether the statement of job responsibility as a barrier was based on the employees' perception of the situation or their employer's perception. It was suggested that the employer's evaluation of the potential participant's level of responsibility in relation to being absent from work in order to attend a continuing education program may be what is reflected in job-related barriers. A study by Peterson (1975) addresses the issue of differences in perception of barriers and although the sample was not composed of health care professionals, the findings are of interest to program planners. The investigation compares community leader's perceptions of what people in their community would perceive as barriers to continuing education to self-perceptions of

inhabitants of the community. The major finding was that leaders assigned higher importance to dispositional barriers than community residents, a conclusion with interesting implications for the way programs are presented and the topics that planners develop. For example, leaders might base planning decisions on the participants' low self esteem or fear of returning to study and attempt to overcome these perceived barriers by introducing some type of psychological supports into the program. Participants for whom inconvenient scheduling or family responsibilities are a problem would likely react against the planners' assumptions.

Two studies were reviewed that related specifically to the area of rehabilitation, including both physio and occupational therapists as a sample. McGregor (Note 5) found that 49% of occupational therapists and 32% of physiotherapists stated that their educational needs were not being met through the existing programs. Of those who stated their needs were not being met, 73% identified lack of suitable courses as the major barrier with family responsibilty and lack of financial support contributing to their inability to participate in programs. Similar results were reported by Seymour, Connelly, and Gardener (1979) with the addition of inconvenient scheduling as a major barrier.

The literature review revealed only one study which represented a major disagreement with the findings described above. Smorynski and Panocha's (1979) survey of allied health professionals suggested that cost was not a significant barrier to participation in continuing education. Although location and

lack of time were important considerations in the decision to attend a continuing education program, cost was one of the last factors to be considered in the decision-making process.

A number of studies included specific recommendations for program planners in continuing education to help decrease barriers to participation. The Ontario Survey of Nurses (1969) concluded that it is difficult for potential participants to plan to attend continuing education programs when little advance notice of course offerings is given. Nurses are reluctant to take advantage of opportunities available when costs of attending courses on short notice prohibit its inclusion in the agency budget. The modification of institutional barriers as a method of increasing participation was suggested by Greenberg, Edelstein, and Benell (1978) in relation to factors such as day of the week, time of day , and offering programs in outlying areas. Bennett (1979) states that decentralizing program location is likely the most effective means of minimizing the barrier of geographic remoteness.

Delivery Systems

Delivery systems are defined as a means of making learning opportunities accessible to the potential learner (Gobert, Note 4). The term implies an activity on the part of a resource person intended to create opportunities for learning and to provide a means of making those opportunities available. One of the major tasks of the program planner in continuing education is to determine the most relevant delivery system considering

the potential participants, objectives and program content. Within the program planning literature a number of terms have been used in connection with delivery systems including: format, method, and medium all of which are more or less interchangable with the term delivery systems as it applies to program planning in this study.

Delivery systems can be categorized or grouped together in a number of ways. Typologies can be based on the number of people in attendance, the amount of audience participation, or the major type of media used. One of the most frequently referred to typologies is Verner's (1962) classification of the processes of adult education in which three elements are described: method, technique, and device. Although Verner has classified numerous forms for presenting adult education opportunities, the literature typically mixes the terms and it is difficult to compare the nature of one system with another.

Gobert (Note 4) describes five types of delivery systems: home study, off-campus courses, mass-media based, instructional-media based, and community initiated. Although this classification is relevant to the nature of the study of continuing education in occupational therapy, it was primarily used to describe delivery systems designed for use in rural areas only. In the present study, delivery systems will be considered as either direct systems or distance delivery systems. Examples of a direct system include: workshops, seminars, and short courses while distance systems applies to correspondence courses, educational televison, and audiotapes.

Direct Delivery Systems

A review of the literature reveals that the direct type of system is by far the most commonly used in continuing professional education in the health care field. The common element in these systems is that the participant and the resource person meet face to face and interact directly with each other. Variations of the traditional workshop systems are the most common example of the direct system and include: lectures, symposiums, seminars, and single day brain storming sessions.

Direct delivery systems may be continuous in nature, as in the one or two day workshop, or intermittent, which describes systems where there is at least a one day break between program parts as occurs in short courses. The continuous systems are more common in the health care field. Intermittent programs often incorporate projects or tasks for the participants to complete in the interval between program parts in order to reinforce learning (Nakamoto, 1973).

Hiss (1976) describes two direct approaches to continuing education based on the agency initiating the program. The first of these is the formal program organized by a co-ordinator or planning committee that is not connected with the work setting. A two day workshop on a clinical speciality sponsored by the professional organization is a common example of this approach. The other approach describes staff programs that occur in the work setting. Grand rounds, visiting lecturers, or case presentations are examples of this format.

A third type of direct delivery system that can be

described in terms of the initiater of the program are those systems which professionals initiate to meet their own learning needs. Gobert (Note 4) comments that learner-initiated systems are more prevalent in continuing education in the health sciences than in other areas of adult education. Special interest groups and the formalized programs that they conduct are the best example of this type of delivery system.

Distance Delivery Systems

Distance delivery systems are based upon the principles of distance education which describe a form of study where the learner and the resource person carry out the essential learning tasks and responsibilities apart from each other. Keegan (1980) describes the general characteristics of a distance delivery system as: physical separation of student and resource person, influence of an educational organization in planning of learning materials, use of technical media, and the potential for supplementary learning using a direct system.

Brookfield (Note 2) states that distance delivery systems are necessary in order to provide opportunities for study to those individuals who are debarred from it for whatever reason, be it poverty, geographic remoteness, physical disability, or domestic or vocational necessity. Although geographic location is the most commonly cited reason for implementing distance systems, consideration of barriers to participation reveals alternate uses for distance delivery systems. In the literature reviewed employment and family responsibilities were two major barriers that could suggest to the planner that distance systems

may be appropriate in metropolitan areas as well as rural ones (Bennett, 1979, Cross, 1981). In the case of occupational therapists, working irregular shifts, heavy employment schedules, or commitments to professional organizations could prevent the most well-intentioned therapist from attending continuing education programs based on direct systems. Distance systems then, should not be considered exclusively from the point of view of overcoming geographic remoteness, rather in a broader sense where the potential participant's actual physical presence is prevented regardless of the reason.

Wagner (1977) identifies two basic approaches to the use of distance delivery systems that are commonly used, the indirect materials approach and the indirect simulation approach. The indirect materials approach describes the case where prepared materials are used in independent or group situations or in the case where student resource centers such as libraries are used. The resource person's role is built into the material to permit the learner to interact with the material just as they would with a resource person in a direct delivery system. The most common examples of the indirect materials approach are the correspondence program and programmmed instruction.

The indirect simulation approach is used where techniques are employed to replace face to face interaction with an interaction that can be initiated by either the resource person or the participant. This approach involves the use of some type of communication network, the most common examples being educational television, radio, audio cassettes and video cassettes. MeKenzie, Postgate, and Scrupham (1975) state that

the rapid growth of these systems has made distance delivery systems accessible to the program planner for general use.

Systems in Continuing Education

Research in the area of delivery systems in continuing education is limited to a small number of studies which attempt to gather baseline information. Data is typically derived from one or two items included within a general survey on the topic of continuing education. In the health care field, five major delivery systems in common use have been identified by Nakamoto (1973): continuous systems or workshops, intermittent systems or short courses, circuit courses, home study, and broadcasting. The first three of these represent direct systems while the other two are examples of distance systems. She states that by far the most preferred delivery system in the health care field is the direct type.

Workshops and seminars appear to be universally favored by health care professionals as a method of presenting continung education opportunities. Studies by Broski and Upps (1979), Hightower (1973), and McGregor (Note 5) suggest that workshops, one or two days in length are preferred. Although the statistics comparing workshops to other delivery systems range from 62% - 92% in favor of workshops in comparison to alternatives, a review of the instruments used in these studies reveals a tendency to bias the response toward direct systems. Frequently only one or two examples of distance systems are included in the survey, while four or five of the direct systems make up the remainder. Of those studies that included a fair representation

of distance systems, between 7% and 20% of respondents preferred distance systems. A survey by Seymour, Connelly, and Gardener (1979) suggested that 21% of the nurses surveyed favor home study and 20% preferred broadcasting systems. Greenberg, Edelstein, and Benell (1978) examined delivery systems from another perspective and found that the sample of nurses studied preferred continuing education programs based on non-involvement over those where participation was necessary. In this particular study, it was the personal interaction which was the discriminating factor in preference of delivery systems.

A study by the California Medical Association (1969) concluded that the three distance systems that were used by continuing medical educators in that state were television, radio, and recorded material. The study concluded that these distance systems were perceived by their users as supplementary to direct systems such as workshops and short courses. This same study reported that correspondence was the least popular means of delivering information to the sample of doctors surveyed.

The specific use of televison in the field of continuing medical education was reviewed by Ramsay (1967) who stated that despite publicity regarding its varied and widespread use, television as a delivery system has spread slowly. He suggests that its efffectiveness is variable, the size of the target audience must be weighed against the cost of producing and broadcasting programs. If the audience is small, television, a mass medium, may be less cost effective and educationally productive than other delivery systems.

Hunter (1968) and Vaillantcourt and Gill (1968) suggest

five reasons why educational television is not effective in continuing education in the health care field. In order of their importance they are: forgetting to watch televison, unaware of existence of the program, insufficent time, insufficent depth of content, and lack of continuity of programs.

Nakamoto (1973) states that although the reach and versatility of broadcasting are increasingly attractive to program planners in continuing education, problems in technical production and evaluation of effectiveness cause planners to be cautious in the use of television as a delivery system.

The use of satellites as an alternative to the delivery of radio and television in the traditional manner has had a major influence on the use of distance delivery systems. Polycn (1973) describes a telecommunication satellite as a device which receives radio waves from one point on earth and retransmits them to one or more other receiving stations. The refinement of this technology has permitted the use of simpler and less expensive receiving stations which has made television accessible to a greater audience and thus of more practical use in the field of continuing education (Dahl, 1975).

The use of direct broadcasting satellite has recently been introduced to health professionals in British Columbia. The Knowledge Network of the West (KNOW) is available to health care professionals through local community colleges which have a receiving dish or in some cases on individual home televisions where the cable stations receive transmission. At present, 62 centers in British Columbia enjoy the benefits of a satellite educational television system. The use of the KNOW is of most

obvious benefit to the geographically isolated individual or for those for whom transportation is a major barrier. Although the system is now available for general use in continuing education, the implementation of this delivery system will require new skills from the program planning perspective. The most crucial factor in its use is the development of an effective set of materials and activities designed to produce the desired learning experience.

Audio tapes typically represent edited portions of lectures, panels, symposia, and conference proceedings as well as material specifically programmed for use on audio tapes. Although the literature reveals that audio tapes are used by a number of health professionals, over 65% of them are used by professionals in rural or non-metropolitan areas who have limited access to direct delivery systems (Aitken, 1964).

Another type of delivery system that has limited general use currently is the circuit course and travelling lecture. Hodapp (1969) describes circuit courses in pharmacy as those where experts or consultants travel to five or six different cities and meet with professionals who have done some pre-program preparation. Spicer (1975) describes a similar concept of the travelling teacher as useful in continuing education in nursing. Nakamoto (1973) describes the distance delivery system used by Dalhousie University as one of the most effective examples of the use of distance systems. The program involves 34 centers each of which was visited five or six times per year by the medical faculty of the university who acted as resources for a number of continuing education topics. A trend that has

evolved from the circuit concept is the use of community or non-teaching hospitals as learning centers with ongoing continuing professional education planned and implemented with assistance of the university. A variation of this delivery system employs a specially equiped motor vehicle to act as a travelling resource center. The Mobile Instructionl Resource Center was used to deliver continuing education in out-lying areas in British Columbia (Gobert, Note 4; McBain, 1970). Continuing education programs were made available to allied health professionals in rural British Columbia in the form of audio visual learning programs available specifically for updating the skills and knowledge of those in the health care field.

Although the most common examples of distance delivery systems in continuing education in the health field have been described, brief mention should be made of the more infrequently used systems described in the literature. The Dial Access Program has been used in the nursing field where pre-recorded tapes are played over the phone without charge. Studies indicate that over 65% of the use is between noon and midnight and that the majority of users are located in rural areas. Problems with this system involve co-operation with a telecommunication service and determining program content (Cooper and Hornback, 1973; Pearson, 1977). Few health professions have attempted to use correspondence programs with the exception of pharmacy and dentistry. The utility of this system appears to be limited to its use as a supplemental device to other systems, for example, in the case of pre-program reading or preparation. Similarly programmed learning is not a significant factor in continuing

education in the health care field. Defined as a self-instructional approach to learning in which information is presented in a co-ordinated sequence of question and answer steps, this system has been used to a limited extent in pharmacy (Campbell, 1973). Mrtek (1971) suggests that similar to the use of correspondence as a delivery system, programmed learning is most useful for remedial or supplementary purposes. Audio visual kits including tapes, scripts, and colour slides have been used in continuing medical education but have not been found to be effective (Nakamoto, 1973). Computer-assisted learning is one of the most recent innovations in delivery systems. At present, it is more appropriate for undergraduate training than continuing education because of the wide distribution of learners.

Summary of Related Literature

This review of related literature supports the importance of continuing education for competent practise in occupational therapy. The literature suggests that consideration of a number of variables in the program planning process is necessary to provide relevant and effective programs for therapists. The three variables that were reviewed in this study were learning needs, barriers to participation, and delivery systems. In relation to learning need, the importance of some form of assessment was empahasized and the two major approaches to assessment, felt and normative assessment, discussed. Although not considered as essential a variable in program planning as assessment, the necessity of identifying barriers to

participation was described. Situational and institutional barriers to participation were defined and examples provided from the field of occupational therapy. The third variable reviewed was systems of delivering continuing education. Using direct systems and distance systems as the major categories, the systems that are currently used in the health care field in general were outlined.

The literature suggested that certain characteristics of participants in continuing education affected perceptions of the needs and preferences in programs. One of the characteristics examined was the professional role of the occupational therapist. The review indicated that differences in perceptions existed between supervisors and their clinical staff. The geographic location of the therapist was the second characteristic focussed on in relation to continuing education. The literature revealed that a discrepancy exists between opportunity for continung education for rural and urban practitioners in the health care field. Although the majority of literature supported the need to increase the availability of programs for the rural therapists, there were few practical examples of describing how to reduce professional isolation produced by geographic location.

CHAPTER THREE

METHOD

Setting of Study

At the time the study was conducted, continuing education opportunities in British Columbia for occupational therapists were minimal. This was largely due to the absence of a Director of Continuing Education in Rehabilitation at the University of British Columbia over the two years previous to the study . Prior to that time the Director had been responsible for planning and implementing the majority of programs in both physiotherapy and occupational therapy. Although the special interest groups and professional organizations had occasionally offered programs, these were not consistently offered nor was there an attempt to co-ordinate these efforts. These programs tended to be one or two day workshops located in the Greater Vancouver area. The typical program focussed on a clinical specialty or treatment approach, utilizing local experts as resource persons. The general setting for the study then, may be described as rich in potential for program planning in continuing education.

Design

As one of the objectives of the study was to investigate characteristics of a particular population in relation to continuing education, the research design used was a descriptive survey. Normative statements regarding continuing education in occupational therapy were generated from the information contained on the questionnaire. The relationships hypothesized in the study were tested using a simple correlational design.

Hypotheses

Hypothesis 1: <u>There will be a significant difference in the perception of clinical therapists' learning needs held by clinical therapists and supervisory therapists.</u>

One would expect that because of the greater number of years in the field of occupational therapy, supervisory therapists would have different perceptions of continuing education than that of the clinical therapists they supervise. Although supervisors typically travel up the ranks from a clinical position to a more senior position, supervisors may consider the needs of their staff from a broader more experienced base with a long-term orientation while the clinical therapists may be more oriented to practical skills that are immediately relevant. This difference in perspective coupled with the supervisor's tendency to project their perceptions on to staff would suggest that differences in perception of

learning needs would exist.

Hypothesis 2: <u>There</u> <u>will</u> <u>be</u> <u>significant</u> <u>differences</u> <u>in</u> <u>the</u> <u>identification</u> <u>of</u> <u>barriers</u> <u>to</u> <u>participation</u> <u>between</u> <u>clinical</u> <u>therapists</u> <u>and</u> <u>supervisory</u> <u>therapists.</u>

Barriers may be described as either situational, those relating to the individual's situation at a given time or institutional, which relate to planning practises which discourage participation. Because of the longer involvement in the field of occupational therapy and the potential committment to career, one could anticipate that supervisory therapists would more often identify institutional barriers than situational ones. Because of the priority they would give their career, situational barriers would be minimized to accommodate professional development. One would expect that supervisory therapists may consider their clinical staff to have the same committment to continuing education and thus identify similar barriers to participation.

Hypothesis 3: <u>There</u> <u>will</u> <u>be</u> <u>a</u> <u>significant</u> <u>difference</u> <u>in</u> <u>the</u> <u>perceptions</u> <u>of</u> <u>the</u> <u>delivery</u> <u>systems</u> <u>preferred</u> <u>by</u> <u>clinical</u> <u>therapists</u> <u>held</u> <u>by</u> <u>clinical</u> <u>therapists</u> <u>and</u> <u>supervisory</u> <u>therapists.</u>

Delivery systems can be categorized as either direct systems, such as workshops or distance systems, such as educational television and radio. Because supervisory therapists tend to be in a position where they are not committed to a rigid schedule of treating patients, one would expect they would be more able to attend the programs using direct delivery systems

which are fixed in time and place . Their staff, however, are primarily involved with direct patient care and thus less flexible in terms of attending programs using direct delivery systems. Again, it is likely that the supervisory therapists would project their perception of preferred delivery systems on to clinical therapists.

Hypothesis 4: <u>There</u> <u>will</u> <u>be</u> <u>a</u> <u>significant</u> <u>difference</u> <u>in</u> <u>learning</u> <u>needs</u> <u>identified</u> <u>by</u> <u>rural</u> <u>clinical</u> <u>therapists</u> <u>and</u> <u>urban</u> <u>clinical</u> <u>therapists.</u>

Because of the nature of health care delivery in non-metropolitan British Columbia, the rural occupational therapist is often the only rehabilitation specialist in a region. Rural therapists frequently have to carry out a wide range of activities to meet the demands of the job. While rural therapists tend to be generalists, urban therapists are typically employed in large institutions with many therapists and therefore are more specialized with fewer areas of clinical competence relevant to them.

Hypothesis 5: <u>Rural</u> <u>clinical</u> <u>therapists</u> <u>will</u> <u>have</u> <u>a</u> <u>significantly</u> <u>higher</u> <u>estimate</u> <u>of</u> <u>learning</u> <u>need</u> <u>than</u> <u>do</u> <u>urban</u> <u>clinical</u> <u>therapists.</u>

Rural therapists are frequently sole charge staff and because of their geographic remoteness have infrequent contacts with other therapists and minimal opportunity to participate in continuing education programs. Because of this isolation, one would expect rural therapists to require updating of skills and knowledge more than their urban colleagues who have easier

access to continuing education programs and information exchange.

Hypothesis 6: <u>There will be a significant difference in barriers to participation identified by rural clinical therapists and urban clinical therapists.</u>

Because of the geographic isolation, one would expect that rural therapists would more often identify transportation and distance as barriers to participation while urban therapists would indicate institutional barriers such as scheduling or inadequate notice.

Hypothesis 7: <u>There will be a significant difference in delivery systems preferred by rural clinical therapists and urban clinical therapists.</u>

Because of the tendency for the continuing education programs to be located in Vancouver and Victoria, one would expect that rural therapists would have difficulty attending continuing education programs. As a result of these geographic barriers, one would anticipate that rural therapists would prefer distance delivery systems more than urban who have easier access to a greater number of direct delivery programs.

Sample

The population studied included all qualified occupational therapists practising full time or part time in British Columbia. The sample consisted of 295 therapists. Sample selection was based upon the respondent's being an active member

of the British Columbia Society of Occupational Therapists (B.C.S.O.T.) as of December 1, 1981. Prior to distributing the questionnaire, a notice was placed in the B.C.S.O.T. newsletter stating that the membership list was being made available to the investigator for purposes of this study. Individuals who did not want their name released were given one month to notify the Society of this fact. Only one individual did so and was excluded from the study sample. In addition, the ten therapists who participated in the pilot test of the data gathering instrument were excluded from the sample.

The sample was grouped according to professional role, clinicians and supervisors, in order to examine the first set of hypotheses. It was then recombined into rural and urban subgoups to test the second set of hypotheses dealing with geographic location. The criteria used to define these subgroups will be described in the instrumentation section. These samples were not subdivided further by combining geographic and role definitions because of the limited number of supervisors in the rural areas. As previously stated, the majority of rural therapists work in isolation and thus the clinical and supervisory categories can not be applied in the case of rural health care delivery.

The sample was highly representitive of the population studied, occupational therapists in British Columbia. Stan (Note 8) estimates that 85% of all therapists in the province belong to the B.C.S.O.T. and therefore are included in the sample. Although no attempt was made to represent therapists in Canada, because of the similarities in work settings, professional training, and health care delivery systems, this study has

implications for Canadian therapists in general.

Data Collection

Instrumentation

The questionnaire (Appendix A) was developed specifically for this study of continuing education for occupational therapists in British Columbia. Although a number of other survey questionnaires were reviewed in the construction of the items in this questionnaire, none of the items had been used previously.

The questionnnaire is divided into three sections. The first section focuses on the definition of the respondent in relation to geographic location and functional role. Based on the definition of role as either clinical therapist or supervisory therapist in the first section, the remainder of the questionnaire was completed differently by the two subsamples. Clinical therapists completed the items as they pertained to the respondent as a clinician, supervising therapists responded in relation to what they considered their staff's needs and preferences to be. The second section of the questionnaire identifies perceived barriers to participation in continuing education and preferences of delivery systems. The third section represents a learning needs assessment.

Section I

The first item in the questionnaire defines the respondent's geographic location. This relates to the research questions examining differences between urban and rural therapists. In this study, urban is defined as either Vancouver or the Lower Mainland and Victoria and rural as any location other than these two. This definition is based on the low concentration of occupational therapists in any single location outside of Vancouver and Victoria. Although a number of respondents reside in small cities elsewhere in B.C., these can not be considered as urban because of lack of continuing professional education opportunities that characterize the larger centers such as inter-hospital education programs, special interest groups, use of university resources, and library facilities. The seven geographic districts used in the questionnaire are those that the B.C.S.O.T. bases their membership distribution upon. It was assumed that the respondent would recognize the appropriate district in Item 1 because of their familiarity with these categories being members of B.C.S.O.T. In addition, this item provides information on the geographic distribution of therapists which has implications for providing non-metropolitan programs to those rural therapists.

The second item on the questionnaire, opportunity to discuss professional problems and issues, is designed to assess the proposition that geographic differences may be partially explained by differences in the frequency of professional contact.

Definition of the respondent as either a clinical therapist

or a supervising therapist is undertaken in items 3-5. The definition occurs in three steps to ensure that the respondent's definition of these terms match the ones set out in the study. Specification of job title is the first level of definition. The choices listed are derived from the manpower studies on the profession of occupational therapy. The first three job titles will be considered in the clinical therapist category and the remaining ones in the supervising therapist category. The second level of definition asks the therapist to assess their functional role in relation to the two categories and identify which one they function in most frequently. The third level of definition uses the number of therapists under the respondent's direction as a means of distinguishing the groups. This item is based on the assumption that clinical therapists will respond 0 and supervising therapists will respond 1 or more. In order for a questionnaire to be considered valid in this study, all three definitions must identify the therapist in the same catagory. Those that did not meet this criterion were excluded from the sample.

Item 5, asking the number of therapists under the respondent's direction was also used to examine the effect of differences in a supervising therapist's staff size to their perception of clinicians needs and preferences in continuing education. Item 6, extent of professional experience in occupational therapy, was used to assess the relationship between years of experience and functional role in relation to explaining differences in perception of needs and preferences between clinical therapists and supervising therapists.

Section II

The reasons why therapists do not attend continuing education programs were identified in Item 1. Smorynski and Panocha (1979) state that one of the major limitations of most needs surveys in continuing education is the failure to identify factors which limit participation. They state that although a high interest or need may exist, the barriers to participation may outweigh intention. By identifying reasons for non-participation, the planner is provided with those factors in the program planning process that could be manipulated in order to increase participation. The barriers included in this study are based on studies in participation in continuing professional education, the majority of which are found in the health care literature. These barriers can be categorized as either institutional or dispositional in nature (Cross, 1980). This distinction was used in assessing differences among the four subgroups identified in the study, clinical therapists, supervising therapists, rural therapists and urban therapists. It should be noted that Cross identifies a third type of barrier in her typology. Dispositional barriers are related to attitudes and self-perception about the self as a learner. Barriers of this type were excluded from study because the review of literature revealed that they are seldom expressed as barriers in studies using a self-report design.

Preferred delivery systems was the second program planning variable considered in the questionnaire. The eight alternatives in Item 2 were derived from the most commonly cited systems in the literature reviewed with consideration for the resources

that are available to occupational therapists in B.C. at the present time. The item is based on the distinction between distance delivery systems and non-distance systems which will be used specifically in the identification of differences between urban and rural therapists. Because of the special circumstances in British Columbia where satellite educational television has become available for use in continuing professional education by the health professions, an item dealing specifically with this delivery system was included. The importance of obtaining more detailed information about this delivery system in relation to the practise of program planning outweighs the potentially negative effect that focussing on a single choice may have in biasing the respondents answer to Item 2.

Section III

The third section of the questionnaire is designed to assess the learning needs of clinical therapists in occupational therapy. Nowlen(1980) describes a number of important factors in the development of a needs assessment that were considered in the construction of this instrument. He states that in order for the assessment to be valid, the following issues must be addressed: what are the specific performance standards of the profession being assessed? To what extent does the potential participant measure up to this standard? Is there a gap to be closed by an educational activity? These three points are the basis upon which a tool using competency statements and evaluation of the respondents' expertise in these areas was developed.

The use of competency statements to identify areas where an educational need exists is the most direct manner of incorporating standards of professional practise into an assessment tool. Competencies describe significant, skillfully performed, work-related activites that make up the practise of a profession (American Physiotherapy Association, 1973). The use of competency statements in education has been primarily in the areas of defining and evaluating the important things that a student must know in order to function competently as an entry-level therapist. Although the field of continuing education has been described as one of the most robust and promising areas of application of competency analysis, the literature reveals no attempt to apply the concept (Canadian Association of Occupational Therapy, 1980). The use of competency statements decreases many of the problems associated with needs assessment in a field where the areas of specialization are numerous and work settings diverse. Because occupational therapy is so broadly defined and the roles of the therapists continually expanding, defining potential areas of need upon which to base continuing education programs is difficult. A review of the literature reveals that the majority of tools that have been used in the past use either clinical conditions or therapeutic techniques as the basis of a needs assessment. These tools have tended to be inconclusive and typically biased to one area of specialization. The use of competency statements can minimize these problems. Because the purpose of developing competency statements in occupational therapy was to describe the profession as a single entity rather than multiple areas of

practise, the statements are representative of more therapists' situations than clinical specialty areas.

The competencies included in this questionnaire are a synthesis of those officially adopted by the Canadian Association of Occupational Therapy and the American Occupational Therapy Association. Of the 136 competencies required of an entry-level therapist, only 30 were used in this assessment tool. These items were chosen because of their relevance to the clinical therapist responsible for direct patient care. Other competencies that were relevant to the management, education, and administrative roles of the therapist were omitted as not pertinent to the population investigated.

The second component of the needs assessment, the scale on which the need is estimated, is based on the comparison to a standard and identification of a gap. For each of the competency statements listed, the respondent was asked to identify the existing level and desired level of expertise in the competency area. The difference between these indicates that a need is present that could be addressed by an educational program. The importance of basing the questionnaire on a discrepancy or need is emphasized by Knowles (1970) when he distinguished between interest surveys and need surveys. He states that educational interests are expressions of preferences among alternative activities whereas needs are a comparison between two states. A review of the literature of needs assessment in the health care field reveals that the majority of tools were a check list inventory style and were measuring educational interest rather than need (Broski & Upps, 1979; Hightower, 1973; McGregor, Note

5). Smorynski & Panocha (1979) question whether sampling a population using an interest survey method is an adequate measure of program demand but make no recommendations on the construction of a more appropriate needs assessment tool. The assessment tool in this study defines the gap or discrepancy indicating need by having the respondent indicate their existing and desired level of expertise in a competency area on a three point scale. By subtracting the value assigned to the existing level of competence from the desired level, an estimate of need can be stated.

In addition to the identification of a need, an estimate of the relevance of each competency statement to the role of the clinical therapist is indicated on a three point scale. Based on the diverse nature of occupational therapy practise, it is logical to assume that importance of each of the competencies would vary within the sample. In terms of program planning, if two competencies are assigned the same need estimate, ranking the needs becomes a problem. If, however, there is an estimate of importance of each need, and these vary, the planner is provided with more direction in relation to planning educational programs. The fourth category of the needs assessment scale was also designed to give the program planner more specific direction. Identifying whether training is available in each competency area at present helps to minimize redundancy in programs. Even though a need exists which is relevant to the therapist, this does not preclude the fact that programs are already available and that the respondent has not taken advantage of them for any number of reasons. Another possible

situation that may exist is that although the programs are available they are not successful or are not sufficently relevent to the practise of occupational therapy. The number of agencies that are currently involved in offering continuing education programs in the health care area support the inclusion of this information in a needs assessment.

Pilot Test of Instrument

In order to clarify the wording of the questionnaire items and reduce the error of interpretaion, the questionnaire was pre-tested by 10 therapists not included in the study sample. Minor changes in the wording in the instructions in Section II were made in response to this test. Because the competency statements used in the learning needs assessment were taken directly from a composite list approved by the Canadian and American Association of Occupational Therapy, no attempt was made to determine the validity of the statements as requirements of entry level occupational therapists. The pilot group did assess the competencies in relation to their relevance to the clinical therapist. One competency included on the original questionnaire was deleted because it was unclear if it pertained more often to the administrative role of the therapist rather than the clinical role.

Procedures

The co-operation of the Divison of Continuing Education in the Health Sciences and the B.C.S.O.T. was enlisted prior to undertaking this study. A personal visit was made to representitives of both agencies to explain the purposes and implications of the study. A letter of support was obtained from the B.C.S.O.T. at that time to be included with the questionnaire in an attempt to maximize response rate (Appendix C). In addition, the membership list was provided by the B.C.S.O.T. which became the basis of the sample. The list was coded in order to identify non-respondents for follow-up purposes.

The questionnaire was distributed with a covering letter (Appendix B) and the letter of support to all names on the membership list. In addition, a schedule of continuing education opportunities for the following four months and a promotional pamphlet for an upcoming program were included in the mailing. These items were included for two reasons. Firstly, because continuing education had experienced such a low profile in the field of occupational therapy in the past few years, some evidence was needed to illustrate that there was some planning activity occuring and that the survey information would be used in these activities. The second reason for including additional materials with the questionnaire was that often by providing something of value or potential value to the individuals in the sample, response rate may be increased (Payton, 1979).

Four weeks were allowed before a second mailing of the questionnaire to non-respondents' was conducted. A covering

letter (Appendix B) and another copy of the questionnaire was mailed to individuals who had not responded by the deadline specified in the original letter. Notices were sent to the special interest groups, supervisor's group, and professional newsletters reiterating the importance of the study and reminding therapists to return their questionnaires.

Data Analysis

The data from the questionnaire fell into four different categories: biographic data, perceived barriers to participation, preferred delivery systems and learning needs. The questionnaires were coded and the data was transferred to a computer disc and analyzed using U.B.C.'s version of SPSS, the Statistical Package for the Social Sciences. Summary statistics using the frequency routine were derived from the biographic data which included frequency of response on the following variables: geographic location, job title, role, number of staff under the respondent's direction, and years of experience. Measures of association including Chi Square, Kendall's Tau, and T-tests were then applied to the four sample subgroups to test the hypothesized relationships between rural and urban therapists and supervisory and clinical therapists in relation to the three program variables. The multiple T-test routine was used to avoid the calculation by chance of significant relationships because of the number of tests that were conducted. In order that a single estimate of need be established, a value for each competency was calculated by

subtracting the value assigned to existing need from the value assigned to desired need and multiplying this value by the value assigned to the relevance of the competency to the therapist. The potential need estimate could range from 0, indicating an absence of need to 6, indicating a significant need.

CHAPTER FOUR

RESULTS

This chapter presents the findings of the study based on the analysis of the data collected using the survey instrument presented in Chapter Three. The results describing the relevant characteristics of the sample will be presented first followed by the findings associated with the following relationships:

1) learning needs and professional role

2) learning needs and geographic location

3) perceived barriers to participation and professional role

4) perceived barriers to participation and geographic location

5) preferred delivery systems and professional role

6) preferred delivery systems and geographic location

In addition, a number of relationships not formally postulated will be presented as relevant to the study.

Response Rate

The response rate in this study was measured by the percentage of mailed questionnaires returned by the predetermined cutoff date six weeks after the first mailing. Of the total sample (285), 182 questionnaires were returned, 176 of

them usable. Calculating the response rate based on total return yields a 63.85% response rate. If the six questionnaires excluded from the sample because they did not meet the criteria of professional role definition are not included, the response rate is 61.75%. This is an acceptable response rate according to Payton (1979) and Currier (1980) who estimate that between 40%-60% is the average rate for mailed questionnaires of this nature. There are, however, a number of factors which may have influenced the response rate in this particular study. The fact that the mailing was carried out during the month of December could have decreased the response rate. The mail overload at that time of year plus the fact that many individual's take holidays may have reduced the response to the study. A second factor is that the address list used to mail questionnaires was somewhat out of date as indicated by the 19 questionnaires which were returned undelivered. A small number of questionnaires were returned bearing the comment that this was only one of many surveys that they had been sent in recent months and that it was becoming a very time consuming and frustrating exercise. Although these three respondents completed the questionnaire, others in the sample may have had similar experiences and simply disregarded the questionnaire.

Characteristics of Respondents

Because the problem which this study investigated was relatively well focussed and the variables clearly delineated, minimal general demographic data was solicited. Common variables

such as age, educational background, and sex were not assessed because occupational therapists may be considered sufficently homogeneous in relation to these variables for the purposes of this study. The descriptive data tapped in this study were as follows: professional role and title, geographic location, number of years experience, and opportunity for professional contact.

Professional Role

Of the 176 respondents, 139 (79%) were clinical therapists and 37 (21%) supervisory therapists according to the definition used in this study. This result is consistant with findings in other studies investigating professional role using similar methods (Chatham, 1980; Price, 1967).

The respondent's job title was solicited as a method for classifying respondents as clinicians or supervisors. Table 1 represents the distribution of the sample according to job title. The results support the literature describing rehabilitation as a field with two distinct job categories, staff and administraton. In this sample, only one respondent was classified as an assistant supervisor and 26 as senior therapists. In addition, there was only one consultant among the sample, an unexpected finding considering the growth of such positions in other allied health professions. Traditionally there have been few graded scales of advancement in the field of occupational therapy; the data on size of staff, indicating department size, suggest that departments are small, a situation which does not easily lend itself to a broad range of levels of

Table 1

Distribution of Occupational Therapists by Job Title

Job Title	Number of Responses			Adjusted % Sample		
	Urban	Rural	Total	Urban	Rural	Total
Staff therapists	76	14	92	45.9	8.2	54.1
Senior therapist	20	6	26	11.8	3.5	15.3
Sole charge	10	13	21	5.9	6.5	12.4
Assistant supervisor	1	0	1	0.6	0.0	0.6
Supervisor	21	4	19	8.8	2.4	11.2
Program Co-ordinator/ Director	4	3	7	2.4	1.8	4.1
Instructor/Professor/ Lecturer	3	0	3	1.8	0.0	1.8
Consultant	1	0	1	0.6	0.0	0.6
Total	136	40	176	77.3	22.7	100.0

responsibility.

Staff Size

The size of the departments which the supervisors managed was assessed in the item asking the number of therapists under the respondent's direction. The distribution is represented in Table 2. An assumption underlying this item was that the clinical therapists would respond zero while the supervisory therapists would choose one of the other categories. The results indicate that in six cases, clinical therapists supervised other staff. It is possible that these numbers may indicate supervision of non-professional staff, a very common situation in the field of rehabilitation. Another possible explanation is that the individual, although technically responsible for a number of therapists, spent a minimum amount of time in an administrative or supervisory role and therefore identified their role for the purposes of this study as a clinical therapist. Because these cases could not be classed as either clinician or supervisor according to the defintions adopted for this study, they were excluded from the sample. In relation to the distribution of staff size, as indicated above, the most common response was a department of five or fewer therapists, 92.3% of the sample responded in that category. The small sizes of the supervising therapists' staffs has implications in relation to how well the supervisors know their staff and the opportunity for them to assess the needs and preferences of the staff on a continuous basis.

Considering the distribution in relation to geographic

Table 2

Number of Occupational Therapists
Under Respondent's Direction

Staff Size	Number of Responses			Adjusted % Sample		
	Urban	Rural	Total	Urban	Rural	Total
0 therapists	99	34	133	58.2	20.0	78.2
1-5 therapists	20	4	24	11.8	2.4	14.1
6-10 therapists	6	1	7	3.5	0.6	4.1
11-15 therapists	3	0	3	1.8	0	1.8
More than 16 therapists	3	0	3	1.8	0	1.8
Non-respondents	--	--	6	--	--	--
Total	131	39	176	77.1	22.9	100.0

location, only one of the 40 rural respondents was employed in a department of more than five therapists. The relatively large number of rural sole charge therapists indicated in Table 1 combined with the comparatively small size of departments in rural areas suggests that differences could be expected between rural and urban therapists in relation to how they update their skills and knowledge.

Years of Employment

The average number of years experience in the field of occupational therapy for the sample in this study was 7.49 years, with responses ranging from less than one year to 30 years. The mean is slightly higher than that found in McGregor's (Note 5) study which was 6.8 years and 3.5 years more than the professional experience reported in the Hightower (1973) study. The results likely reflect a general trend among women health care professionals to either remain in the work force or return to work after an absence and to continue to work on at least a part time basis after having children.

The mean number of years experience in the supervisory therapists group was 10.42 while clinical therapists averaged 6.75 years of experience in the field of occupational therapy. Although there is no current information available on the norms for years of experience and level of job responsibility, these results reflect a common assumption among therapists that attaining an administrative position can usually be attributed, among other things, to the number of years the therapist has worked in the field.

Geographic Location

Applying the definition of urban and rural therapists adopted in this study, the distribution of therapists according to geographic location was 77.3%, 139 respondents, located in urban centers and 22.7%, or 37 respondents, in rural areas. This is representative of the actual distribution of the sample of which approximately 81% of therapists were located in urban areas and 19% in rural areas. The detailed breakdown of the data according to the seven provincial regions is represented in Table 3. As is seen in other research in the field of occupational therapy, the majority of therapists are located in large metropolitan areas, in this case Vancouver and Victoria (Maxwell,1977; Scott, Note 7).

This distribution can be accounted for in a number of ways. The most likely factor is that the majority of employers of therapists are acute and rehabiltation hospitals which are located in urban areas. Another consideration is that the small numbers of therapists in rural areas may reflect the lack of funding and therefore opportunities for allied health services in outlying areas. Traditionally, small communities and rural health units have employed physiotherapists as opposed to occupational therapists if the funding for rehabilitation personnel is limited. This is another explanation for the distribution found in this study. The pattern could also be explained by the fact that despite available employment opportunities, therapists do not choose to work in rural areas for personal reasons. The geographic distribution of therapists according to professional role is presented in Table 4. As was

Table 3

Distribution of Occupational Therapists
by Geographic Location

Location	Number of Responses			Adjusted % Sample		
	Clinicians	Supervisors	Total	Clinicians	Supervisors	Total
Vancouver & Lower Mainland	96	29	125	54.5	16.5	71.0
Victoria	10	1	11	5.7	0.6	6.3
Vancouver Island	9	4	13	5.1	2.3	7.4
Fraser Valley	5	0	5	2.8	0	2.8
Thompson/Okanagan	8	0	8	4.5	0	4.5
Northern Interior	6	0	6	3.4	0	3.4
Central Interior	5	3	8	2.8	1.7	4.5
Total	139	37	176	79.0	21.0	100.0

Table 4

Distribution of Therapists' Professional
Role by Geographic Location

Geographic Classification	Clinicians		Supervisors		Total	
	No. of Response	% Sample	No. of Response	% Sample	No. of Response	% Sample
Urban	106	60.3	30	17.0	136	77.3
Rural	33	18.7	7	4.0	40	22.7
Total	139	79.0	37	21.0	176	100.0

anticipated, very few supervisory therapists are located in rural areas, in this sample only 7 of the 40 (22.7) respondents were located outside of Vancouver or Victoria.

Opportunity for Professional Contacts

This item was designed to assess the opportunity that the respondent had to meet with colleagues to discuss professional problems and issues. Table 5 represents the results showing that 149 respondents, 84.7% of the sample, had opportunity to meet with fellow therapists on at least a weekly basis. One would expect that if the majority of therapists worked in metropolitan areas, within a hospital setting, opportunities for professional information exchange would be great.

In relation to geographic location and opportunity for professional contacts, rural therapists as a group indicated less opportunity for contacts than did urban therapists. Approximately 60% of the rural group met with colleagues weekly or less frequently, 22.5% of the group less than once monthly. The results suggest that professional isolation may be a problem for a large number of therapists in British Columbia.

Learning Needs

One of the purposes of this study was to develop a needs assessment process which defined the component parts of an educational need in order to assist in the program planning process. The total need estimate for each competency was made up

of three factors: desired level of competence, existing level of competence, and relevance of the competency to the practise of occupational therapy. Tables 6 and 7 present each of the thirty competencies, the mean need estimate, and their rank in relation to professional role and geographic location. Considering the ranked results of the total sample, evaluation is the area in which continuing education is most necessary. Evaluation of perceptual motor skills, cognitive function, and vocational skills are ranked among the top five need estimates. The most strongly felt needs appear to be in the psycho-social realm as compared to the physical or motor related competencies. Competencies that are traditionally related to the field of rehabilitation, joint mobilization and evaluation of motor function for example, were ranked relatively low in this study. The absence of the competencies under the Utilizing Therapeutic Materials and Equipment category may be accounted for by the fact that para-professionals, rehabilitation or activity aids, are beginning to replace the therapist in this area of practise. In addition, the expansion of many retail outlets offering expertise in the prescription and supply of therapeutic equipment and materials may have minimized the therapists responsibility in this competency area. Another factor that may account for the distribution of total need estimate is the current trend in the field of occupational therapy to encourage the use of adaptive skills rather than the use of aids to overcome dysfunction.

It is interesting to note that the two competencies that apply directly to the field of gerontology are ranked near the

Table 5

Number of Opportunities for Professional Contact
with Other Occupational Therapists

Opportunity for Contact	Number of Responses			Adjusted % Sample		
	Urban	Rural	Total	Urban	Rural	Total
Daily	97	17	114	55.1	9.7	64.8
Weekly	29	6	35	16.5	3.4	19.9
Monthly	7	8	15	4.0	4.5	8.5
Less than six times annually	3	9	12	1.7	5.1	6.8
Total	136	40	176	77.3	22.7	100.0

Table 6

Total Need Estimates by Profession Role

Occupational Therapy Competencies	Clinicians n = 139		Supervisors n = 37		Total Sample n = 176	
	$\bar{x}$	Rank	$\bar{x}$	Rank	$\bar{x}$	Rank
1) identify & evaluate motor function	1.65	7	1.73	4	1.65	8
2) identify & evaluate perceptual-motor skills	2.57	1	1.70	5	2.39	2
3) identify & evaluate sensory function	2.17	3	1.68	6	2.05	3
4) observe & record cognitive function	2.53	2	2.35	1	2.50	1
5) identify & evaluate leisure & play skills	1.04	23	1.76	3	1.20	19
6) identify & evaluate vocational skills	1.64	8	2.08	2	1.72	7
7) identify & evaluate A.D.L. skills	0.84	29	1.27	15	0.92	22
8) identify & evaluate functional communicating skills	0.98	25	1.54	11	1.09	20
9) identify & evaluate psychosocial function	1.11	21	1.76	3	1.25	17
10) conduct therapeutic interviews	1.41	14	1.35	19	1.39	13
11) select & adopt activities for therapeutic purposes	1.24	28	1.65	7	1.31	14
12) design and adapt special equipment	1.50	12	1.59	10	1.50	11
13) employ counselling methods	1.92	5	1.73	4	1.89	4
14) apply sensory-based therapies to develop perceptual motor skills	2.10	4	1.05[a]	18	1.88	5
15) employ joint mobilization & protection techniques	1.40	15	0.76	22	1.26	16
16) employ muscle strengthening techniques	0.96	26	0.54	29	0.36	23
17) train in work simplification & energy conservation techniques	1.10	22	1.08	17	1.09	20
18) employ behavior modification approaches	1.59	9	1.51	12	1.57	9
19) employ socio-drama techniques	1.00	24	0.84	20	0.98	21
20) employ relaxation techniques	1.13	20	1.60	9	1.24	18
21) employ reality orientation	0.82	28	0.95	19	0.86	23
22) employ activation methods	0.67	30	0.73	23	0.67	24
23) utilize recreation & leisure time activities	0.87	27	0.78	21	0.86	23
24) select & utilize self care equipment & materials	1.22	19	1.14	16	1.20	19
25) select & utilize rehabilitation aids & materials	1.37	16	0.84	20	1.25	17
26) select & utilize mobility aids	1.33	17	1.27	15	1.30	15
27) select & utilize avocational equipment & materials	1.52	11	1.43	13	1.49	12
28) select & utilize vocational equipment & materials	1.78	6	1.54	11	1.73	6
29) select & utilize projective equipment & materials	1.45	13	1.62	8	1.39	13
30) select & utilize developmental equipment & materials	1.57	10	1.27	15	1.51	10

[a] $t = 2.03$ $df = 175$ $p < .04$

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Table 7

Total Need Estimates by Geographic Location

Occupational Therapy Competencies	Urban n = 136		Rural n = 40		Total Sample n = 176	
	x̄	Rank	x̄	Rank	x̄	Rank
1) identify & evaluate motor function	1.58	6	1.33	16	1.65	8
2) identify & evaluate perceptual-motor skills	2.39	2	2.67	1	2.39	2
3) identify & evaluate sensory function	2.07	3	2.09	4	2.05	3
4) observe & record cognitive function	2.44	1	2.42	2	2.50	1
5) identify & evaluate leisure & play skills	0.88	23	1.49	13	1.20	19
6) identify & evaluate vocational skills	1.66	7	1.45	14	1.72	7
7) identify & evaluate A.D.L. skills	0.70	27	0.76	20	0.92	22
8) identify & evaluate functional communication skills	0.75	26	1.58	12	1.09	20
9) identify & evaluate psychosocial function	0.99	22	1.36	15	1.25	17
10) conduct therapeutic interviews	1.48	8	1.09	17	1.39	13
11) select & adopt activities for therapeutic purposes	1.03	20	1.45	14	1.31	14
12) design and adapt special equipment	1.45	10	1.00	18	1.50	11
13) employ counselling methods	1.78	5	2.33	3	1.89	4
14) apply sensory-based therapies to develop perceptual motor skills	2.02	4	1.94	7	1.88	5
15) employ joint mobilization & protection techniques	1.89	16	1.94	7	1.26	16
16) employ muscle strengthening techniques	0.99	22	0.70	21	0.36	23
17) train in work simplification & energy conservation techniques	1.05	19	0.79	19	1.09	20
18) employ behavior modification approaches	1.42	12	2.00	6	1.57	9
19) employ socio-drama techniques	0.85	24	1.45[a]	14	0.98	21
20) employ relaxation techniques	1.14	17	1.09	17	1.24	18
21) employ reality orientation	0.64	28	1.36[b]	15	0.86	23
22) employ activation methods	1.00	21	0.42	22	0.67	24
23) utilize recreation & leisure time activities	0.79	25	1.09	17	0.86	23
24) select & utilize self care equipment & materials	1.11	18	1.58	11	1.20	19
25) select & utilize rehabilitation aids & materials	1.26	15	1.70	10	1.25	17
26) select & utilize mobility aids	1.27	14	1.48	13	1.30	15
27) select & utilize avocational equipment & materials	1.44	11	1.73	9	1.49	12
28) select & utilize vocational equipment & materials	1.71	6	1.94	7	1.73	6
29) select & utilize projective equipment & materials	1.31	13	1.81	8	1.39	13
30) select & utilize developmental equipment & materials	1.46	9	2.03	5	1.51	10

[a] t = -1.99 df = 175 p < .04
[b] t = -2.15 df = 175 p < .03

bottom of the competency list. Considering the comparatively large number of employment opportunities in this area and the high profile that the field is receiving in the health care industry, the fact that the reality orientation competency was ranked 22 and the activation competency 24 was unexpected.

Table 6 presents the distribution of learning needs according to the professional role of the respondent. As seen in the analysis of the total sample, evaluation related competencies are ranked highly by both groups although the specific areas of evaluation differed in relation to role. Supervisors perceived clinical therapists' needs to be high in cognitive, vocational, and leisure skills evaluation while clinicians reported perceptual-motor, sensory, and cognitive evaluation as areas in which learning needs existed. One competency area showed a major difference in perceptions held by clinicians and supervisors in relation to needs. Clinicians considered application of sensory-based therapies areas of greater need than did supervisory therapists. The remainder of the 30 competency areas were perceived as similar by both groups in relation to learning needs.

Again, the need estimate in evaluation areas were illustrated when the data was analyzed in relation to the geographic location of the respondents. There were two significant differences in perceptions of needs when the sample was compared according to geographic location. Rural therapists considered employing socio-drama techniques and reality orientation to be areas of greater need than did urban therapists. This finding is surprising considering the generally

accepted assumption that rural therapists tend to be less specialized than their urban colleagues.

Relevance of Competencies

The relevance of each competency to the role of the occupational therapist was one of the three factors used in the computation of total need estimate for each competency area. In addition, the relevance of each competency alone is important in program planning in that it reflects one aspect of the decision making process. For instance, when considering the priority of programs, even though therapists may indicate that needs are equal in different areas, if one is more relevant to the practice of occupational therapy, that fact would be influential in the implementation of one program before another.

Tables 8 and 9 present the relevance of each competency in relation to professional role and geographic location of the respondent respectively. The frequency of response of high relevance, defined in this study as 3 on a scale the percent of sample and the rank. Considering the total sample, the competencies related to self-care are the most relevant, with identification and evaluation of activities of daily living skills ranked first and selection and utilization of self-care equipment and materials as five. The top ranked competencies tend to reflect those areas that occupational therapists are most commonly associated with, those with an activity or daily living orientation. Of the three broad categories of competency, evaluation is clearly considered the most relevant. These competencies also reflect concepts that are in common usage

Table 8

Relevance of Competencies by Professional Role

Occupational Therapy Competencies	Clinicians n = 139			Supervisors n = 37			Total Sample n = 176		
	Number Response	% Sample	Rank	Number Response	% Sample	Rank	Number Response	% Sample	Rank
1) identify & evaluate motor function	95	67.4	4	26	70.3	4	121	68.2	3
2) identify & evaluate perceptual-motor skills	86	61.0	5	23	62.2	7	109	61.5	6
3) identify & evaluate sensory function	76	53.9	10	22	59.5	8	98	55.3	12
4) observe & record cognitive function	85	60.3	6	21	56.8	9	106	59.8	8
5) identify & evaluate leisure & play skills	75	53.2	11	20	54.1	10	95	53.6	14
6) identify & evaluate vocational skills	56	39.7	19	15	40.5	15	71	40.2	22
7) identify & evaluate A.D.L. skills	117	83.0	1	31	83.8	1	148	83.2	1
8) identify & evaluate functional communicational skills	83	58.9	7	25	67.6	5	108	60.9	7
9) identify & evaluate psychosocial function	78	55.3	8	22	59.5	8	100	56.4	10
10) conduct therapeutic interviews	96	68.1	3	23	62.2	7	119	67.0	4
11) select & adopt activities for therapeutic purposes	106	75.2	2	29	78.4	2	135	76.0	2
12) design and adapt special equipment	77	54.6	9	26	70.3	4	103	58.1	9
13) employ counselling methods	61	43.3	18	19	51.4	11	80	45.3	20
14) apply sensory-based therapies to develop perceptual motor skills	72	51.1	13	23	62.2	7	95	53.6	13
15) employ joint mobilization & protection techniques	54	38.3	20	20	54.1	10	74	41.9	21
16) employ msucle strengthening techniques	44	31.2	23	15	40.5	15	59	33.5	27
17) train in work simplification & energy conservation techniques	69	48.9	15	24	64.9	6	93	52.5	16
18) employ behavior modification approaches	46	32.6	22	16	43.2	14	62	34.6	25
19) employ socio-drama techniques	27	19.1	27	9	24.3	17	36	20.1	29
20) employ relaxation techniques	52	36.9	21	13	35.1	15	65	36.9	23
21) employ reality orientation	70	49.6	14	18	48.6	12	88	49.7	17
22) employ activation methods	73	51.8	12	18	48.6	12	91	51.4	15
23) utilize recreation & leisure time activities	67	47.5	16	17	45.9	13	84	47.5	19
24) select & utilize self care equipment & materials	85	60.3	6	27	73.0	3	112	63.1	5
25) select & utilize rehabilitation aids & materials	77	54.6	9	22	59.5	8	99	55.9	11
26) select & utilize mobility aids	65	46.1	17	22	59.5	8	87	49.2	18
27) select & utilize avocational equipment & materials	44	31.2	23	16	43.2	14	60	34.1	24
28) select & utilize vocational equipment & materials	36	25.5	25	11	29.7	16	47	26.8	28
29) select & utilize projective equipment & materials	32	22.7	26	7	18.9	18	38	21.8	30
30) select & utilize developmental equipment & materials	43	30.5	24	18	48.6	12	60	34.1	26

Note: Data indicate number of respondents choosing 3 on scale of 3 referring to relevance of competency to Occupational Therapy.

Table 9

Relevance of Competencies by Geographic Classification

Occupational Therapy Competencies	Urban n = 136			Rural n = 40			Total Sample n = 176		
	Number Response	% Sample	Rank	Number Response	% Sample	Rank	Number Response	% Sample	Rank
1) identify & evaluate motor function	92	67.6	3	27	67.5	3	119	68.2	3
2) identify & evaluate perceptual-motor skills	80	58.8	6	27	67.5	3	107	61.5	6
3) identify & evaluate sensory function	71	52.2	11	25	62.5	5	96	55.3	12
4) observe & record cognitive function	82	60.3	5	23	57.5	7	105	59.8	8
5) identify & evaluate leisure & play skills	73	53.7	10	21	52.5	9	94	53.6	14
6) identify & evaluate vocational skills	58	42.6	17	12	30.0	14	70	40.2	22
7) identify & evaluate A.D.L. skills	111	81.6	1	35	87.5	1	146	83.2	1
8) identify & evaluate functional communicational skills	80	58.8	6	26	65.0	4	106	60.9	7
9) identify & evaluate psychosocial function	76	55.9	8	22	55.0	8	98	56.4	10
10) conduct therapeutic interviews	92	67.6	3	25	62.5	5	117	67.0	4
11) select & adopt activities for therapeutic purposes	101	74.3	2	32	80.0	2	133	76.0	2
12) design and adapt special equipment	77	56.6	7	24	60.0	6	101	58.1	9
13) employ counselling methods	60	44.1	16	19	47.5	10	79	45.3	20
14) apply sensory-based therapies to develop perceptual motor skills	70	51.5	12	23	57.5	7	93	53.6	13
15) employ joint mobilization & protection techniques	56	41.2	18	18	45.0	11	74	41.9	21
16) employ muscle strengthening techniques	47	34.6	21	12	30.0	14	59	33.5	27
17) train in work simplification & energy conservation techniques	70	51.5	12	21	52.5	9	91	52.5	16
18) employ behavior modification approaches	43	31.6	22	18	45.0	11	61	34.6	25
19) employ socio-drama techniques	25	18.4	26	11	27.5	15	36	20.1	29
20) employ relaxation techniques	48	35.3	20	17	42.5	12	65	36.9	23
21) employ reality orientation	68	50.0	14	19	47.5	10	88	49.7	17
22) employ activation methods	69	50.7	13	21	52.5	9	90	51.4	15
23) utilize recreation & leisure time activities	68	50.0	14	16	40.0	13	84	47.5	19
24) select & utilize self care equipment & materials	85	62.5	4	25	62.5	5	100	63.1	5
25) select & utilize rehabilitation aids & materials	74	54.4	9	23	57.5	7	97	55.9	11
26) select & utilize mobility aids	61	44.9	15	24	60.0	6	85	49.2	18
27) select & utilize avocational equipment & materials	53	39.0	19	6	15.0	17	59	34.1	24
28) select & utilize vocational equipment & materials	40	29.4	24	6	15.0	17	46	26.8	28
29) select & utilize projective equipment & materials	28	20.6	25	10	25.0	16	38	21.8	30
30) select & utilize developmental equipment & materials	42	30.9	23	18	45.0	11	60	34.1	26

Note: Data indicate number of respondents choosing 3 on scale of 3 referring to relevance of competency to Occupational Therapy.

among therapists reducing the tendency for terminology to be ambiguous, a common phenomena in the field of occupational therapy. It is interesting to note that the most relevant competencies are those that are relatively unique to the occupational therapist as compared to the physiotherapist. The issue of professional identity may be reflected in these results.

A comparison of the perceived relevance of the 30 competency areas according to the professional role of the respondent reveals only minor differences in perceptions held by clinicians and supervisors in the top ranked competencies. Of the five competencies perceived as most relevant, all were ranked similarily by the two groups except for selection and utilization of self-care equipment which was considered more relevant by clinicians than supervisors as suggested by greater than 15% difference in the number of respondents ranking it as highly relevant. Three other competency areas differed in perception of relevance by 15% although they were ranked among the less relevant of the competencies studied. Adapting special equipment, training in work simplification, and utilizing developmental equipment were perceived as more relevant to the clinician's practice in occupational therapy by clinicians than supervisors.

The distribution of competencies according to geographic location are reported in Table 9. The similarity of perception of relevance of the 30 competencies held by urban and rural therapists is indicated in the results. The three top ranked competencies, evaluation of activities of daily living, adapting

activities for therapeutic purposes, and evaluation of motor function are the same for both groups of respondents. Only three competency areas revealed major discrepancies between these two groups. Rural therapists perceived evaluation of sensory function, training in work simplification, and selection of mobility aids as more relevant to practice of occupational therapy than did urban therapists.

Availability of Training Opportunities

The availability of training opportunities in the 30 competency areas was assessed in order to supplement information provided by the total needs estimate in relation to program planning. For instance if both the total need estimate and availablity of training are high, the quality of the current programs or their utility to the occupational therapists practise should be assessed. Tables 10 and 11 represent the frequency of response and percent of sample which choose the "no training available" responses to the 30 competencies. The results in relation to the total sample revealed that on all competencies at least 55% of the therapists stated that there were no training opportunities available in the area. The five areas which had the highest mean responses were as follows: identify and evaluate vocational skills, select and utilize avocational equipment and materials, select and utilize vocational equipment and materials, employ socio-drama techniques, identify and evaluate leisure and play skills.

The results clearly indicate a lack of training in vocationally-oriented competencies. This may be partially

Table 10

Perceived Availability of Training by Professional Role

Occupational Therapy Competencies	Clinicians n = 139			Supervisors n = 37			Total Sample n = 176		
	Number Response	% Sample	Rank	Number Response	% Sample	Rank	Number Response	% Sample	Rank
1) identify & evaluate motor function	82	58.2	17	16	43.2	11	98	54.7	18
2) identify & evaluate perceptual-motor skills	87	61.7	13	22	59.5	9	109	60.9	14
3) identify & evaluate sensory function	93	66.0	9	22	59.5	9	115	64.2	10
4) observe & record cognitive function	103	73.0	3	27	73.0	4	130	73.9	4
5) identify & evaluate leisure & play skills	101	71.6	5	30	81.1	2	131	73.7	3
6) identify & evaluate vocational skills	110	78.0	1	31	83.8	1	141	79.3	1
7) identify & evaluate A.D.L. skills	80	56.7	18	22	59.5	9	102	57.0	17
8) identify & evaluate functional communicational skills	89	63.1	11	21	56.8	10	110	61.5	13
9) identify & evaluate psychosocial function	96	68.1	7	22	59.5	9	118	65.9	8
10) conduct therapeutic interviews	94	66.7	8	22	59.5	9	116	64.8	9
11) select & adopt activities for therapeutic purposes	94	66.7	8	25	67.6	6	119	67.0	7
12) design and adapt special equipment	94	66.7	8	26	70.3	5	120	67.0	7
13) employ counselling methods	93	66.0	9	23	62.2	8	116	64.8	8
14) apply sensory-based therapies to develop perceptual motor skills	76	53.9	19	18	48.6	10	94	52.5	19
15) employ joint mobilization & protection techniques	83	58.9	16	22	59.5	8	105	58.7	16
16) employ muscle strengthening techniques	86	61.0	14	23	62.2	8	109	60.9	13
17) train in work simplification & energy conservation techniques	88	62.4	12	27	73.0	4	115	64.2	10
18) employ behavior modification approaches	89	63.1	11	25	67.6	6	114	64.2	10
19) employ socio-drama techniques	105	74.5	2	27	73.0	4	132	74.3	2
20) employ relaxation techniques	88	62.4	11	22	59.5	9	110	61.5	12
21) employ reality orientation	89	63.1	12	24	64.9	7	113	63.7	11
22) employ activation methods	91	64.5	10	25	67.6	6	116	64.8	9
23) utilize recreation & leisure time activities	87	61.7	13	23	62.2	8	110	62.0	12
24) select & utilize self care equipment & materials	84	59.6	15	23	62.2	8	107	59.8	15
25) select & utilize rehabilitation aids & materials	86	61.0	14	24	65.9	7	110	61.5	13
26) select & utilize mobility aids	87	61.7	13	23	62.9	8	110	61.5	13
27) select & utilize avocational equipment & materials	102	72.3	4	30	81.1	2	132	73.7	3
28) select & utilize vocational equipment & materials	102	72.3	4	27	73.0	4	129	72.6	5
29) select & utilize projective equipment & materials	99	70.2	6	26	70.3	5	125	70.4	6
30) select & utilize developmental equipment & materials	101	71.6	5	29	78.4	3	130	72.6	5

Note: Data indicate number of respondents stating training opportunities are presently available in this competency area.

Table 11

Perceived Availability of Training by Geographic Classification

Occupational Therapy Competencies	Urban n = 136			Rural n = 33			Total Sample n = 176		
	Number Response	% Sample	Rank	Number Response	% Sample	Rank	Number Response	% Sample	Rank
1) identify & evaluate motor function	68	50.0	18	28	70.0	9	96	54.7	18
2) identify & evaluate perceptual-motor skills	74	54.4	16	33	82.5	4	107	60.9	14
3) identify & evaluate sensory function	81	59.6	11	32	80.0	5	113	64.2	10
4) observe & record cognitive function	94	69.1	4	34	85.0	3	128	73.9	4
5) identify & evaluate leisure & play skills	94	69.1	4	35	87.5	2	129	73.7	3
6) identify & evaluate vocational skills	103	75.7	1	36	90.0	1	139	79.3	1
7) identify & evaluate A.D.L. skills	69	50.7	17	31	77.5	6	100	57.0	17
8) identify & evaluate functional communicational skills	74	54.4	16	34	85.0	3	108	61.5	13
9) identify & evaluate psychosocial function	85	62.5	7	31	77.5	6	116	65.9	8
10) conduct therapeutic interviews	80	58.8	12	34	85.0	3	114	64.8	9
11) select & adopt activities for therapeutic purposes	83	61.0	9	34	85.0	3	117	67.0	7
12) design and adapt special equipment	87	64.0	6	31	77.5	6	118	67.0	7
13) employ counselling methods	85	62.5	7	29	72.5	8	114	64.8	8
14) apply sensory-based therapies to develop perceptual motor skills	62	45.6	19	30	75.0	7	92	52.5	19
15) employ joint mobilization & protection techniques	75	55.1	15	28	70.0	9	103	58.7	16
16) employ muscle strengthening techniques	78	57.4	13	29	72.5	8	107	60.9	13
17) train in work simplification & energy conservation techniques	84	61.8	8	29	72.5	8	113	64.2	10
18) employ behavior modification approaches	80	58.8	12	32	80.0	5	112	64.2	10
19) employ socio-drama techniques	97	71.3	2	33	82.5	4	130	74.3	2
20) employ relaxation techniques	77	56.6	14	31	77.5	6	108	61.5	12
21) employ reality orientation	80	58.8	12	31	77.5	6	111	63.7	11
22) employ activation methods	82	60.3	10	32	80.0	5	114	64.8	9
23) utilize recreation & leisure time activities	77	56.6	14	31	77.5	6	108	62.0	12
24) select & utilize self care equipment & materials	74	54.4	16	31	77.5	6	105	59.8	15
25) select & utilize rehabilitation aids & materials	77	56.6	14	31	77.5	6	108	61.5	13
26) select & utilize mobility aids	75	55.1	15	33	82.5	4	108	61.5	13
27) select & utilize avocational equipment & materials	96	70.6	3	34	85.0	3	130	73.7	3
28) select & utilize vocational equipment & materials	94	69.1	4	33	82.5	4	127	72.6	5
29) select & utilize projective equipment & materials	90	66.2	5	33	82.5	4	123	70.4	6
30) select & utilize developmental equipment & materials	94	69.1	4	34	85.0	13	128	72.6	5

Note: Data indicate number of respondents stating training opportunities are presently available in this competency area.

explained by the fact that although vocational evaluation and treatment are within the mandate of the therapist, it is not emphasized either in the literature or undergraduate training. Again, the psychosocial competencies were emphasized in comparison to the physically related areas. The areas where the absence of training is most noticable are those areas of rehabilitation where physiotherapists' and occupational therapists' activities do not overlap. Frequently a continuing education program is offered for both professional groups, focussing on the skills and knowledge common to both. The small number of occupational therapists that work in areas not shared to some extent with physiotherapists may not be adequate to support their own continuing education programs.

When the data pertaining to the availability of training opportunities was analyzed in relation to professional role of the respondent, there were no major discrepancies between the perceptions of clinicians and supervisors. When the sample was considered in relation to geographic location both urban and rural therapists emphasized the lack of vocationally-related programs although major differences in perceptions were noted in four other competency areas. Rural therapists perceived conducting therapeutic interviews, behavior modification, and functional communication as areas having less opportunity for training than urban therapists. Similar to differences in perception of relevance of competencies, the evaluation of sensory function was an area of major difference between rural and urban therapists, rural therapists more often identifying it as an area in which training is lacking.

Barriers to Participation

The therapists' perceptions of barriers to participation are presented in Tables 12 an 13. Using the mean ranking of the total sample as an estimate of importance, situational barriers were identified more often than institutional ones. In order of their importance, family responsibility, lack of appropriate programs, lack of time, and job responsibilities were identified as the major barriers to participation in continuing education programs. The McGregor (Note 5) study also suggested lack of suitable programs as a major barrier, however, cost was ranked equally high in her study. It is interesting to note that despite the increasing numbers of groups offering continuing education opportunities, including special interest groups, provincial and national professional organizations, and the universities, lack of appropriate programs continues to be consistently identified as a major barrier to participation.

The analysis of the data in respect to respondent's professional role revealed that both supervisors and clinicians perceive family responsibilities and lack of time as major barriers to clinicians attending continung education programs. Supervisors, however, perceived lack of appropriate programs as a barrier more often than clinicians who indicated that job responsibility and cost were greater deterrents than lack of appropriate programs.

As was expected, the breakdown of perceived barriers by geographic location revealed that rural therapists ranked distance as the top barrier to participation, with 15 rural

Table 12

Ranking Perceived Barriers to Participation
by Professional Role

Barriers	Clinicians n = 139				Supervisors n = 37				Total Sample n = 176			
	1[a]	2	3	$\bar{x}$[b]	1	2	3	$\bar{x}$	1	2	3	$\bar{x}$
Situational Barriers												
Family responsibilities	18	4	8	1.67	6	2	2	1.60	24	6	10	1.65
Job responsibilities	17	13	14	1.93	2	7	3	2.08	19	20	17	1.96
Cost	29	41	23	1.94	7	4	10	2.14	36	45	33	1.97
Distance	16	16	19	2.06	4	3	2	1.78	20	19	21	2.01
Lack of time	19	17	16	1.94	5	8	3	1.87	24	25	19	1.93
Transportation	1	2	2	2.20	0	0	0	0	1	2	2	2.20
Institutional Barriers												
No appropriate program available	16	15	14	1.96	7	2	4	1.78	23	17	18	1.91
Insufficient advance notice	6	7	8	2.09	0	3	5	2.62	6	10	13	2.24
Inadequate publicity	3	5	11	2.42	0	3	0	2.00	3	8	11	2.36
Inconvenient scheduling	5	11	12	2.25	2	2	2	2.00	7	13	19	2.20

[a]1 = number of times response ranked as 1st most frequently encountered barrier.
2 = number of times response ranked as 2nd most frequently encountered barrier.
3 = number of times response ranked as 3rd most frequently encountered barrier.

[b]mean rank with lower value signifying higher rank.

Table 13

Ranking Perceived Barriers to Participation
by Geographic Location

Barriers	Urban n = 136				Rural n = 40				Total Sample			
	1[a]	2	3	x̄	1	2	3	x̄	1	2	3	x̄
					Situational Barriers							
Family responsibilities	18	6	3	1.44	6	0	7	2.08[a]	24	6	10	1.65
Job responsibilities	17	20	14	1.94	2	0	3	2.20[b]	19	20	17	1.96
Cost	29	30	25	1.95	5	15	8	2.10	36	45	33	1.97
Distance	5	9	12	2.27	15	9	9	1.18[c]	20	19	21	2.01
Lack of time	24	23	17	1.81	0	2	1	2.33[d]	24	25	19	1.92
Transportation	0	0	2	3.00	1	2	0	1.66	1	2	2	2.20
					Institutional Barriers							
No appropriate program available	20	11	15	1.89	3	5	3	2.00	23	17	18	1.91
Insufficient advance notice	4	8	11	2.30	2	2	2	2.00	6	10	13	2.24
Inadequate publicity	3	7	9	2.31	0	1	1	2.50	3	8	11	2.36
Inconvenient scheduling	6	11	14	2.25	0	1	2	1.68[e]	7	13	14	2.21

[a]Tau = .14 p < .05

[b]Tau = -.20 p < .007

[c]Tau = .49 p < .02

[d]Tau = -.30 p < .003

[e]Tau = .16 p < .03

therapists ranking it as the most frequently encountered barrier compared to 5 urban therapists. Although transportation also ranked high among rural therapists when mean ranks are compared, only five therapists in the total sample acknowledged it as a barrier. Urban therapists ranked family responsibility and inconvenient scheduling significantly higher than did their rural colleagues.

It would appear from these results that it is the choice of topic rather than the program planning process that the therapists perceive as a barrier to participation. Scheduling, publicity, and notice are sufficently well organized that if the topic is relevant and the therapist's personal situation flexible, participation could be expected. In Chapter Three, the third category of barrier was briefly introduced and the rationale for not including it in this study presented. Only one respondent indicated that they were not interested in continuing education because they did not think it necessary for continuing competence. This supports the research on dispositional barriers suggesting that respondents will not state this type of barrier if given the opportunity on an open ended "other" item on a questionnaire.

Delivery Systems

Continuing education programs may take a variety of forms. Those delivery systems that were included in this study reflect those most often appearing in the related literature. Tables 14 and 15 represent the distribution of preferred delivery system .

Considering the broad categories of systems used in this study as direct and distance, the four examples of direct systems were ranked higher than any of the distance systems. Workshops were ranked significantly higher than any other type of system with 166 (95%) of the respondents ranking it as one of the top three preferences of delivery system. The preference for workshops may reflect the fact that few other delivery systems have been utilized in British Columbia, the resultsmay illustrated a familiarity with this system rather than a preference in comparison to others. Perhaps this is because the workshop is the most suitable delivery system for the subject matter in continuing education programs for therapists.

Table 14 presents preferred delivery systems according to professional role. Both groups perceived workshops as the system most preferred by clinical therapists. The results indicate that supervisors perceive clinicians as preferring travelling consultants most often after workshops while clinicians preferred short courses as a second choice.

Considering the preferred delivery systems in relation to geographic location, rural therapists prefer travelling consultants more than their urban colleagues. This reflects the present state of continuing education in British Columbia since most programs are offered in metropolitan areas, urban therapists would have less need for travelling consultants. The relatively low preference indicated for distance systems by rural therapists was an unexpected result which may be an indication of lack of familiarity with the systems studied or of

Table 14

Ranking Preferred Delivery Systems for
by Professional Role

Delivery System	Clinicals n = 139				Supervisors n = 37				Total Sample n = 176			
	1[a]	2	3	$\bar{x}$[b]	1	2	3	$\bar{x}$	1	2	3	$\bar{x}$
Direct Systems												
1 or 2 day workshops	99	20	12	1.33	29	4	2	1.23	128	24	14	1.31
Short courses	11	31	23	2.19	0	7	8	2.53	11	38	31	2.25
Evening series	8	35	22	2.21	3	7	7	2.24	11	42	29	2.20
Travelling consult.	8	25	20	2.23	2	9	5	2.19	10	34	25	2.22
Distance Systems												
Audio tapes	1	7	18	2.65	1	3	6	2.50	2	10	24	2.61
Educational t.v.	7	11	25	2.42	1	4	4	2.33	8	15	29	2.40
Educational radio	0	2	0	2.00	0	0	1	3.00	0	1	1	2.50
Correspondence	1	2	9	2.67	0	0	0	0.00	1	2	9	2.67

[a] 1 = number of times response ranked 1st most preferred.
 2 = number of times response ranked 2nd most preferred.
 3 = number of times response ranked 3rd most preferred.

[b] mean rank with lower value signifying greater preference.

Table 15

Ranking Preferred Delivery Systems in
by Geographic Location

Delivery System	Urban n = 136				Rural n = 40				Total Sample n = 176			
	1[a]	2	3	$\bar{x}$	1	2	3	$\bar{x}$	1	2	3	$\bar{x}$
Direct Systems												
1 or 2 day workshops	102	17	10	1.29	24	7	4	1.43	128	24	14	1.31
Short courses	8	27	26	2.29	3	10	5	2.11	11	38	31	2.25
Evening series	11	38	22	2.16	0	4	6	2.60[a]	11	42	29	2.20
Travelling consult.	3	25	20	2.35	7	9	4	1.85	10	34	25	2.21
Distance Systems												
Audio tapes	2	8	7	2.56	0	2	7	2.78	2	10	24	2.61
Educational t.v.	4	9	22	2.51	4	5	7	2.18	8	15	29	2.40
Educational radio	0	1	1	2.50	0	0	0	0.00	0	1	1	2.50
Correspondence	1	2	6	2.55	0	0	3	3.00	1	2	9	2.67

[a]Tau = -.17 p < .02

the skepticism of the respondents that such systems would be introduced for continuing education purposes in British Columbia.

Because of the availability of educational television with the introduction of the Knowledge Network, an item specifically related to topics to be delivered via television was included in the study. Forty-five percent of the sample favored programs related to occupational therapy skills, 27.3% to clinical conditions, 14% to professional issues, and 13.4% to basic and applied sciences. Although the results indicate major differences in the preferences of topic, which would be valuable in program planning, because of the marginal preference by therapists for televison as a delivery system, the information is of questionable value.

Tests of Hypotheses

The hypotheses examined in this study focused on differences in perceptions of continuing education as a result of professional role and geographic location. These differences were considered in relation to three program planning variables learning needs, perceived barriers to participation, and preferred delivery systems. The p<.05 level of significance was maintained throughout the testing of the hypotheses.

Hypothesis 1 stated: There will be a significant difference in the perception of clinical therapists' learning needs between clinical therapists and supervisory therapists.

A comparison of perception of clinical therapists' learning needs held by clinical and supervisory therapists was carried out on the 30 competency areas studied and on the three categories of competency: evaluation, therapeutic procedure, and utilizing therapeutic equipment and materials. A comparison of the means of the individual competencies revealed only one competency in which the difference between the therapist groups was significant, apply sensory based therapies to develop perceptual motor skills (t=2.03, df=175, p<.04). When compared, the means of the three categories of competencies showed no significant differences between clinical and supervisory therapists. Based on these results, Hypothesis 1 was rejected.

Hypothesis 2 stated: <u>There will be significant differences in identification of barriers to participation between clinical therapists and supervisory therapists.</u>

Differences in perceived barriers were assessed by comparing the two groups of therapists in each of the eight barriers studied. Comparision of the Kendall Tau for ranked data revealed no significant differences. The two categories of barriers to participation, situational and institutional, were also compared. Using a Chi Square, no significant differences were found between the two groups. Based on these results, Hypothesis 2 was rejected.

Hypothesis 3 stated: <u>There will be a significant difference in the perception of delivery systems preferred by clinical therapists held by clinical therapists and supervisory therapists.</u>

A comparison of the preferred delivery systems for the two groups of therapists was conducted both on the eight individual examples of delivery systems and on the two larger categories of systems, direct and distance systems. A comparison using Kendall's Tau for ranked data revealed no significant difference between the groups in the eight systems studied. A Chi Square comparing the differences in preference for direct and distance systems also revealed no significant differences. Based upon these results, Hypothesis 3 was rejected.

Hypothesis 4 stated: There will be significant differences in the learning needs identified by rural clinical therapists and urban clinical therapists.

A comparison of the learning needs was conducted both on the 30 individual competency areas investigated as well as the three categories of competencies, evaluation, therapeutic procedure, and utilizing therapeutic equipment and materials. An analysis of the individual competencies revealed that in two competency areas learning needs were significantly different between the two groups of therapists (employing socio-drama technique $t=-1.99$ df=136 p<.05, employ reality orientation $t=-2.15$ df=136 p<.03). In both cases the needs were higher among rural therapists. A comparison of learning needs in the three competency categories reveals no significant differences between the groups. Based on these results, Hypothesis 4 was rejected with consideration of the two competency areas that were statistically significant.

Hypothesis 5 stated: rural clinical therapists will have a significantly higher estimate of learning needs than do urban

clinical therapists.

A comparison of the summed need estimates of the sample using T-Tests to analyze differences in the means revealed no significant differences between the general statement of need expressed by rural and urban therapists. Based on these results, Hypothesis 5 was rejected.

Hypothesis 6 stated: There will be a significant difference in barriers to participation identified by rural clinical therapists and urban clinical therapists.

A comparison of perceived barriers was conducted on both the eight barriers investigated in this study and the two categories proposed, situational barriers and institutional barriers. The analysis of the individual barriers using Kendall's Tau for ranked data revealed significant differences between the groups in five barriers. Family responsibilty (Tau=.14 p<.05) and distance (Tau=.49 p<.02) were significantly higher among rural therapists while job responsibility (Tau=-.20 p<.007), lack of time (Tau=-.30 p<.003), and inconvenient schedule (Tau=-.16 p<.03) were significantly higher among the urban therapist. A comparison of situational and institutional barriers reveals a significant relationship using Chi Square analysis (Chi=5.91 df=7 p<.01). Based on these results, Hypothesis 6 was not rejected.

Hypothesis 7 stated: there will be a significant difference in delivery systems preferred by rural clinical therapists and urban clinical therapists.

A comparison of delivery systems was conducted both on the

eight systems investigated in this study and the two categories proposed direct and distance systems. An analysis of the individual systems using Kendall's Tau for ranked data reveals significant differences between the two groups in only one delivery system. Evening series were preferred significantly more by urban therapists than rural therapists (Tau=-.17 p< .02). The comparison of direct and distance systems revealed no significant differences between these two groups. Based on the results, Hypothesis 7 was rejected with consideration of the one significant relationship found.

Summary or Results

The results of the data analyses were presented in this chapter. The study sample consisted 176 occupational therapists currently practising in British Columbia. Of the total sample, 136 respondents were clinical therapists and 40 were supervisory therapists. Seventy-eight percent of the sample were employed in departments of five or fewer therapists. The clinical therapists averaged 6.75 years of experience while the supervisors had a mean of 10.42 years of related experience. Geographically, 139 respondents were classified as urban therapists and 37 as rural therapists. The rural therapists had significantly fewer professional contacts with other therapists than did urban ones.

Differences in perception of learning needs, barriers to participation, and preferred delivery sytems held by clinicians and supervisors were minimal. Evaluation related competencies were reported to have the highest estimate of learning need

while the competency area with the fewest training programs available was vocational assessment and treatment. Both clinicians and supervisors identified family responsibility and lack of time as the major barriers to participation. Workshops were their overwhelming preference of both sub-samples in relation to delivery systems.

A comparison of the three program planning variables investigated in this study revealed no significant differences between rural and urban therapists in relation to learning needs and delivery systems. The results were similar to those reported for clinical and supervisory therapists. The analysis of barriers to participation revealed significant differences based on geographic location of the therapist; rural therapists more often identified transportation and distance and urban therapists reported the major barriers to be inconvenient schedule and family responsibilty.

Although the results did not support many of the hypothesized relationships between the sub-samples, valuable program planning information was gained from the study which will have implications for both long and short term planning of continuing education opportunities for therapists in British Columbia.

CHAPTER FIVE

DISCUSSION AND CONCLUSIONS

The primary purpose of this study was to examine the relationships between professional role and geographic location of occupational therapists and three program planning variables: learning needs, barriers to participation, and preferred delivery systems. A second purpose was to gather information to assist in the design of continuing education opportunities for clinical therapists in British Columbia.

The results of the study revealed no significant differences in the perception of clinical therapists' learning needs held by clinical and supervisory therapists or in perceived learning needs between urban and rural therapists. Evaluation- related competencies were identified as being the areas of greatest need- notably perceptual, cognitive, and sensory evaluation. The assessment of the availability of programs in these areas confirmed that opportunities for continuing education are limited.

In relation to barriers to participation, although differences in perception held by clinicians and supervisors were not found to be significant, differences between urban and rural therapists were statistically significant on five of the eight barriers studied. Family responsibility and distance were significantly higher among rural therapists while urban therapists more often identified job responsibilities, time, and

inconvenient scheduling as barriers to participation in continuing education programs.

Workshops were the overwhelming preference of all subsamples in relation to delivery systems. The analysis of preferred delivery systems revealed no differences between supervisors and clinicians. Evening series were preferred significantly more often by urban than rural therapists.

This study provided information which is highly relevant to the provision of continuing education for therapists in British Columbia. A priorized list of competency areas was identified permitting immediate and long term planning. As well, support for the most frequently used delivery system was received along with information upon which to base decisions regarding the introduction of newer ones. Although situational barriers were identified more often by therapists, they are often beyond the control of the planner. A finding which has more direct implications is that lack of appropriate programs was reported as a major institutional barrier.

Professional Role and Continuing Education

Professional role was examined in this study as it related to decision-making in the continuing education program planning process. It was hypothesized that clinical therapists and supervisory therapists would have different perceptions of the needs and preferences of clinicians. This problem was focused on because of the tendency for program planners in occupational therapy to consult supervisors about the continuing education

needs and preferences of their staff rather than going directly to representatives of clinical therapists. The results suggest that British Columbian supervisors and clinicians are fairly similar in their perceptions in the three variables studied. The explanation for the similarity of perception is likely that the majority of supervisory therapists sampled are responsible for only a small number of staff. Close contact with staff would enable the supervisory therapists to be more aware of their staff's perceptions in these areas. In addition, the similarity of the groups in regard to experience may have led to their having similar perceptions.

Learning Needs

Results of this study suggest that there are no statistically significant differences between the self-perceptions of clinical therapists and the perceptions of their supervisors in the identification of competency areas in which learning needs are high. In contrast, results presented in the literature suggest that differences in perceptions exist and attribute these differences, in part, to the greater amount of experience the supervisor has had in the field of health care. Although this study did reveal a mean difference of 3.5 years between the groups it was not found to be significant. The similarity of years of experience between the groups is one explanation for the consistency of perception of learning need. If perceptions differ as a result of increasing years of practise and exposure to the health care field, one would expect that if clinicians and supervisors have comparable amounts of

experience, differences in perceptions of learning need would be minimal as was the case in this study.

Examining the literature upon which the hypothesized relationship was based is one method of explaining the results of the study. The majority of supporting literature was drawn from the field of nursing. Although much of the philosophy and many practises are similar in occupational therapy and nursing, the numbers that are involved in each profession are notably different. In British Columbia, the Registered Nurses Association has approxiamtely 22,000 members while the British Columbia Society of Occupational Therapists has approximately 300. Although this difference may not be as marked in all locations, it is possible that differences in educational background, types of employment situations, and stratification of the professional role may be greater among nurses than therapists. These differences could account for the results that have been found in studies investigating differences in perception of learning needs. As mentioned in Chapter Four, therapists may be considered relatively homogeneous in work experience and educational background.

An additional difference between these two groups is the difference in training of supervisors; this would lead to differences in their perceptions. Supervisors in occcupational therapy frequently obtain their positions through accumulating a number of years experience in one location or related speciality areas. Although this is often the case with nursing supervisors, the number of graduate programs in nursing and supervisor training courses is far greater than that available to the

therapist. Supervisors in nursing then may have different educational backgrounds and thus different perceptions of their staff than would supervisory therapists.

The similarity of the learning needs estimate may also be accounted for by the size of the staff for which supervisory therapists are responsible. The results of this study show that 78% of the respondents were employed in departments of five therapists or less. The small size of the departments would allow supervisors better access to the perceptions of their staff in a number of professional issues including the identification of learning need. The familiarity of the supervisors with the level of competence of their clinicians and the opportunity for evaluation and feedback on an informal basis would certainly have contributed to the similarity of perceptions based on need assessment using competency statements.

No specific patterns or trends in identification of learning needs between the subsamples were revealed. Studies reported in Chapter Two suggested that clinical therapists would rank practical, "how to" competencies higher than their supervisors would perceive them as ranking these competencies. The emphasis of this assessment tool on clinical skills would have prevented such a trend from occuring in this study.

Evaluation related competencies were reported by both clinicians and supervisors as the top ranked learning need. A possible explanation of this finding is that treatment approach and method are dependent upon accurate evaluation of the client. The emphasis on cognitive and perceptual-motor evaluation

reflects the tendency for undergraduate training to stress physical and functional types of evaluation at the expense of other assessment procedures. In addition, new treatment approaches to neurological dysfunction, the neurophysiological approach to the brain-damaged individual, for example, would necessitate updating or expanding knowledge of these types of evaluations. These new treatment models are often accompanied by formalized or norm-referenced assessment tools which necessitate the therapist receiving some type of training prior to their use.

A comparison of the availabilty of training in each of the competency areas and the learning needs reveals that a number of areas were reported having both high learning needs and sufficient training opportunities available. Evaluation of perceptual-motor skills and sensory function are two examples which ranked in the top five learning needs and also highly among competencies where programs were available. This indicates that although a high learning need exists, therapists are not taking advantage of the plentiful programs for a number of reasons. Barriers to participation may be greater than their learning need, or the focus of the program may not be appropriate. For instance, they may have insufficent theoretical content. Another explanation is that the present programs are too few in number. Many of the neurologically oriented programs have limited enrollment and use resource people who are not readily available to repeat the programs. Another possibility is that despite the availability of programs, the competency areas change so quickly that a need always exists.

Barriers to Participation

The results of this study suggest that therapists consider family responsibility, lack of appropriate programs, and lack of time as the major barriers to participation. This supports the literature suggesting that situational barriers are the greatest barriers to adult learning. It was hypothesized that differences in perception of clinicians' barriers to participation would be held by supervisors and clinicians based on the supervisors having a greater committment to continuing education which would be projected onto their staff. It was suggested that an attempt to reduce some of the situational barriers would accompany a high degree of committment by the therapists. Differences existed between the two groups, supervisors perceiving lack of appropriate programs as a major barrier and clinicians perceiving job responsibilty and cost as greater deterrents to participation. These differences, however were not statistically significant.

The similarity of perceptions between these two groups may be a result of the small staff size associated with the majority of occupational therapy departments. A small staff-supervisor ratio creates the potential for more interaction and potential awareness by the supervisors of the personal demands made on the time of the clinical therapist. A closer relationship with the staff would be reflected in the supervisor's ability to perceive the situational barriers that their clinical staff identified.

The proposition that supervisory therapists would have a higher committment to attending continuing education programs and expect their staff to have the same amount of commitment was

not supported by the results of this study. Although not statistically significant, a trend towards differences in perception is suggested by this study. Clinical therapists ranking family responsibility, job responsibilty, and cost as the top three barriers clearly indicate the identification of situational barriers. This can be understood from the point of view of a therapist with limited experience; these barriers would be created by learning new job demands and balancing these with the demands of private life, including the financial insecurity of the first few years of employment. The supervisor's group in this sample reported that lack of appropriate programs was a major concern of their staff, one which would clearly be more relevant to the person with more experience. This response may be a result of the supervisors' awareness of the opportunities of other professions in the health care field . Realizing that the programs available to the occupational therapist are limited in comparison, identification of this barrier would be logical. Another interpretation of this finding is that clinical therapists who report a lack of appropriate programs as a major barrier, may be attempting to offer an acceptable excuse for not attending programs while masking other less professional reasons, such as disinterest.

Delivery Systems

Delivery systems were considered in this study primarily as a method of evaluating the system which is predominant at the present time, the workshop. The results of the study support the current tendency to use the one or two day workshop as the

vehicle for continuing education programs in the field of occupational therapy. The hypothesized differences in perception held by clinicians and supervisors was based on the proposition that because of their experience, supervisors would be more familiar with workshops and would project this preference onto their staff. Clinical therapists, on the other hand, were thought to have received more exposure to alternative delivery systems.

The results of the study did not support differences according to professional role nor were significant differences found between the years of experience of the two groups. No support was given to the contention that the most recently graduated therapists are more aware of alternate delivery systems and would report them as preferences; the results suggest that the opposite may be true. It is possible that clinical therapists' recent expereince with the lecture and lab methods of teaching traditionaly used in universitiies would support the preference for workshops found in this study. Familiarity with the workshop and short course systems was likely the principle in operation in this study. Typically respondents will choose an item or alternative which they are familiar with, even if not in total agreement with it, over an unknown alternative (Payton, 1979). The lack of examples of other systems in the field of rehabilitation would likely have biased therapists toward an alternative with which they had experience. Other than the short course and the very occasional evening series, exposure to other delivery systems has been minimal.

The similarity of responses between these two groups may also reflect the methods used in undergraduate training. It is largely carried out using direct methods, lecture and small group interaction, which the current continuing education programs are patterned after. Therapists may be predisposed to report a preference for continuing education programs using these same methods unless they had opportunity to participate in other delivery systems. In British Columbia these opportunities have been minimal.

One of the characteristics of most of the direct systems is that they are fixed in time and place and that therapists must arrange work and family responsibilities around attending these. Because of the predominance of situational barriers identified by clinical therapists, one would expect that they would have preferred distance types of systems which would allow them more flexibility and avoid some of the situational barriers. For instance, the capacity to participate in educational television and radio is typically available in the home. If programs were offered, this delivery system might reduce at least some of the family and distance problems. Correspondence and audio tapes reduce problems associated with scheduling and the obligation to leave the home in order to participate in continuing education. The results indicate that therapists must be gaining benefits by attending workshops and short courses which outweigh the barriers that are produced.

Another explanation for the consistency of results is that the items on the questionnaire may not have been defined sufficently or their meanings understood. For instance,

travelling consultants were identified as the second choice by supervisors who may have more knowledge of that type of system as compared to it being ranked fifth most preferred by clinical therapists. Ambiguity of meaning may also have been a factor in the low ranking of evening series, which may have been interpreted to mean every evening a week for several weeks. Therapists may have selected an alternative of which they were certain of the meaning over one whose definition was not clear.

It is interesting to note that the preference for workshops has not changed in the seven years between this study and the one conducted by McGregor in 1975. Despite new innovations in satellite educational systems and audiovisual aids, the overwhelming preference for workshops was even more pronounced in this study.

Geographic Location and Continuing Education

Geographic location of the therapist was the second characteristic considered in relation to program planning in continuing education. The current state of programming in British Columbia is that the majority of programs are offered in the large metropolitan areas, Vancouver or Victoria. Although therapists in outlying areas are often vocal about their need to update skills and knowledge, financial constraints have made it difficult to address the needs of those who are geographically isolated. One of the purposes of this study was to determine if differences exist in relation to location and, if so, what the special needs were of the rural and urban subgroups.

In order to determine if differences in daily contacts with colleagues influenced the needs and preferences of therapists as was suggested in the review of the literature, the frequency of professional contacts was solicited from respondents. Although there were significant differences between the urban and rural clinical therapists in relation to professional contacts, major differences in learning needs and preferred delivery systems were not identified. The results did show significant differences in barriers to participation between the two groups of therapists, but, due to their nature, are of little practical value to the planner.

Learning Needs

Two aspects of learning needs were examined in relation to geographic location. The first of these addressed whether differences in need estimate for individual competency area existed. The second dealt with differences in overall need for continuing education between rural and urban therapists.

The pattern that emerges from the analysis of the data emphasizes evaluation as the area of highest learning need, notably in the non-motor related areas. Urban and rural therapists reported the same competency area for the five top ranked needs. Counselling skills, sensory and perceptual motor evaluation and treatment have higher need estimates than the more traditional competency areas, muscle strengthening or energy conservation for example. This likley reflects the latest innovations in the field of rehabilitation, topics which were

possibly not included in undergraduate training.

The results of the analysis of the specific areas of need revealed only minor differences in the identification of learning needs between rural and urban therapists. The contention that differences would exist was based on the commonly acknowledged assumption that rural therapists are generalists in professional practise while urban therapists more often become specialists in one field of health care. This tendency is a result of the comparative lack of facilities in the rural areas and, therefore, rehabilitation staff, which would create a situation where the therapist would be involved in all areas of practise. The urban therapist, likely employed in a larger, more specialized facility would have a narrower focus to professional practice.

The similarity in identification of learning needs may be partially explained by the bias of the assessment tool used. The competency statements upon which the tool was based were of a general nature because of the intent to have the survey apply to as many therapists as possible. In attempting to do so, a looseness in the interpretation of the competency may have occurred. Rural therapists may have taken the competency to have a broad meaning while urban therapists may have interpreted them in light of their specialized practice. For example, evaluation of vocational skills could be describing both the practise of taking a vocational and educational history in the broad sense and conducting commercial vocational exploration assessment or job simulation in a more specialized sense.

The second aspect of learning needs investigated was the

difference in overall degree of need expressed by the respondents. A single estimate of need was calculated by totaling all of the estimates for the 30 competencies studied. The assumption behind this hypothesis was that because rural therapists are disadvantaged in relation to professional contacts and more formalized types of continuing education, they would exhibit a greater overall need than their urban colleagues. Despite the fact that there were significant differences between the numbers of professional contacts experienced by rural and urban therapists, there was no significant difference between the overall need estimates.

One possible explanation for this result is the financial assistance available for health care workers in non-metropolitan areas to travel to larger centers to attend continuing education programs. This funding is one method that has been introduced to decrease the isolation of rural health care workers. The rural therapists in this study may have been benefitting from the increased opportunity to attend programs that the special funding has allowed and thus not perceived themselves in greater need than urban therapists who have ready access to opportunities.

Another possible explanation for this result is that rural therapists make a greater effort to meet their learning needs because of their location. Aware of their limited opportunities for professional exchange, therapists may spend greater time and financial resources to ensure that they are up to date in their professional skills and knowledge. Related to this is the possiblity that rural therapists are active in alternative forms

of continuing education not investigated in this study. Independent study programs using interlibrary loan, journal exchange programs, and informal exchanges with other health care workers are methods through which learning needs could be met in outlying areas. The results of this study must be considered in relation to a limited definition of continuing education and cannot be applied to all methods of continued learning.

The general nature of the competency statements investigated in this study is another explanation for the results. Because rural therapists' are typically considered generalists, the areas surveyed would more likely parallel the rural therapists practise than that of the urban specialist. The competencies, then, may not have been considered as relevant to the practise of the urban therapists resulting in a lower score being calculated into the estimate of need. A comparison of the total mean relevance of the competency statements of the two groups of therapists indicated that the rural therapists reported the competencies more relevant to their practise than did urban therapists, but, this differece was not found to be significantly different. This may have contributed to the unpredicted similarity between the two groups. The bias of the assessment tool toward the rural therapist may have minimized the differences in overall need estimate that were expected results of this study.

Barriers to Participation

The results of this study supported the hypothesized differences between urban and rural therapists in relation to

barriers to participation in continuing education programs. Rural therapists ranked lack of transporation as the major barrier, an expected response considering the current situation in British Columbia where workshops in metropolitan areas are usually the only type of program available. Urban therapists with easy access to programs reported barriers related to personal situations as reasons for not participating in continuing education programs. The barriers reported by the rural therapists supports a case for special services for this group. The response to preferred delivery systems discussed below, however, makes it difficult for the planner to reduce the barriers and still consider the preferences of the therapists. Although identifying barriers should facilitate participation, those reported by urban therapists, family responsibilty and lack of time, are difficult for the planner to address. In some instances planners may reduce barriers by changing the schedule, providing more specialized programs, or relocating the program in an attempt to encourage increased participation. Perhaps by bringing the barriers to the attention of the therapists through completing the questionnaire, respondents will at least be conscious of the barriers that pertain to them . Although this is an indirect way of addressing the issue, raising the level of awareness through completing a questionnaire may reduce barriers and facilitate participation to some degree.

Delivery Systems

One of the most unexpected results of this study was the preference of both urban and rural therapists for one of the

direct delivery systems, the one or two day workshop. Although rural therapists identified transportation and distance as the greatest barriers to participation, they did not prefer delivery systems which have the potential to reduce these barriers. The results indicate that respondents want workshops or short courses arranged in their locality, which are often financially prohibitive.

Similar to the explanation proposed for the results of the preference of delivery system by clinicians and supervisors, familiarity with the direct systems compared to the distance systems is the most logical explanation for the lack of differences between rural and urban therapists. Although the literature reflects a general preference by health care workers for workshops in all types of continuing education, one would have expected more support for distance systems by rural therapists on a questionnaire which offered a number of options.

Rural therapists having little or no practical experience with the distance systems included in this study may have reported alternatives which they have participated in previously rather than those they may be interested in but of which they have little knowledge. Perhaps some skepticism on the part of the therapists that these distance systems would actually be instituted for continuing education purposes is also reflected in the results.

These results suggest that the benefits of direct systems to rural therapists outweigh the financial and time committment that they necessitate. The opportunity for both professional and social interchange is one of the well-documented benefits of the

direct delivery systems (Langerman and Smith, 1980). The data suggesting that the rural therapist has significantly fewer opportunities for professional contacts was supported in this study, and therefore the preference for direct systems may be an attempt to decrease this professional isolation. Another advantage of the direct systems is that they usually provide opportunity to travel to a larger metropolitan center. Rural therapists may have been indicating a desire to travel to a different area or to experience a change in their usual environments in their preference for direct sytems.

One of the major differences between this study and that conducted by McGregor (Note 5) was the relatively low number of responses to correspondence as a preferred delivery system in the present study, less than 3% compared to 24%. This may partially be due to the fact that she stipulated correspondence was for credit, while in this study it was not specified. The healthy response to this system in McGregor's study may reflect the interest in this system if some type of academic credit were available. This suggests that the results of this study may have differed had certification or credit accumulation been specified. This area will be addressed in the implications of the study.

Assessment Tool

A secondary purpose of this study was to test a tool for the assessment of continuing education needs. With a

comprehensive assessment, planners could be more confident that the programs they offer reflect the needs of the potential participants. Supporting the need for a comprehensive assessment tool is the fact that one of the unexpected findings in this study was the response indicating a lack of appropriate programs as a major barrier to participation. This could indicate a general lack of programs for occupational therapists or that planners are not basing their decisions on accurate information thus offering programs of little relevance.

Traditionally, a checklist type of interest survey has been employed to identify areas for programming. Although these provide some indication of the therapists' interests, according to the definition of need as a gap between existing and desired knowledge and skills, learning needs are often not assessed. The instrument used in this study attempted to overcome the limitations of the traditional assessment tool. Competency statements rather than speciality areas or disease entities were suggested as programming areas in an attempt to have the tool apply to as many therapists as possible. The need was quantified by having the respondent state both desired and existing levels of competetence in the areas suggested and subtracting the values. As a further guide for planners, the relevence of each competency area to the practise of occupational therapy was solicited in order to distinguish between needs that exist but are not pressing in relation to current practise and those that require immediate attention. This format for the assessment tool allowed needs to be quantified which facilitated comparison among groups and ranking of needs as to importance.

In reviewing the results of the assessment a bimodal distribution was found with the most frequent responses being 0, or no need existing and 3, indicating a gap between existing and desired competence on an area that is highly relevant to the practise of occupational therapy. When the means were compared, a list of priority needs was revealed, which is useful in relation to supporting short term planning decisions and in planning for programs in the future.

An overall evaluation of the tool suggests it is of practical use for the planner. In addition to the priority list of learning needs, an indication of whether present programs are effective was provided by comparing learning need and availability of training responses. Analyzing the responses to the relevance of the competency areas to practise gave support to the relevance of the questionnaire itself. The competencies included in this tool were relatively general in nature; a similar tool focussing on one approach to therapy, psychiatry or physical medicine for example, may have provided more detailed program content information for the planner.

In evaluating a needs assessment tool, the issue of whether the instrument can predict participation in resultant programs should be considered. In many instances indicating a need may not be translated into actual participation because the barriers to participation may be stronger than the discrepancy in skills or knowledge. Because this instrument took into account a number of the component parts of need, and therefore tapped more than an interest, it may be a better indicator of participation than many of the traditional instruments. The planner however, must

be cautioned against assuming that needs will directly translate into attendance at continuing education programs.

Limitations of Research Design

A number of limitations exist in the research design used in the study. In relation to the sampling technique, the comparison between clinical therapists and supervisory therapists was made in a very broad manner in that the supervisors in general were compared to a large group of clinicians. No attempt was made to match the supervisors' perceptions of continuing education to their own staff perceptions. A more rigorous design would match the two groups in relation to their work setting and thus hold a number of factors constant.

Problems in the wording of the questionnnaire may have produced some confusion for the respondents thereby biasing the results. Notably in the case where the supervisors were asked to indicate their perceptions of their staff's needs, it is possible that the supervisors may have indicated their own needs and preferences at points throughout the questionnaire. The wording may also have had an effect on the questions investigating barriers to participation and preferred delivery systems in that only one item was used to tap each of these variables. There was no opportunity to validate the respondent's understanding by comparing questions that tapped similar information.

Although comments regarding the questionnnaire were welcome

as indicated in the covering letter, only one area was the subject of a number of comments by respondents. The item regarding the availability of training in the competency area was not sufficently defined according to 12 respondents. Questions focussed on whether training referred specifically to the field of rehabilitation or to other health care areas. More precise wording would have reduced this problem.

Implications

Continuing education is fundamental to the competent practise of occupational therapy. The success of a program is often dependent upon the planner's ability to assess the needs and preferences of the potential participants and to respond with relevant programs. The therapist's level of motivation to continue to be involved in professional learning is directly influenced by the quality of the learning experiences they have participated in. Therefore, one of the purposes of this study was to gather planning information which would contribute to the improvement of continuing education opportunities for therapists in British Columbia. The implications of this study for the planner and some suggested guidelines will be presented in the next section.

One of the major implications of this study relates to the use of supervisory therapists as a source of planning information. Based on the results suggesting similarity of perception about continuing education held by clinicians and supervisors, it can be concluded that supervisors are fairly

accurate in predicting the needs and preferences of their staff. In British Columbia, occupational therapy supervisors are very accessible to the planner. The planner may attend the monthly meeting held by supervisors or approach them on an individual basis with relative ease because of their small numbers. Both the time and financial demands of gathering information for planning programs could be reduced if supervisors were a major source of information. Caution should be used in the case of large departments in that supervisors may be more limited in their ability to perceive their staff's needs because of increased numbers. Focussing on the supervisor does not exclude the clinician as a source of information; the planner should consider both supervisors and clinicians on the progarm planning committee. Although supervisors may be able to predict the needs and preferences of their clinicians, it would be politicaly unwise to exclude clinicians from having direct input into continuing education programs.

The suggested use of supervisors as a primary source of planning information rather than clinicians is based both on the accessibility of supervisors and on the transitory employment patterns of clinicians. The current availability of jobs has created a situation where therapists change jobs and geographic location frequently (Maxwell, 1977). Because supervisors tend to stay in the same work setting for a greater period of time, they are likely a better gauge of the learning needs and preferences of the clinicians in that particular work setting. In addition, the flexibility of supervisors' working hours in that they are rarely tied to patient appointments schedules, would be an asset

to the planner.

Implications for programming specifically for rural therapists are clear but suggest restraint rather than innovation. Although minimal differences were reported between urban and rural therapists, rural therapists did not report sufficiently different needs or preferences to practically consider them for special programming. Because so few rural therapists responded to the questionnaire, the planner must realistically give a low priority to this group considering the larger group of urban therapists and limited financial resources. Had the overall need estimate of the rural therapists been higher than the urban, support would have been provided for addressing this group as a priority. The fact that a preference was not shown for the type of delivery systems that may have met learning needs and reduced barriers to participation illustrates the difficulties encountered in attempting to address the geographically isolated therapist. It is possible that while the rural therapists do not prefer distance systems, they would participate if distance systems were the only opportunity available. It would be necessary for the planner to commit the time and financial resources to a pilot project to examine the proposition that rural therapists would attend a program using a less preferred delivery system in the absence of other alternatives.

The information of most immediate relevance to the planner is derived from the needs assessment section of the study. The results suggest that evaluation of cognitive function and perceptual-motor skills are the areas that are relevant to the

practise of occupational therapy and in which the need is greatest. The area of vocational assessment and treatment was also emphasized and should be given priority because of the lack of training programs available in this area.

A number of competency areas had both high need estimates and high availability of training values. This suggests that a number of problems exist in the present planning process. Programs may not be of adequate quality, they may not be sufficent in number, or perhaps the barriers to participation reported by the respondents are greater than the learning need. One of the implications to planners is that assessment of existing programs in these areas is necessary. Materials may require updating, methods of presentation modification, or topic may need to be refocussed to better meet the learning needs of the participants. As many of the existing programs in these areas have limited enrollment, repeating them more often may be necessary.

The general nature of the competency statements used in this study has been noted a number of times. Although the utility of an assessment tool such as the one used in this study is clear, planners may be able to collect more practical information by focusing the competency statements. Using behaviorally oriented statements or limiting assessment to fewer areas with detailed descriptions, may result in information of greater assistance in the implementation of programs.

The high incidence of situational barriers to participation reported in the study can not effectively be dealt with by the program planner. Aside from assisting the therapist in the

identification of barriers, awareness hopefully being the first step in attempting to reduce barriers, situational barriers are often beyond the control of the planner. One institutional barrier, lack of appropriate programs, was reported by the majority of respondents and has implications for the planner.

One method of interpreting this response is that there is an insufficent number of programs overall. The existing ones may be relevant but too few in number to allow all interested therapists to participate. Encouraging professional associations and special interest groups to plan their own continuing education programs is one way to increase numbers. Making available experienced planners on a consultation basis would help new program planners produce better quality programs and avoid common planning pitfalls. In addition, the distribution of findings of studies such as this would encourage co-operative efforts and reduce the chances of duplication of programs.

Another way of interpreting the lack of appropriate programs is that the existing programs are not relevant to the participants. One method of increasing the relevance is to use accurate assessment procedures. Development of new tools which provide a true reflection of the needs of the therapists and are relatively efficient in relation to time and cost is necessary. Minimizing the time between the gathering of information and the implementation of programs would also reduce this barrier. Frequently, the assessment procedure and analysis of the information is so time consuming that the information is outdated before it can be acted upon.

One of the implications of this study derived from the

results of the preference of delivery systems is that the workshop method should be retained as the major vehicle for the delivery of continuing education opportunities for therapists. Considering financial constraints and the variety of areas in which needs exist, priority should be given to offering relevant topics rather than the development of new delivery systems. Specifically, the introduction of educational programming via television satellites should not be considered a priority at the present time. The general lack of programs would appear, at least based on the results of this study and the limited resources available, to be a more pressing problem than the development of new ways of delivering them.

Recommendations for Further Study

Upon completion of any research project a number of associated research problems become apparent. Often these arise from the limitations of the research design of the original study or from information revealed through conducting that study. The major recommendation in relation to further research on continuing education in occupational therapy is that a study, similar to this one but taking into condsideration the limitations of this design, be replicated to validate both the instrument and results.Although some of the methods used and the findings have support from research in related areas of health care, a number of the hypothesized relationships deserve further investigation. A more rigorous study would use a larger sample size and match the sub-samples as closely as possible.

Particularly in the questions related to supervisors and clinicians, matched samples and larger numbers would increase the value of the findings.

Although use of the competency statements in the needs assessment appeared satisfactory, further study using more behaviorally defined statements is recommended. This study used only 30 of the 138 competencies identified by the Canadian Association of Occupational Therapists, which themselves are not all inclusive. The relationships examined dealing with professional role and geographic location should be tested using other competency areas.

Research utilizing a broader definition of continuing education may also prove fruitful. Therapists engaged in independent types of study were not investigated in this project, which emphasized formal types of continued learning. Those that update their skills and knowledge through journal reading, self-structured programs such as inter-library loan, or computer assisted types of learning could benefit from the assistance of a planner on a consultation basis. Studies of this group would have implications particularily to planning for rural therapists.

Another facet of continuing education not considered in this study was programs for credit. If continuing education becomes mandatory as in a number of other health care fields, it is likely that some type of credit system will be necessary in occupational therapy in the future. A similar study focussing on the needs and preferences of the subsamples in relation to credit programs would be valuable planning information.

One of the purposes of the study was to attempt to quantify learning needs to increase their utility to the planner. It would be of interest to attempt to assign some numerical value to the barriers to participation identified by potential participants and to develop a formula whereby the relative strengths of the learning needs compared to barriers to participation were assessed. This would be one indication of whether respondents would in fact attend programs designed to meet a specific learning need.

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APPENDIX A

QUESTIONNAIRE

UNIVERSITY OF BRITISH COLUMBIA

CONTINUING EDUCATION IN REHABILITATION MEDICINE

QUESTIONNAIRE

PLEASE RETURN BY DECEMBER 20, 1981 TO:

Laura Harvey, Director
Continuing Education in Rehabilitation Medicine
The University of British Columbia
#105 - 2194 Wesbrook Mall
Vancouver, B.C. V6T 1W5

SECTION I

1. In which geographic district do you work?

    _____ Vancouver & Lower Mainland   _____ Thompson/Okanagan

    _____ Victoria   _____ Northern Interior

    _____ Vancouver Island (other   _____ Central Interior
          than Greater Victoria)

    _____ Fraser Valley

2. How frequently do you have opportunity to discuss professional problems and
    issues with at least one other occupational therapist?

    _____ Daily   _____ Monthly

    _____ Weekly   _____ Less than 6 times annually

3. What is your present job title?

    _____ Staff Therapist   _____ Program Co-ordinator/Director

    _____ Senior Therapist   _____ Instructor/Professor/Lecturer

    _____ Sole Charge   _____ Consultant

    _____ Assistant Supervisor   _____ Other (please specify)

    _____ Supervisor   _____

4. A clinical therapist is a therapist who is primarily involved in direct patient
    care. A supervising therapist is one who delegates the responsibility of
    patient care and spends the majority of time in administrative or supervisory
    activities. In which role do you function most often?

    _____ Clinical Therapist   _____ Supervisory Therapist

5. How many occupational therapists do you have under your direction? (Do not
    include students.)

    _____ 0   _____ 1 - 5   _____ 6 - 10   _____ 11 - 15 _____ more than 16

6. How many years experience in occupational therapy have you had? _____

-2-

SECTION II

If you have checked clinical therapist in item #4, specifying role, complete the remander of the questionnaire as it pertains to you - a clinical therapist in Occupational Therapy.

If you have checked the supervising therapist, complete the remainder of the questionnaire in relation to what you perceive YOUR STAFF'S needs and preferences to be. Do not indicate your personal preferences.

1. There are many reasons why people do not attend continuing education courses. Below is a list of common barriers. Choose the three barriers that prevent you/your staff from attending programs and rank them: (1) being the most frequently encountered barrier, (2) the second most frequently encountered barrier, and (3) the third most frequently encountered barrier. (Choose only three.)

    _____ family responsibilities   _____ transportation

    _____ job responsibilities   _____ no appropriate program available

    _____ cost   _____ insufficient advance notice

    _____ distance   _____ inadequate publicity

    _____ lack of time   _____ inconvenient scheduling

    _____ other (specify) _____

2. There are a number of ways of making learning opportunities accessible to potential learners. Please rank the three formats you/your staff prefer the most in relation to continuing professional education in occupational therapy. Rank your choices with (1) being the most preferred format, (2) being the second most preferred format, and (3) the third most preferred format.

    _____ 1 or 2 day workshops   _____ audio tapes

    _____ short courses (1-2 weeks)   _____ educational television

    _____ evening series (3-6 weeks)   _____ educational radio

    _____ travelling consultants   _____ correspondence

    _____ otner (specify) _____

3. Assuming that educational television were available to you in your home, what type of continuing professional education information would you prefer to be delivered via television? Check only one.

    _____ basic and applied sciences   _____ clinical conditions

    _____ occupational therapy skills   _____ professional issues
          and techniques

SECTION III

In your staff's present position (or in your position) as a clinical therapist, what do you consider to be your staff's (or your) learning needs?

There are 136 competencies required of entry level occupational therapists. Below are listed 30 competencies that the clinical therapist frequently encounters. For each of these statements circle the appropriate number in each of the four categories. (1) indicates a low level of competence or relevance, (2) indicates a moderate level, and (3) indicates a high level of competence or relevance.

OCCUPATIONAL THERAPY COMPETENCIES	relevance to your role as occupational therapist low - high	existing level of competency low - high	desired level of competency low - high	is training presently available to you in this area? low - high	OFFICE USE ONLY
EVALUATION:					
1) identify and evaluate motor function	1 2 3	1 2 3	1 2 3	yes no	
2) identify and evaluate perceptual-motor skills	1 2 3	1 2 3	1 2 3	yes no	
3) identify and evaluate sensory function	1 2 3	1 2 3	1 2 3	yes no	
4) observe and record cognitive function	1 2 3	1 2 3	1 2 3	yes no	
5) identify and evaluate leisure and play skills	1 2 3	1 2 3	1 2 3	yes no	
6) identify and evaluate vocational skills	1 2 3	1 2 3	1 2 3	yes no	
7) identify and evaluate A.D.L. skills	1 2 3	1 2 3	1 2 3	yes no	
8) identify and evaluate functional communication skills	1 2 3	1 2 3	1 2 3	yes no	
9) identify and evaluate psychosocial function	1 2 3	1 2 3	1 2 3	yes no	
THERAPEUTIC PROCEDURES:					
10) conduct therapeutic interviews	1 2 3	1 2 3	1 2 3	yes no	
11) select and adopt activities for therapeutic purposes	1 2 3	1 2 3	1 2 3	yes no	
12) design and adapt special equipment	1 2 3	1 2 3	1 2 3	yes no	

OCCUPATIONAL THERAPY COMPETENCIES	relevance to your role as occupational therapist low - high	existing level of competency low - high	desired level of competency low - high	is training presently available to you in this area? low - high	OFFICE USE ONLY

THERAPEUTIC PROCEDURES continued...

OCCUPATIONAL THERAPY COMPETENCIES	relevance	existing	desired	training	OFFICE USE ONLY
13) employ counselling methods	1 2 3	1 2 3	1 2 3	yes no	
14) apply sensory-based therapies to develop perceptual motor skills	1 2 3	1 2 3	1 2 3	yes no	
15) employ joint mobilization and protection techniques	1 2 3	1 2 3	1 2 3	yes no	
16) employ muscle strengthening techniques	1 2 3	1 2 3	1 2 3	yes no	
17) train in work simplification and energy conservation techniques	1 2 3	1 2 3	1 2 3	yes no	
18) employ behavior modification approaches	1 2 3	1 2 3	1 2 3	yes no	
19) employ socio-drama techniques	1 2 3	1 2 3	1 2 3	yes no	
20) employ relaxation techniques	1 2 3	1 2 3	1 2 3	yes no	
21) employ reality orientation	1 2 3	1 2 3	1 2 3	yes no	
22) employ activation methods	1 2 3	1 2 3	1 2 3	yes no	
23) utilize recreation and leisure time activities	1 2 3	1 2 3	1 2 3	yes no	
UTILIZATION OF THERAPEUTIC EQUIPMENT AND MATERIALS:					
24) select and utilize self care equipment and materials	1 2 3	1 2 3	1 2 3	yes no	
25) select and utilize rehabilitation aids and materials	1 2 3	1 2 3	1 2 3	yes no	
26) select and utilize mobility aids	1 2 3	1 2 3	1 2 3	yes no	
27) select and utilize avocational equipment and materials	1 2 3	1 2 3	1 2 3	yes no	
28) select and utilize vocational equipment and materials	1 2 3	1 2 3	1 2 3	yes no	
29) select and utilize projective equipment and materials	1 2 3	1 2 3	1 2 3	yes no	
30) select and utilize developmental equipment and materials	1 2 3	1 2 3	1 2 3	yes no	

APPENDIX B

LETTERS OF TRANSMITTAL

APPENDIX C

LETTER OF SUPPORT