

AN INVESTIGATION OF CLINICAL
TEACHER CHARACTERISTICS
IN
PHYSIOTHERAPY

A Thesis

Presented to

the Faculty of Graduate Studies

The University of Manitoba

In Partial Fulfillment

of the Requirements of the Degree

Master of Education

Department of Mathematics

and

Natural Sciences

by

Valerie Joan Friesen

March 1987 ©

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VALERIE JOAN FRIESEN

A thesis submitted to the Faculty of Graduate Studies of
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MASTER OF EDUCATION

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Abstract

Clinical education is an essential part of the educational curricula for physiotherapy students. Yet, little is known about the clinical education process and particularly about the characteristics that would define effective clinical instructors.

This study was focused on the perceptions that students, clinicians and clinical co-ordinators have of the importance of certain instructor behaviors to effective clinical instruction.

The subjects used in the study included: students from nine Schools of Physiotherapy across Canada, and the clinicians and centre clinical co-ordinators from the affiliated clinical centres.

The questionnaire used in this study was one devised by Irby (1978) for clinical instructor evaluation, based on the eight dimensions of effective clinical instruction; Organization/Clarity, Enthusiasm/Stimulation, Instructor Knowledge, Rapport, Instructional Skill, Clinical Supervision, Clinical Competence and Professional Characteristics.

As part of this study, questionnaires were sent out, in 1983, to nine Schools of Physiotherapy across Canada, as well as the affiliated clinical centres for each of the schools. The subjects included students, at each of the schools, and clinical faculty (centre clinical co-ordinators and

clinicians) at the clinical centres affiliated with each of the schools.

The data from the questionnaires were tabulated and analyzed, using the Bonferroni test, to determine if there were any similarities or differences between the ratings of the students and the clinical faculty on the importance of the eight dimensions to effective clinical instruction.

Across Canada, students rated the eight dimensions of effective clinical teaching as less important than did either the clinicians or the centre clinical co-ordinators. The clinicians rated the dimensions as less important than did the centre clinical co-ordinators.

Significant differences were found between the three groups (clinicians, students and centre clinical co-ordinators), at three of the Schools of Physiotherapy, in the ratings of the importance of the eight dimensions of effective clinical instruction.

In spite of these differences, the results of the study confirmed Irby's (1978) findings. All three groups (clinicians, students and centre clinical co-ordinators) agreed that the eight dimensions of effective clinical instruction were important to effective clinical teaching.

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CHAPTER I

Nature of the Study

If you were to ask Physiotherapy students what they consider to be the most important part of their educational program they would almost invariably reply, "the clinical experience". It is this part of the program that provides the essential bridge between the theoretical base and its practical application. Clinical education is an inherent part of the total educational experience of students in the health professions which needs to be studied separately (Moore and Perry, 1976).

One of the most significant issues about professional education is the need to find a way to establish a fine balance between the academic and clinical portions of the program. To accomplish this balance, professional schools rely heavily on outside institutions to provide the settings where the theory and the practice can become integrated. This situation is not without problems. When a comparison is made between the energy expended in developing the academic curriculum and the clinical curriculum, it becomes apparent that little consideration has been paid to the development and improvement of clinical education programmes (Cosh, 1970; Daggett, Cassie & Collins, 1979; Infante, 1975, 1981). Blayney (1977) aptly describes the scene:

Perhaps the most difficult aspect of education for the allied health professions is the appropriate development of the clinical portion of the student's training rather than that

achieved in the classroom or laboratory ...very little attention is paid to comparable improvement of clinical education. Unfortunately, it is the rule rather than the exception that students are dumped into a clinical setting with little guidance given to the clinical faculty as to what competencies should be developed (p. 115).

An important part of the clinical environment is the clinical instructor, a clinician who is responsible for the supervision and teaching of the student, as well as having a commitment to the health institution and the patients. Much research has been done in higher education, both theoretically and empirically, to define and evaluate teaching effectiveness (Holcomb, 1973). Unfortunately, the same cannot be said for clinical instruction. Although many researchers have studied effective teaching in schools and universities, few study the health professions' educational programs, and even fewer examine effective clinical teaching. As Physiotherapy is a human service profession, experience in direct patient care provides for students what Margaret Moore (1972) refers to as "...the most meaningful part of their educational experience" (p.12). In professional education a student must integrate knowledge and skills into an effective body of expertise which he/she draws upon to solve problems assigned to the profession (McGlothlin, 1960). According to Hearn (in Infante, 1975), professional practice is then a combination of believing, knowing and doing. Hearn describes each of these actions:

To act with professional integrity is to act consistently within a framework of values that is shared generally by the members of the profession. To act with knowledge is to act with an awareness of the rationale and probable consequences of one's actions. To act with skill is to exercise such control that one's actions most closely approximate one's intentions (p.11).

These skills are nurtured in a student in the health professions largely in the clinical component of the education program. Infante (1975) stresses the need for a laboratory setting in which students can learn to apply knowledge to the real world, within the system of education. The clinical environment provides this setting. It allows the student to come into contact with the patient for the purpose of acquiring, developing and refining the knowledge, skills and attitudes vital to professional competence (Ford, 1978). Clinical observation, learning reinforcement and practice provide the student with the ability to translate theoretical knowledge into the necessary psychomotor and intellectual skills needed in patient care.

Traditionally, clinical experience in the health professions has been of an apprenticeship type. The experience consisting of service under supervision instead of clinical instruction (Jason, 1978; Infante, 1975). The focus, in an apprenticeship, is more on a work experience than on a learning experience. However, some aspects of a true apprenticeship are missing. The process of learning has been by trial and error (Nethery, 1974 and Infante, 1975) and a

variety of role models have been provided, who may or may not have been master practitioners.

Clinical education could be much improved if we had a better understanding of the role of the clinical teacher (i.e. the clinician) and the clinical teaching process. Some questions have been raised that need to be answered. What is occurring to learners in the clinical setting? Why are some clinicians effective instructors and others ineffective?

Daggett et al (1979) noted that the research and training efforts in clinical teaching are not very extensive or particularly revealing. The authors note the paucity of research in this area, the lack of training of clinical supervisors (despite the acknowledged value of clinical education) and the lack of literature about clinical instruction and supervision. Bocknek (1971) observed that

All of the practicing professions-teaching, social work, law, ministry, medicine, clinical and counselling psychology- require that a novice be trained in the skills of his/her discipline in addition to the acquisition of formal knowledge of theory and precept. Given this tradition, it is all the more remarkable that so few of the professions give specific attention to the training of supervisors (p.26).

The main focus of research in clinical teaching has been to identify the characteristics of effective clinical instructors. For as the World Health Organization (1973) stated, the first step in developing training programs for teachers is to clarify the functions of the health professions' teachers. Daggett et al (1979) concur with this

and stress the need, in the medical profession, for further research into exactly what physicians do in the clinical setting and how they interact with trainees. It was felt that the results of such efforts would provide the basis for developing appropriate guidelines for teaching in the clinical setting and for conducting teacher training programs for clinical instructors...responsible for the training of students who, in turn, are responsible for service to a patient or client (Daggett et al, 1979; p.165).

Rovin and Parker (1971) outlined the principles of effective teaching:

1. An instructor should clearly indicate teaching objectives and design daily activities to help students accomplish these specific objectives.
2. Instructors should strive for clarity and understanding of his instruction.
3. Instructors should stimulate and motivate students toward independent learning.
4. Instructors should concentrate on principles and problem-solving rather than factual material.
5. Instructors provide evaluative feedback to students concerning their progress toward objectives, and their mistakes.
6. Instructors are available for counselling and help.
7. Instructors should use fairness and tact in student affairs.
8. Instructors should use regard for student individual differences.
9. Instructors should be able to admit their mistakes.

The literature on teacher behaviors in clinical instruction points to a consensus on the most important factors in clinical instruction. The behaviors linked to these factors can be grouped under; organization and clarity of presentation, enthusiasm and stimulation, instructor knowledge, rapport with students, group instructional skill,

clinical supervision, professional competence and modeling of professional characteristics (Irby, 1978). Irby and Rakestraw (1981) found that of these behaviors, being enthusiastic and providing clinical supervision (establishing rapport, actively involving students and providing direction and feedback) correlated most strongly with overall ratings of clinical teaching effectiveness in medicine. A strong correlation was found between the faculty and students on those behaviors that "most effectively differentiated best from worst clinical teachers" (Irby, 1978; p.813). Best clinical teachers were described as clear and well organized in presenting material, enthusiastic about teaching and the subject matter, and skilled in their interactions with students. Worst clinical teachers were lacking in these skills and were characterized by their personal attributes, that is lack of self-confidence, arrogance, insensitivity and dogmatism.

The first four dimensions mentioned by Irby (1978); organization/clarity, enthusiasm and stimulation, instructor knowledge and group instructional skill, appear to be vital to both classroom and clinical teaching. Effectiveness in teaching depends on organization and clarity of the material presented (Irby, 1978). The instructor needs to explain clearly what is expected of the students. As stated by Miller and Fulop (1974):

when the objective is both specified and shared in advance many students find ways to accomplish that learning in a manner more closely matched to a personal

learning style than the faculty-designed method, and often in significantly less time (p.60).

As well, when the material is presented in an organized manner the students can more easily grasp the intent of the instruction (Hildebrand, 1971). Solomon, Rosenberg and Redzik (1964) also reported the importance of organization/clarity and related these teacher behaviors to learning. It was found that clarity/expressiveness and tendency to lecture were related to the effectiveness of the teacher in the transmission of factual information to the students in the course.

The next factor identified by Irby (1978), is the enthusiasm and dynamism of the teacher. One who is enthusiastic, has self-confidence, a sense of humor, uses movement and vocal inflection, enjoys teaching and is generally characterized as having charisma. Barham (1965) stresses the importance of this type of teaching in stimulating student thinking. The most important role that a teacher has is to stimulate students to become active learners on their own (Sheffield, 1974). This is similar to findings by Reichsman, Browning and Hinshaw (1969) in undergraduate medicine, that the effective clinical instructor stimulates the students to acquire new knowledge. Irby (1978) notes the evidence on the Dr. Fox effect (a charismatic instructor positively influencing student ratings of instructors), but feels that the effective instructor will

combine a high level of information giving with an enthusiastic presentation.

Instructor knowledge is another common factor in clinical teaching effectiveness. The instructor who is well-read, demonstrates a breadth of knowledge, is up-to-date in this knowledge and can analyze concepts effectively is perceived as an effective teacher (Irby, 1978). The ability to synthesize information is important in the education of health professionals. Basic sciences learned in the academic portion of the curriculum must be correlated with clinical practice and the use of scientific principles (Reichsman et al, 1969 and Infante, 1975). Infante (1975) stresses that "in order to properly guide the learning of a student, the teachers should be specialists both in the subject matter that they are teaching and in the field of education (p.27)".

Instructors must interact with and relate to their students, establish rapport, encourage active participation, emphasize problem-solving, be accessible to students and create a non-threatening environment for learning (Irby, 1978). Barham (1965) concurs and includes accepting students as individuals, in this repertoire of instructor behaviors. Stritter et al (1975) derived the same dimension calling it "emphasis on applied problem-solving". This factor included teaching for comprehension and problem-solving versus factual recall, encouragement of student participation and questions, provision of precise answers and demonstration of a genuine interest in students. These factors relate to

the importance of the instructor relating well to the students and in such a way that the students are stimulated to be actively involved in learning. This latter point is especially important in the health professions as graduates must take responsibility for maintaining and upgrading their knowledge and expertise in order to be able to provide quality of care to their patients.

Irby (1978) in his analysis of the literature on clinical teaching defines three factors unique to clinical instruction: clinical supervision, clinical competence and modeling of professional values. Clinical supervision is defined as involving "the assignment of students and/or residents to an experienced clinician for the purpose of helping them to master professional skills and abilities in a patient care setting (Irby, 1978; p. 100)". Clinical supervision entails a variety of teacher behaviors: observation, feedback on and evaluation of student performance, accessibility to the student, providing opportunities for practice and guiding the student, promoting problem-solving and skill development, offering professional support and encouragement.

O'Shea and Parsons (1979), in their study of teaching in nursing, found that feedback, when characterized by suggestions for revision or improvement, was desired by most students. Negative feedback or none at all was felt to interfere with learning. "Learning is facilitated by rapid and complete individual feedback on the extent to which required learning is being accomplished (WHO Study Group,

1973; p.11)". Observation is the key to the teacher being able to provide this type of feedback. The amount of time the clinician spends in the supervision of the student will determine the amount of support, instruction and evaluation that can be provided to the student.

Perry (1973) stressed that one of the main objectives of the student-supervisor relationship is to help the student deal with his/her problems. This is only possible if the student views the supervisor as approachable and if the supervisor is willingly accessible to the student so that assistance and guidance can be provided, as needed by the student. Irby (1978) felt that willingness of the instructor to help the students reflected interest in the students as individuals.

Another aspect of clinical supervision is the promotion of critical thinking and problem-solving. Learning in the health professions requires more than rote memorization of facts. In a profession it is not simply knowledge that counts but the ability to apply that knowledge in a real life situation (Katz and Fulop, 1978; Lum, 1978; Scanlan, 1978; Infante, 1975; Thorne, 1973). Principles of practice are emphasized for the optimum transfer and integration of knowledge in the clinical setting (Greenberg and Feifer, 1980; Scanlan, 1978; Barr, 1976; Dickenson et al, 1976 and Infante, 1975). This is best demonstrated by problem-solving, an integral part of clinical practice in the health professions. Generally this process involves: defining the

problem, collecting and analyzing the pertinent data, hypothesizing explanations for the data and appraising the results (Barr, 1977 and May, 1967; 1980).

Several studies stress the need for a supportive environment for student learning (Infante, 1978; Perry, 1973; Butler, 1972). Butler (1972) recommended students receive assistance with problems, that appropriate relationships be encouraged between the instructors and students and that students be treated as respected junior colleagues. These strategies were proposed to assist in reducing the student's stress in the clinical setting. Miller and Fulop (1974) sum it up well:

Most important, however, may be the ability to provide individual students with the encouragement, guidance, and support they need in order to learn most successfully...to facilitate learning, must encourage students to disclose their ignorance, assist them to discover a need to know new things, and acknowledge the achievements that they demonstrate. In order to accomplish this a teacher must develop a high level of skill in questioning thoughtfully, listening perceptively, and responding supportively (p.63).

The instructor's clinical competence is another important factor in clinical education. Infante (1975) stresses that teachers should be experts in the field in which they are teaching; this includes not only the subject matter but also expertise in teaching in the clinical setting. Clinical competence includes the ability of the instructor to demonstrate and perform treatment procedures,

identify and analyze problems with a high degree of objectivity, demonstrate concern for and establish rapport with patients, accept responsibility and work effectively as part of the health care team (Irby, 1978). By demonstrating these behaviors, the clinician presents a positive role model for the student (Perry, 1973) and one that is not easily discounted (Bucher and Stellar, 1977).

Indoctrination into a system of values is a related aspect of professional education (Agriesti-Johnson, 1978; Hardy and Conway, 1978 and Thorne, 1973). It is assumed that certain behaviors appropriate to a professional are gained during the socialization process (Jacobson, 1980; Hardy and Conway, 1978 and Butler, 1972). The availability of role models in one's own profession aids in the socialization process by providing an image of how a role is to be performed. Irby (1978) defined some professional role characteristics as: taking responsibility, being self-confident, being self-critical, not appearing arrogant, recognizing one's limitations and showing respect for others.

In most of the studies of clinical instruction, there is general agreement between the clinical faculty and the students on the characteristics important for good clinical instruction. However, O'Shea and Parsons (1979), in a study of clinical instruction in nursing, found some interesting differences when they compared faculty ratings of clinical instructors with those of the students. The results are inconclusive but do raise some interesting points. Many

faculty identified clearly defined objectives as facilitative to learning whereas few of the the students agreed. Feedback, however, was rated much more highly by the students than by the faculty. This difference was the most evident with the senior students and the faculty, possibly because of the greater number of clinical experiences the senior students had had involving evaluation of performance. Availability of clinical instructors was another area of contention. Senior students identified the lack of availability of staff (part of clinical supervision) as interfering with learning much more often than either the junior students or the faculty. In the category of personal characteristics senior students indicated that being supportive, understanding, friendly and enthusiastic were very important. The junior students and the faculty showed a marked difference in their responses by rating these characteristics much less important than the senior students.

Statement of the Problem

A review of the literature indicates a need to explore the types of characteristics which would identify effective clinical instructors in physiotherapy and to explore the differences in perceptions of the students and clinical faculty. At present, little research has been done on clinical instruction in physiotherapy, particularly in the area of identifying effective clinical instructors.

Irby, 1978(b) determined that there were eight dimensions that described effective clinical instructors; organization/clarity, enthusiasm/stimulation, instructor knowledge, rapport, instructional skill, clinical supervision, clinical competence and professional characteristics. Irby (1978) did not, however, find any differences between faculty and students in medicine in their ratings of the importance of each of these dimensions to effective clinical instruction. O'Shea and Parsons (1979) did find some differences between faculty and students in their perceptions of effective clinical instructors in nursing. No studies have focused specifically on the characteristics of effective clinical instructors in clinical education in physiotherapy.

Scully (1974) stressed that without specific information to use for guidance, it is assumed, by the directors of departments and by the faculty of the Schools of Physiotherapy, that physiotherapists hired by an institution to provide patient care can supervise students and be good clinical instructors. If this assumption is not made, then decisions are based on personal opinion, the opinions of others and past experience. There is a need for some investigative research into effective clinical instructor characteristics in physiotherapy. These considerations were the basis for this research study.

Purpose of the Study

This study sought to investigate the perceptions of students and clinical faculty in physiotherapy about the characteristics that define an effective clinical teacher. To provide a focus, two main research questions were formulated:

1. What clinical instructor characteristics are the most important for clinical instruction as perceived by students and clinical faculty across Canada?

2. What similarities or differences exist in the perceptions of effective clinical instruction, by the students and the various groups of clinical faculty?

Hypotheses

The following five hypotheses sets were derived from the research questions:

Hypothesis set I: There will be no difference in the ratings (based on total scores) among the three groups; students, clinicians and centre clinical co-ordinators across Canada, on each of the following eight dimensions:

- a) Organization/Clarity
- b) Enthusiasm/Stimulation
- c) Instructor Knowledge
- d) Rapport
- e) Instructional Skill
- f) Clinical Supervision
- g) Clinical Competence
- h) Professional Characteristics

Eight null hypotheses of no significant difference will be tested, one null hypothesis corresponding to each of the dimensions.

Hypothesis set II: There will be no difference in the ratings (based on total scores) given by students, at each School of Physiotherapy across Canada, on each of the following eight dimensions:

- a) Organization/Clarity
- b) Enthusiasm/Stimulation
- c) Instructor Knowledge
- d) Rapport
- e) Instructional Skill
- f) Clinical Supervision
- g) Clinical Competence
- h) Professional Characteristics

Eight null hypotheses of no significant difference will be tested, one null hypothesis corresponding to each of the dimensions.

Hypothesis set III: There will be no difference in the ratings (based on total scores) given by clinicians, affiliated with each of the Schools of Physiotherapy across Canada, on each of the following eight dimensions:

- a) Organization/Clarity
- b) Enthusiasm/Stimulation
- c) Instructor Knowledge

- d) Rapport
- e) Instructional Skill
- f) Clinical Supervision
- g) Clinical Competence
- h) Professional Characteristics

Eight null hypotheses of no significant difference will be tested, one null hypothesis corresponding to each of the dimensions.

Hypothesis set IV:

Hypothesis set IV: There will be no difference in the ratings (based on total scores) given by centre clinical coordinators, affiliated with each of the Schools of Physiotherapy across Canada, on each of the following eight dimensions:

- a) Organization/Clarity
- b) Enthusiasm/Stimulation
- c) Instructor Knowledge
- d) Rapport
- e) Instructional Skill
- f) Clinical Supervision
- g) Clinical Competence
- h) Professional Characteristics

Eight null hypotheses of no significant difference will be tested, one null hypothesis corresponding to each of the dimensions.

Hypothesis set V: There will be no difference in the ratings (based on total scores) among the three groups; students, clinicians and centre clinical co-ordinators across each School of Physiotherapy and its affiliated clinical centres on each of the following eight dimensions:

- a) Organization/Clarity
- b) Enthusiasm/Stimulation
- c) Instructor Knowledge
- d) Rapport
- e) Instructional Skill
- f) Clinical Supervision
- f) Clinical Competence
- g) Professional Characteristics

Eight null hypotheses of no significant difference will be tested, one null hypothesis corresponding to each of the dimensions.

Limitations

1. Retrieval of information was limited to the responses from the survey.
2. Although it was realized that answers to a questionnaire may not be completely truthful, it was assumed that the results reflected the general situation.
3. Responses were limited by the participants' understanding of the questionnaire.
4. Data were collected in 1983 and thus may not reflect the current situation.

Delimitations

1. The study was conducted in Canada only and was restricted to the profession of physiotherapy.
2. The study was limited to the perceptions of students, clinicians and centre clinical co-ordinators in physiotherapy.
3. Although the questionnaire dealt with a variety of topics related to clinical education, this study addressed only the data from the section of the questionnaire relating to clinical instructor characteristics.

Definitions

Centre Clinical Co-ordinator (or Centre Co-ordinator of Clinical Education, CCCE)

A physiotherapist who is responsible for the co-ordination of the students' activities while in the clinical facility. This position may be held by the Director of Physiotherapy Services or a staff member designated by the Director.

Clinical Faculty

Physiotherapists who have responsibilities relating to the clinical education of physiotherapy students. This includes the University Co-ordinators and the Centre Co-ordinators of Clinical Education and the Clinicians.

Clinician (or Clinical Instructor, CI)

A physiotherapist on the staff of a clinical facility who teaches and supervise students in addition to other responsibilities.

Clinical Competence

A dimension of effective clinical instruction which includes instructor behaviors such as the following: demonstrates skill in the collection and interpretation of laboratory and other data, is up-to-date in the use of clinical techniques and procedures, demonstrates effective communication skills, is able to objectively delineate patient-related problems and demonstrates good judgement and clinical skills in clinical activities.

Clinical Supervision

A dimension of effective clinical instruction that includes instructor behaviors such as the following: acts as a guide to students in their development of clinical skills, does not correct students in the presence of patients and provides impartial and frequent feedback on students' performance, provides opportunities for practice of clinical skills and demonstrates clinical techniques and procedures that are to be learned, provides support and encouragement as needed and allows students increasing amounts of independence as their skill and knowledge levels improve.

Enthusiasm/Stimulation

A dimension of effective clinical teaching which includes instructor behaviors such as the following: shows enthusiasm for his/her work, enjoys teaching, presents material in an interesting way, is able to stimulate students to reasonable effort and to take an active part in learning, encourages students to analyze patient problems, encourages students to use and develop confidence in their own judgement.

Facility (or Centre)

A health care institution (eg. hospital, community clinic, private practice, home care agency).

Instructor Knowledge

A dimension of effective clinical instruction which includes the following instructor behaviors: demonstrates a broad range of reading in their area of expertise, is able to discuss divergent points of view, is knowledgeable about the school's objectives and curriculum, suggests pertinent references in a particular area and demonstrates the ability to reason in a critical and analytical manner.

Instructional Skill

A dimension of effective clinical instruction which includes instructor behaviors such as the following: encourages students to actively participate in discussions, determines the readiness level of students and gears

instruction to an appropriate level for the students, provides demonstrations of clinical techniques and procedures that are to be learned, and assists students in process of problem solving.

Organization/Clarity

A dimension of effective clinical instruction which includes behaviors such as the following: provides clear-cut explanations, emphasizes and summarizes the main points, is organized in the presentation of material, manages time well and has the ability to balance the needs of students and patients.

Physiotherapy Service or Department

An organized unit providing physiotherapy by qualified physiotherapists and appropriate support personnel.

Professional Characteristics

A dimension of effective clinical instruction which includes instructor behaviors such as the following: has an awareness of the concept of role modeling and its implications, is self aware and knows own limitations, assumes responsibility for own actions, appears to be self-confident but not overbearing, works effectively as part of a team and ensures the patient's safety at all times.

Rapport

A dimension of effective clinical instruction which includes instructor behaviors such as the following: is readily accessible to students, shows respect for students and acts in such a way as to gain the respect of the students, promotes a climate conducive to learning, corrects students without disparaging them and demonstrates an interest in students.

Students

Students in the final year of their Physiotherapy programme, in the Schools of Physiotherapy across Canada.

CHAPTER II

Review of the Literature

The majority of the literature is based on clinical education in the health fields of nursing, dentistry and medicine with minimal information being available on clinical education in physiotherapy. It is assumed for the purposes of this investigation that clinical education in the other health professions (mainly nursing and medicine) is similar to physiotherapy clinical education thus making clinical education studies in other health professions relevant.

A variety of techniques have been used by researchers to sort out the dimensions of clinical teaching. These have included observational studies, critical incident techniques and questionnaires. Often general comments are made that are too broad and generalized to be of much use. Lists of behaviors or characteristics also are used. These lists are then categorized or clustered by factor analysis. The common factor in all the studies is that they are based on subjective statements of what the researchers feel constitutes effective clinical instruction. A wide variety is found in the number of characteristics or dimensions identified as being relevant to effective clinical instruction.

Some authors emphasize the relationship aspects (Barr, 1980; Kiker, 1973 and Perry, 1973), while others point out the need for the development of objectives for the clinical

setting (Adams, Ham, Mawardi, Scali and Weisman, 1964).

Discussion tends to focus on role modeling, the need for the instructor to be enthusiastic and personable (Barr, 1980) and to allow for independent student action in the clinical setting (Infante, 1981). Daggett et al (1979) note the dearth of comprehensive research in medical education pointing out the:

lack of any available literature either discussing in depth, or demonstrating through research evidence, the various roles to be assumed by attending physicians, as well as any skills needed to assume those roles, in the clinical training of medical students and resident physicians (p.154).

When the available information is analyzed, a common theme can be determined even though the terminology differs in the various studies.

Irby (1978) accepted the challenge to delineate the characteristics of effective clinical instructors and derived seven factors from the literature. Using these factors as hypotheses in his study Irby (1978) found that "all seven dimensions significantly discriminated best from worst clinical teachers" (p.812) and concluded that these factors would be useful in rating clinical teacher performance. The dimensions common to both classroom and clinical teaching include enthusiasm, organization/clarity, instructor knowledge and group instructional skill. The dimensions specific to clinical instruction include clinical supervision, instructor competence and modeling of

professional characteristics (Irby, 1978b); Irby and Rakestraw, 1981).

The first part of the literature review will focus on general comments made about clinical teaching. The second part will focus on the research on the characteristics of effective clinical teachers.

General Comments about Clinical Teaching

Clinical teaching, from the clinical teachers' point of view, is that of a process of pacing students to clinical competence by evaluating readiness levels, choosing appropriate clinical problems, supervising and evaluating students' clinical performances (Scully, 1974). The clinician is the person who spends the most time on a one-to-one basis with the student and thus has the greatest impact on the student's development and progress in the clinical setting (Bazuin and Yonke, 1980; Daggett, Cassie, and Collins, 1979; Infante, 1975 and World Health Organization, 1973).

Unfortunately, this impact may not always be to the student's benefit. Jason (1980) presents a strong argument that "the health care practitioner has a perspective, a set of skills, and a growing body of experience that have substantial relevance for students" (p.260). However, other authors (Daggett, Cassie, and Collins, 1979; Irby, 1978; Simpson, 1972) have stressed that it is false to assume that all practitioners can be expected to fill the role of a clinical teacher simply because they are practitioners. Glass (1971),

in her study of teaching behaviors in nursing, emphasized that teaching in the clinical setting requires special skills to provide intelligent guidance and supervision of the student. The role of the teacher is that of a manager who guides and assists the student in the process of learning (Dickinson, Dervitz and Meida, 1976; Infante, 1981; Stritter and Bowles, 1972 and Tyler, 1950). This type of teaching, used in the clinical setting, is seen as the vehicle which assists students in learning to apply theory to practice and to improve on other intellectual and psychomotor skills (Chickerella and Lutz, 1981; Daggett, Cassie, and Collins, 1979; Glass, 1971; Infante, 1981, 1975).

Moore (1972) describes this situation well when she states that the main challenges presented in clinical education are:

to assist the student to correlate clinical practice with basic sciences; to acquire new knowledge, attitudes and skills; to develop the skill to observe, to evaluate; to develop realistic goals and to plan effective treatment programs; to accept professional responsibility; to maintain a spirit of inquiry and to develop a pattern for continuing education (p.13).

Moore and Perry (1976), in the American Physical Therapy Association study on clinical education, presented their findings on the desirable and undesirable characteristics of clinical instructors. The results indicated that the undesirable characteristics demonstrated by clinical instructors included:

1. Not allowing the student to do anything alone.

2. Supervising students too closely.
3. Not being available when needed.
4. Is insecure.
5. Making caustic or sarcastic remarks.
6. Not enjoying their work.
7. Is lazy or unethical.
8. Criticizing the student in the patient's presence.
9. Giving inadequate explanations.
10. Is defensive.

The results of the study showed that the opposite characteristics describe the effective clinical instructor. This person is seen as a qualified practitioner who is interested in and enjoys interacting with students, has excellent interpersonal, clinical and teaching skills, demonstrates sensitivity toward students, is secure and self-confident, is receptive to questions and suggestions, is knowledgeable about physical therapy and is committed to continuing education.

Moore and Perry (1976), in the American Physical Therapy Association study, recommended that a clinical instructor:

1. Be interested in and committed to clinical education.
2. Be knowledgeable of and have skills in the areas of counselling, communication and interpersonal relations.
3. Be aware of the concept of the role model and have

an understanding of its implications in clinical education.

4. Be actively involved in clinical education as teachers and learners.
5. Be involved in clinical education including writing objectives, organizing activities to fulfill the objectives and identifying learning experiences specific to a particular centre.
6. Be involved in a multifaceted process for evaluation of the clinical education program in all its aspects.
7. Have a job description that reflects the actual duties, functions and authority of the position.
8. Be assured of recognition and administrative support for their clinical education activities.
9. Be knowledgeable about the educational program and its objectives.

Irby (1978) concluded that there are many similarities between clinical and classroom teaching and stated that clinical teaching is a multi-dimensional concept with effective clinical teaching being a composite of independent but related skills and personal qualities. The dimensions of effective clinical instruction derived by Irby (1978) will be used as the basis for the following discussion.

Enthusiasm/Stimulation

Irby, (1978b) describes the effective teacher as a person who "is enthusiastic, dynamic and energetic, enjoys teaching, has an interesting style of presentation and stimulates interest in the subject" (p.809). Hildebrand, Wilson and Dienst (1971) describe this factor as dynamism/enthusiasm and add self-confidence and a sense of humor to the characteristics already listed. Teachers who demonstrate these characteristics are generally highly rated by the students they teach (Hildebrand et al, 1971).

Reichsman, Browning and Hinshaw (1964) in their observations in undergraduate medicine, noted that the effective clinical instructor stimulates students to learn new knowledge by providing an atmosphere of intellectual excitement, the key to which is "an ever-present and lively spirit of inquiry" (p.160). Reichsman et al (1964) also stressed the importance of the instructor challenging students. Challenge is defined as "a timely, appropriate, and meaningful stimulus to the student to extend his effort in learning or thinking beyond his past achievement" (p.158). The ability of the instructor to stimulate the student to learn is an important characteristic of the effective clinical instructor (Barham, 1965; Infante, 1981, 1975).

Kiker (1973) found that nursing students ranked a sense of humor in the top ten characteristics essential for a good teacher. It was theorized that the instructor's sense of humor helped to alleviate the student's anxiety in the

clinical setting. Stritter, Hain and Grimes (1975) state that "the most effective clinical teacher approaches teaching with enthusiasm, dynamism and energy" (p.878). This factor is felt to be related to a positive attitude toward teaching and is exemplified by an instructor who is outgoing, friendly and who can convey to the student and others his/her enjoyment of teaching.

Dr. Fox Effect

Other studies analyze the impact of the Dr. Fox effect; the manipulation of teacher charisma and seductiveness. Ware and Williams (1975) found that good performance on tests is related to high teacher seductiveness, when content is carefully controlled. Nafaltine, Ware and Donnelly (1973) found however, that in three separate instances mental health and education professionals gave high ratings to an actor trained to give a lecture containing no substance. The reason for the high ratings rested on the fact that the actor was quite charismatic. Solomon, Rosenberg and Bezdik (1964) found that student gains in comprehension are highly correlated to a teacher that is flamboyant and energetic in his/her presentation. It was concluded that teachers who are interested in what they are teaching and who are dynamic and energetic are the most effective in stimulating student interest and learning. Irby, DeMers, Scher and Matthews (1976) concluded that the most effective instruction occurs, however, when an enthusiastic presentation is coupled with a high level of content.

Organization/Clarity

Effective teaching is based on the ability of the instructor to present information in a clear and organized manner (Irby, 1978b). Included in this dimension is the instructor's ability to summarize and emphasize what is important and to communicate expectations for learning. Solomon et al (1964) found a positive correlation between gains in factual information by students and the factors clarity/expressiveness and tendency to lecture.

Reichsman et al (1964) noted in their observational study of undergraduate medicine, that it was sometimes apparent that instructors did not seem to know the objectives of their session and even if they did, often gave the appearance of lack of forethought and preparation so that insufficient time was allotted. This lack of direction and organization leads to inappropriate use of clinical teaching time and a decrease in learning gains on the part of the student. It was felt that this is a major problem in clinical teaching and one area that drastically needs improvement (Reichsman, 1964). The problem seemed to relate to the physicians having difficulty in focusing on the relevant points and in making clear, without preparation, the points that they wanted to communicate.

The provision of a clear, precise statement of objectives helps the student to actively participate in the learning process (Infante, 1981, Miller and Fulop, 1974,

Tyler, 1950). Then instead of the student wasting untold energy in a frustrating attempt trying to guess what the teacher wants him/her to learn, the student can use his/her energy more effectively in attaining the objectives of the session. Stritter, Hain and Grimes (1975) identified that the effective clinical instructor sets realistic learning objectives for his/her students.

Miller and Fulop (1974) see the role of the teacher as that of a guide. Rather than trying to have the student learn all the instructor's knowledge, the aim is to teach the student how to learn. "Once a student clearly understands the educational objectives in terms of his own career goals, his learning will generally proceed at a pace that astonishes both himself and his instructor" (Miller and Fulop; 1974, p.57). McPherson (1976) agrees and states that learning is promoted when the expected outcomes and the purpose for the instruction is made clear to the students. It is interesting to note that O'Shea and Parsons (1979), in their study of nursing students, found that only 28% of the senior students and 11% of the junior students spontaneously identified the lack of clearly defined expectations as interfering with learning. As this study only encompassed one program, it is possible to conjecture that this is a situation unique to that program.

Instructor knowledge

Teachers who exhibit extensive knowledge in their own and related fields, who can discuss other points of view, relate concepts to other areas of knowledge and direct students to other resources in the field are perceived as being effective instructors (Irby, 1978b). Worst clinical teachers are characterized by their limited knowledge and their dogmatism.

Since it is assumed that students have gained a base of knowledge applicable to the situations that arise in the clinical setting, the role of the instructor becomes one of assisting the students to see and understand the use of that knowledge in relationship to specific clinical problems (Jason, 1973). Stritter, Hain and Grimes (1975) emphasize the problem-solving aspect but also point out the desirability of using examples of broad applicability and information from other fields to assist the students in conceptualization and comprehension. The effective clinical teacher also makes references to research (his/her own or of others), demonstrates broad reading in his/her own area of expertise and directs students to important references and occasionally challenges the ideas included therein.

There is the need in the rapidly changing health field where facts are always changing and new skills are being developed, for the student to learn how to analyze and judge new and old concepts and skills. This then requires that the role of the teacher become one of guiding the student in an

ongoing search for knowledge. One of the main tasks identified by Miller and Fulop (1974) is that of assisting students to find and utilize the learning resources available to them. This includes teaching the students how to evaluate these resources and make a reasoned and critical judgement about their usefulness and credibility. The role of the student is thus that of an active participant in the educational process as he/she is required to seek out and manipulate data (Katz and Fulop (1978)).

Group Instructional Skill

The skillfulness of effective clinical teachers is demonstrated by the manner in which they interact with students. They are able to establish rapport, listen attentively, answer questions with precision and care, emphasize problem-solving, demonstrate respect for and interest in the students and encourage active participation (Irby, 1978b). Stritter, Hain and Grimes (1975) subsumed most of these factors under the title of "humanistic orientation" (p.880). The underlying theme is the creation of an environment that is conducive to student growth and active participation. The instructor behaviors include receptivity to students' questions such that students receive encouragement to raise questions, answering questions with explanations and the provision of clear and precise information and allowing adequate time for discussion.

Reichsman et al (1964) found in medicine, at least at one school, that there was a distinct lack of question and answer periods and a preponderance of didactic lectures. Physicians had a tendency to fill in a clinical session with a lecture that they felt was essential for the students. This led to limited patient contact for the students and lost opportunities for applying theory to practice, one of the main aims of being in the clinical setting (Reichsman et al, 1964).

Miller and Fulop (1974) state that in order to facilitate learning the teacher

must encourage students to disclose their ignorance, assist them to discover a need to know things, and acknowledge the achievements that they demonstrate. In order to accomplish this a teacher must develop a high level of skill in questioning thoughtfully, listening perceptively, and responding supportively (p.63).

The emphasis is on stimulating a process of inquiry rather than using methods of interrogation. Inquiry is seen as being the quest for further information and discovery as opposed to the teacher looking for specific answers to questions. Part of this process:

requires teachers not only to be quiet at more than infrequent intervals but also, by thoughtful listening and inquiring response, to encourage the students to question and challenge as fully as they are being questioned and challenged (p.64).

A genuine interest in students is demonstrated by the effective clinical instructor and this is reflected by the

willingness of the instructor to be accessible to the students to help them deal with questions and concerns. By being accessible to the student for discussion, the instructor may be able to prevent problems and to provide encouragement that will help to motivate the student to learn (Kiker, 1965). It has been noted, by O'Shea and Parsons (1979) that faculty availability is the behavior that is mentioned by all levels of students and faculty as the behavior most facilitative to learning. Junior nursing students viewed the instructor's willingness to help as important in assisting them to learn, whereas the senior students focused on the freedom to make mistakes and correct their own errors.

Infante (1981), in the field of nursing education, emphasizes that the clinical teacher should encourage individuality and creativity in students. Barr (1980) states much the same idea indicating that as each patient is to be seen as an individual each student should be seen as unique with special interests and needs. Alternative learning activities should be made available to reflect the differences in learning styles and rates (Infante, 1981; Drennan, 1978; Cross, 1976; McPherson, 1976; Moore, 1976; Tyler, 1950). It is felt that this consideration for the individual reflects respect and concern for students.

The effective clinical teacher encourages independent thinking and learning (Kiker, 1973). Infante (1975) states that

by providing structure in the laboratory activities and setting the conditions for learning, while at the same time allowing the student the freedom to put things together for himself, the teacher will facilitate the production of autonomous thinkers (p.43).

The aim is to stimulate an ongoing learning process (Barr, 1976), one that is essential for maintaining competence in a health profession (Canadian Physiotherapy Association Scope of Practice, 1980; American Physical Therapy Association Standards of Practice, 1975; Barr, 1976 and Hughes, 1973).

Barham (1965), in her study of nursing education, noted the same instructor behaviors which respondents felt were critical for effective teaching. These included demonstrating empathy toward students, recognizing their individuality, demonstrating confidence in the students' abilities and developing rapport with students. Kiker (1973) also found that undergraduate nursing students ranked "the characteristic, relationship with students, within the top quarter" (p.723). It was suggested that nursing instructors take more of an interest in the students and their concerns.

Clinical Teaching

Irby (1978b) identified three instructor characteristics that are specific to clinical teaching: clinical supervision, clinical competence and the modeling of professional characteristics.

Clinical Supervision

Irby (1978) includes a diversity of teacher behaviors under the heading clinical supervision:

demonstrates clinical procedures,
provides practice opportunities, offers
professional support and encouragement,
observes student performance frequently,
identifies strengths and limitations
objectively, provides feedback and
positive reinforcement, and corrects
students without belittling them (p.809).

Structured guidance by a competent instructor and the provision of practice opportunities are important aspects of clinical supervision. Barr (1980) stresses that the student should be able to observe the instructor's planning and execution of a treatment program before participating in the treatment process at a later time. This gradual step-like approach allows students to first observe, then critique and ask questions before attempting treatment techniques under supervision, and subsequently on their own. Weinholtz, Friedman and Watson (1985) emphasize the need for practice and assume that learners will gradually develop autonomy in initiating and then participating in activities that are designed to continue the development of their skills. Practice provides opportunities for learners to develop their skills in a supervised situation but without direct input by the instructor. This allows "the instructor to assess the extent to which learner performance is due to the learner's skill level, or to the instructor's participation" (Weinholtz, Friedman and Watson, 1985, p.4).

Feedback is an essential part of practice necessary for students' growth in knowledge and skills. Learners need to be kept aware of how they are doing in a course of instruction (Barr, 1980; Foley and Smilansky, 1980; Moore and Perry, 1976 and Tyler, 1950). Miller and Fulop (1974) concur stating that:

the most important guidance function that a teacher can fulfill is that of regular and systematic determination with each student of progress toward educational goals--a joint appraisal of what has been learned and what has yet to be learned, so that subsequent study can be directed toward filling the remaining gaps rather than further refining what has already been learned (p.58).

Infante (1981,1975) is emphatic that conferences should be held with the student on a regular basis to assist the student in determining the extent to which objectives are being met and to set further goals for the future.

Both Infante (1985,1981, 1975) and Barr (1980) raise the point that students need to be allowed to make mistakes and that the instructor's feedback should take this factor into account. The critical point here is the need for learning opportunities to be designed so that an error made by a student is not going to endanger the patient. The key to effective feedback is that it should be nonjudgemental in nature (Miller and Fulop, 1974).

Stritter, Hain and Grimes (1975) noted that effective clinical instructors adopt a "student-centered instructional strategy" (p.879). This involves two behaviors related to clinical supervision; systematically assessing the progress

of students and advising the students of their progress on a regular basis. This description differs from other authors in that there is no reference to involving the students in the review of their progress toward goals, even though the importance of regular feedback is recognized.

Reichsman et al (1964), also commenting on medical education but from the basis of their observational studies, noted the distinct lack of feedback given to students due to the fact that rarely did any of the instructor's actually observe the student's performance when examining or treating a patient. It was felt that medical instructors' were unaware of the beneficial effects that could be gained from appropriate feedback to students about their performance. Observation of performance is critical to the ability of the instructor to comment with any accuracy on students' performance. Students tend to feel that whatever is not evaluated is not important (Katz and Fulop, 1978). "An effective evaluation process, by ensuring feedback to learners, is an essential requirement for efficient learning" (Katz and Fulop, 1978; p.15).

Moore and Perry (1976) state, in their study of physiotherapy, that:

to create optimal learning experiences the CI should allow the student the freedom to explore a variety of experiences in addition to patient care, create an atmosphere in which ideas can be explored and questions asked, provide immediate feedback to students about their performance, and confer with the student regularly (p.2-20).

Irby (1978) expanded on his previous review of clinical supervision adding the behavior; "giving of case-specific comments" (p.101). This related to the instructor making comments specific to a case instead of general comments unrelated to any particular case under review. Irby (1978) cited an observational study done by Goin and Kline (1974), in which supervision of psychotherapy residents was screened for the use of case-specific versus general comments by the supervisor. The findings indicated that supervisors that used more case-specific comments were rated as outstanding in their teaching as opposed to the good supervisors who used more general comments.

Clinical Competence

Infante (1975,1981) emphasizes that the quality of the clinical experience gained by students in the clinical setting is dependent in large part on the expertise of the clinical teachers. Perry (1973) agrees stating that therapists that are up to date in their knowledge and skills will be able to be more effective teachers. Clinical competence includes the following teacher behaviors:

- objectively defines and synthesizes patient problems; demonstrates skill at data gathering, uses of consultations, and interpreting laboratory data; manages clinical emergencies; works effectively with health care team members; and maintains rapport with patients (Irby, 1978,p.809).

Stritter, Hain and Grimes (1975) focus on the ability of the instructor to utilize data from other fields, such as the

basic sciences and radiology, to assist in furthering the students' understanding in the discussion of problems. This behavior ties in with the instructor's ability to interpret lab data and relate this data to the case under discussion. For example, the instructor in physiotherapy demonstrating the treatment of a patient with a respiratory problem should be able to interpret the lab data on this patient's blood gases and relate this data to the choice of treatment.

The instructor should be able to demonstrate how to function effectively as a skilled practitioner in the "real world" of patient care (Infante, 1981, 1975 & Quinn, 1980). Kiker (1973) found that undergraduate nursing students rated the instructor's ability to demonstrate the attitudes, values and skills appropriate to the professional nurse as "the second most essential characteristic" (p.722) of an effective clinical teacher. Closely related to this are the behaviors that demonstrate to the students that the instructor has confidence in his/her abilities as a professional.

Quinn (1980) states that the "ability to form good relationships with learners, patients and colleagues is a prerequisite for clinical teaching, as is the ability to communicate effectively" (p.208). Stritter et al (1975) also recognize this behavior as being important to clinical teaching and stress the need for the clinical teacher to have a humanistic orientation. This means that the instructor would demonstrate an interest in the patient beyond that of a strictly clinical perspective to take into account the

patient's personality and social situation, as these aspects affect the person's illness. The instructor would also demonstrate warmth and regard for others in his/her relationships with the students and staff in the clinical setting. Reichsman et al (1964) reaffirm this point emphasizing the need for the instructor to demonstrate sensitivity to the patient's feelings and concerns so that a humane attitude is shown toward patients.

Modeling of Professional Characteristics

Indoctrination into a set of values is another important aspect of professional education (Agriesti-Johnson, 1978; Hardy and Conway, 1978; Shah, 1979; Thorne, 1973). It is assumed that certain behaviors appropriate to a professional are gained during the socialization process (Butler, 1972; Hardy and Conway, 1978; Jacobson, 1980). The availability of role models within one's own profession aids in the socialization process by providing an image of how the role is to be performed (Bucher and Stelling, 1977; Hardy and Conway, 1978; Jacobson, 1966). Irby (1978) describes the professional characteristics that an effective clinical teacher should model: "is self-critical, takes responsibility, recognizes own limitations, does not appear to be arrogant, shows respect for others, seems to have self-confidence, and demonstrates sensitivity to others" (p.809). The Canadian Physiotherapy Association Scope of Practice document (1981) adds adherence to a code of ethics,

confidentiality and maintenance of an up-to-date knowledge of changes in physiotherapy care. Ideally, part of this professionalization process also includes acquiring an awareness and understanding of the roles of other health professionals (Lum, 1978; Moore and Perry, 1976).

Bucher and Stelling (1977) reported some particularly interesting findings in their investigation of the professional socialization process. Their research involved a comparative and longitudinal study of a theory of professional socialization in which several groups of professionals (advanced students in biochemistry and internal medicine and two groups of residents in psychiatry) were observed and interviewed. It was pointed out that even during the modeling process students remain active, carefully evaluating and selecting those behaviors that are pertinent to them and rejecting all others. Mere exposure to some part of the profession (e.g. treatment of a patient by an instructor) is no guarantee that the trainee will incorporate the behaviors demonstrated into their new role.

Of even greater significance was the discovery of a phenomenon of students discounting criticism. As the students developed a sense of reliance on their own judgement and as mastery increased there was a strong tendency for the students to discount criticism from others, whether peers or coaches. Bucher and Stelling (1977) felt that this discounting of criticism could have a detrimental effect as students could make serious errors in health care. It was

suggested that ensuring both a source of criticism of sufficient credibility and that student performance remained under observation and scrutiny, might help to alleviate the problem. This reaffirms the statements made by other authors (Cross, 1976; Dickenson et al, 1976; Foley and Smilansky, 1980; Fulop, 1973; Infante, 1981) that competent guidance can markedly enhance the learning process.

Reichsman et al (1964) states that "being a good model for students is a natural by-product of the teacher's character, his personality, and his successful absorption of high professional standards into his total operational self" (p.159). Quinn (1980) suggests that students will see an instructor as a model to the degree that the instructor is seen as being competent and respected within the clinical setting. Thus, it is critical that the instructor's performance be consistently of the highest quality.

Katz and Fulop (1974) focus on the willingness of the effective clinical teacher to be self-critical and aware of his/her own strengths and weaknesses. Several authors (Barham, 1965; Barr, 1980; Kiker, 1973) also stress the importance of the instructor being self-confident.

Differences in the Ratings of Clinical Instructor Characteristics Between Students and Faculty

In most of the studies mentioned so far there seems to be general agreement between the students and faculty about the characteristics of effective clinical instructors. Some

studies (Barham, 1965; O'Shea and Parsons; 1979), however, do show a difference of opinion between the faculty and the students. These studies compared faculty ratings of clinical teachers with those of several levels of students. The findings were inconclusive but did demonstrate some differences not only between the faculty and the students, but between different levels of students as well.

In O'Shea and Parsons' study the differences in perspective between the faculty and the students, and between the students themselves, are readily noticeable. For example, 45% of faculty identified the use of clearly defined objectives as facilitative to learning, whereas only 18% of senior and 5% of junior students agreed. Interesting to note however, is that only 11% of the faculty identified the lack of objectives as detrimental to learning. On the other hand, a larger percentage of senior students (28%) and an equal percentage (11%) of junior students indicated the lack of objectives as interfering with their learning. The authors reasoned that the students did not identify clearly defined objectives as important unless their absence resulted in a negative evaluation by the instructor.

Feedback was another area which the students rated as more important than did the faculty. Fifty-three percent of the senior and 22% of the junior students rated positive feedback as important for learning and 34% of the faculty agreed. Even more interesting is that constructive criticism was not identified by any of the faculty as facilitative to

learning whereas 12% of the senior students and 6% of the junior students felt that constructive criticism would help them to learn.

In the category of personal characteristics, senior students indicated strongly that instructor behaviors, such as friendliness, understanding and supportiveness, facilitated learning. Faculty and junior students tended to rate these behaviors as much less important. It was theorized that the senior students actually need more support and encouragement than faculty demonstrate, while the junior students do generally receive more encouragement and support. It is possible that the faculty view the senior students as experienced and independent and as not requiring the support that the students themselves feel they need.

O'Shea and Parsons (1979) felt that, in general, the differences between the two groups of students reflected the difference in the amount of exposure each group had had to the clinical setting and to clinical instructors; the senior students having had by far the greater contact. The differences between student and faculty ratings were attributed to the faculty having a different perspective from the students in most instances. The only factor that received unanimous agreement from all the groups was the availability of the teacher in the clinical setting.

Barham (1965), in her study of nursing students and faculty used critical incidents to derive teaching behaviors considered critical for effective instruction in the clinical

setting. Barham states simply that "agreement was never reached by more than two groups in any one category, 'showing restraint so that own anxiety does not influence situation' was cited as either the first or second choice by all four groups. 'Explaining for understanding' was the only other teaching behavior which appeared in the top 25 percent of responses from all respondents" (p.67).

Conclusions

The literature on effective clinical teaching, although disparate, does indicate a consensus about the characteristics of effective clinical teaching. This is best represented by Irby's (1978) research which clearly summarizes and validates (Irby and Rakestraw, 1981) the main findings in the literature. The seven dimensions of effective clinical instruction include organization/clarity, group instructional skill, enthusiasm/stimulation, instructor knowledge, clinical supervision, clinical competence and modeling of professional characteristics (Irby, 1978). Irby and Rakestraw (1981) found that of these "being enthusiastic and providing clinical supervision" correlated the most strongly with overall clinical teaching effectiveness.

This study will utilize Irby's questionnaire adapted for the profession of physiotherapy.

CHAPTER III

Methodology

Design of the Study

The sample for this study was derived from information provided by the Schools of Physiotherapy at the following institutions across Canada:

- University of B.C.
- University of Alberta
- University of Saskatchewan
- University of Manitoba
- Mohawk College
- Queen's University
- University of Toronto
- University of Western Ontario
- Dalhousie University

The University Co-ordinators, on request, provided the number of students, in the final year of each program, and comprehensive lists of the clinical centres utilized for students' clinical placements. The lists included the number of students normally assigned to each centre. As Saarinen (1981) has shown that the student-therapist ratio is 1:1, the lists of the clinical placements were utilized to determine the number of clinicians that would be supervising students in any one centre and thus the number of questionnaires to be sent to each centre.

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Population and Samples

Subjects for this study were divided into three groups:

1) Students

-in the final year of their programme in

Physiotherapy at Schools of Physiotherapy in

the following institutions across Canada:

- University of B.C.

- University of Alberta

- University of Saskatchewan

- University of Manitoba

- Mohawk College

- Queen's University

- University of Toronto

- University of Western Ontario

- Dalhousie University

2) Centre Clinical Co-ordinators

-limited to those centre clinical co-ordinators

whose centres had clinical affiliations with the

Schools of Physiotherapy mentioned in 1.

3) Clinicians

-limited to those clinicians working in centres

which had clinical affiliations with the Schools

of Physiotherapy mentioned in 1.

The total number of subjects surveyed in each group were as follows: students - 264, centre clinical co-ordinators - 142, and clinicians - 564.

Instrument

The entire questionnaire was used to collect data on four areas of clinical education in physiotherapy; the clinical sites used, clinical process, clinical instructor characteristics and training, and evaluation. This study addressed only the clinical instructor characteristics.

A questionnaire, developed by Irby at the University of Seattle, Washington, D.C., for clinical instructor evaluation was used (permission to use granted by Dr. Irby). The questionnaire employs a structured response mode, using a Likert scale with a series of gradations. It is a five-point scale of degree of agreement indicating crucial, very important, important, not very important and unimportant which were assigned values of 1, 2, 3, 4, and 5, respectively. Therefore, the lower scores indicated greater agreement that a particular dimension was important for an effective clinical instructor.

The dimensions represented in the questionnaire were those formulated by Irby (1978); Organization/Clarity, Enthusiasm/Stimulation, Instructor Knowledge, Rapport, Instructional Skill, Clinical Supervision, Clinical Competence and Professional Characteristics. The behaviors represented by each dimension were grouped under the appropriate heading (Dimensions are defined in Chapter I, pages 18-22).

Reliability and Validity of the Instrument

Irby (1978b) derived the dimensions used in this study, to represent effective clinical teaching behaviors from an extensive literature review and confirmed the dimensions by factor analysis. The only dimension that was not strongly confirmed was modeling of professional characteristics. The seven dimensions were found, however to effectively discriminate best from worst clinical instructors at the .001 level. A later study using an evaluation form based on the dimensions of effective clinical instruction demonstrated reliability using the Spearman-Brown prophecy formula of .83 to .90 for 20 raters.

Administration of Instruments

Procedure

Prior to the study, the investigator made arrangements with the University Co-ordinators to distribute questionnaires to the students and collect the completed questionnaires for return to the investigator.

The questionnaires for the staff of the clinical centres (Centre Clinical Co-ordinators and Clinical Instructors) were sent to the Directors of the clinical centres. The Director was requested to distribute the questionnaires to the appropriate clinical staff, and collect the completed questionnaires for return to the investigator.

All questionnaires were sent out by mail to the selected groups on March 15, 1983 with a deadline date set for April

29, 1983 for their return. A letter was sent with the forms explaining the purpose of the study. It was emphasized that all responses would be anonymous. To facilitate the return of the completed questionnaires, stamped, self-addressed envelopes were included. Written reminders were sent to those respondents, in the clinical centres, who had not returned their questionnaires by April 12, 1983. Phone calls were made to the University Co-ordinators at the Schools of Physiotherapy that had not responded by April 12, 1983. Questionnaires received after the deadline date of April 29, 1983 were not included in the study.

Statistical Analyses

Hypothesis set I: There will be no difference in the ratings (based on total scores) among the three groups; students, clinicians and centre clinical co-ordinators across Canada on each of the following eight dimensions:

- a) Organization/Clarity
- b) Enthusiasm/Stimulation
- c) Instructor Knowledge
- d) Rapport
- e) Instructional Skill
- f) Clinical Supervision
- g) Clinical Competence
- h) Professional Characteristics

Eight null hypotheses of no significant difference were tested, one null hypothesis corresponding to each of the eight dimensions.

Data from the questionnaires were analyzed by computer. A Bonferroni test was used, with a confidence level of .05, to determine whether there was any significant difference between each of the various groups of clinical faculty (centre clinical co-ordinators and clinicians) and the students in their perceptions of effective clinical instructors. The data were analyzed for Canada as a whole to determine if the findings varied from group to group. The use of the Bonferroni test was felt to be acceptable in this instance, as this method of data analysis is suitable for the comparison of samples of different sizes, and decreases the Type 1 error rate so that the results of the study were attenuated rather than enhanced.

Hypothesis II: There will be no difference in the ratings (based on total scores) given by students at each of the Schools of Physiotherapy, across Canada, on each of the following eight dimensions:

- a) Organization/Clarity
- b) Enthusiasm/Stimulation
- c) Instructor Knowledge
- d) Rapport
- e) Instructional Skill
- f) Clinical Supervision

g) Clinical Competence

h) Professional Characteristics

Eight null hypotheses of no significant difference were tested, one null hypothesis corresponding to each of the eight dimensions.

Data from the questionnaires were analyzed by computer. A Bonferroni test, with a confidence level of .05, was used to determine whether there was any significant difference between each of the various groups of students in their perceptions of effective clinical instructors. The data were analyzed for the students at each School of Physiotherapy to determine if the findings varied from school to school. The use of the Bonferroni test was felt to be acceptable in this instance, as this method of data analysis is suitable for the comparison of samples of different sizes, and decreases the Type 1 error rate so that the results of the study were attenuated rather than enhanced.

Hypothesis III: There will be no difference in the ratings (based on total scores) given by clinicians, affiliated with each of the Schools of Physiotherapy across Canada, on each of the following eight dimensions:

a) Organization/Clarity

b) Enthusiasm/Stimulation

c) Instructor Knowledge

d) Rapport

e) Instructional Skill

- f) Clinical Supervision
- g) Clinical Competence
- h) Professional Characteristics

Eight null hypotheses of no significant difference were tested, one null hypothesis corresponding to each of the eight dimensions.

Data from the questionnaires were analyzed by computer. A Bonferroni test, with a confidence level of .05, was used to determine whether there was any significant difference between each of the various groups of clinical faculty (centre clinical co-ordinators and clinicians) and students in their perceptions of effective clinical instructors. The data were analyzed for the clinical centres affiliated with each School of Physiotherapy to determine if the findings varied between the various groups of clinicians. The use of the Bonferroni test was felt to be acceptable in this instance, as this method of data analysis is suitable for the comparison of samples of different sizes, and decreases the Type 1 error rate so that the results of the study were attenuated rather than enhanced.

Hypothesis IV: There will be no difference in the ratings (based on total scores) given by centre clinical co-ordinators, affiliated with each of the Schools of Physiotherapy across Canada, on each of the following eight dimensions:

- a) Organization/Clarity

- b) Enthusiasm/Stimulation
- c) Instructor Knowledge
- d) Rapport
- e) Instructional Skill
- f) Clinical Supervision
- g) Clinical Competence
- h) Professional Characteristics

Eight null hypotheses of no significant difference were tested, one null hypothesis corresponding to each of the eight dimensions.

Data from the questionnaires were analyzed by computer. A Bonferroni test, with a confidence level of .05, was used to determine whether there was any significant difference between each of the various groups of centre clinical co-ordinators in their perceptions of effective clinical instructors. The data was analyzed for the clinical centres affiliated with each of the Schools of Physiotherapy to determine if the findings varied between the various groups of centre clinical co-ordinators. The use of the Bonferroni test was felt to be acceptable in this instance, as this method of data analysis is suitable for the comparison of samples of different sizes, and decreases the Type 1 error rate so that the results of the study were attenuated rather than enhanced.

Hypothesis V: There will be no difference in the ratings (based on total scores) among the three groups; students,

clinicians and centre clinical co-ordinators across each School of Physiotherapy and its affiliated clinical centres on each of the following eight dimensions:

- a) Organization/Clarity
- b) Enthusiasm/Stimulation
- c) Instructor Knowledge
- d) Rapport
- e) Instructional Skill
- f) Clinical Supervision
- g) Clinical Competence
- h) Professional Characteristics

Eight null hypotheses of no significant difference were tested, one null hypothesis corresponding to each of the eight dimensions.

Data from the questionnaires were analyzed by computer. A Bonferroni test was used, with a confidence level of .05, to determine whether there was any significant difference between each of the various groups of clinical faculty (centre clinical co-ordinators and clinicians) and the students in their perceptions of effective clinical instructors. The data was analyzed for each School of Physiotherapy separately and for the various affiliated clinical centres to determine if the findings varied among the three groups involved in clinical education with a particular School. The use of the Bonferroni test was felt to be acceptable in this instance, as this method of data analysis is suitable for the comparison of samples of

different sizes, and decreases the Type 1 error rate so that the results of the study were attenuated rather than enhanced.

CHAPTER IV

Analyses of Data

The analyses of the data are presented in several parts. The initial section outlines the return rate for the questionnaires. Later sections address the hypotheses and supporting data.

Return Rates For Questionnaires

Table 1 presents the return rate for the Schools of Physiotherapy at each of the universities. Table 2 presents the return rate for the the clinical centres; including the centre clinical co-ordinators and clinicians.

Table 1 shows the return rates for the Schools of Physiotherapy at each of the universities. The return rates ranged from 0% to 95%.

Table 1 Return Rate for Questionnaires for the Schools of Physiotherapy

	Students	Response
University of B.C.	20/32	62%
University of Alberta	14/28	50%
University of Saskatchewan	18/19	95%
University of Manitoba	12/22	60%
University of Toronto	50/60	83%
Queen's	0/30	0%
University of Western Ontario	26/30	87%
Mohawk College	9/15	60%
Dalhousie	21/28	75%

As noted in Table 1, the return rates for students ranged from no returns at one school to 50-95% at the remaining schools. The return rate for Queen's University cannot be explained.

Table 2

Return Rate for the Clinical Centres (by University Affiliation)

Province & University	Clinicians	%	CCCE	%
B.C. (University of B.C.)	58/123	47	14/21	67
Alberta (University of Alberta)	48/72	67	11/11	100
Saskatchewan (University of Saskatchewan)	20/45	44	6/10	60
Manitoba (University of Manitoba)	41/41	100	12/12	100
Ontario (University of Toronto)	95/117	81	29/31	91
(Queen's)	11/21	52	7/10	70
(University of Western Ontario)	28/36	78	9/13	69
(Mohawk College)	35/58	62	5/8	63
Atlantic Provinces (Dalhousie)	29/51	57	15/26	58

Code: CCCE - Centre Clinical Co-ordinators (or Centre Co-ordinators of Clinical Education)

In Table 2, it can be noted that the return rates for the clinicians ranged from 44-100% and for the centre clinical co-ordinators the return rate ranged from 58-100%. The factor that must be considered is that the investigator was unable to know in advance the exact number of clinicians or centre clinical co-ordinators. It was assumed that there would be one clinician for each student assigned to the centre at one time and that there would be one person acting in the capacity of centre clinical co-ordinator. Six centres informed the investigator that they had no one acting as a centre clinical co-ordinator or that that position was vacant at the time of the survey. Seven centres returned only the director's questionnaire. It may be assumed that since these centres usually had only one student at a time that the director of physiotherapy was also acting as the clinician. Two centres indicated that they did not currently provide

student placements. These two centres represented only a small portion of the study (3/564 questionnaires for clinicians and 2/142 questionnaires for centre co-ordinators of clinical education).

Responses to Questionnaire Items

The data analyses to follow are based on the questionnaires received during the collection period. The data are reported with respect to each of the dimensions for effective clinical instruction. These dimensions include Organization/Clarity, Enthusiasm/Stimulation, Instructor Knowledge, Rapport, Instructor Skill, Clinical Supervision, Clinical Competence and Professional Characteristics.

Discussion of Hypotheses

Hypothesis Set I: There will be no difference in the ratings (based on total scores) among the three groups; students, clinicians and centre clinical co-ordinators across Canada on each of the following eight dimensions:

- a) Organization/Clarity
- b) Enthusiasm/Stimulation
- c) Instructor Knowledge
- d) Rapport
- e) Instructional Skill
- f) Clinical Supervision
- g) Clinical Competence
- h) Professional Characteristics.

Eight null hypotheses of no significant difference were tested, one null hypothesis corresponding to each of the eight dimensions.

In the initial analysis of the data four null hypotheses were accepted at the .05 level of confidence for the dimensions: Organization/ Clarity, Enthusiasm/ Stimulation, Instructor Knowledge and Rapport. There were no significant differences among the mean ratings for the three groups and, therefore, the three groups were considered to have rated these dimensions in a similar fashion (Table 3). While no significant differences were found, the centre clinical coordinators had the lowest mean scores on the four dimensions, indicating the highest rating of importance among the three groups.

The null hypotheses were rejected for the dimensions: Instructional Skill, Clinical Supervision, Clinical Competence and Professional Characteristics, as differences were found among the three groups' mean ratings at the .05 level of confidence (Tables 3 and 4).

Table 3

Comparison of Ratings for each Dimension by all Three Groups of Subjects

Dimensions	Mean scores		
	CCCE	Clinicians	Students
	N=102	N=361	N=170
Organization/Clarity	1.68	1.78	1.77
Enthusiasm/Stimulation	2.10	2.22	2.19
Instructor Knowledge	2.02	2.13	2.09
Rapport	1.82	1.89	1.86
Instructional Skill *	1.85	1.99	2.05
Clinical Supervision *	1.76	1.87	1.91
Clinical Competence *	1.68	1.92	2.00
Professional Characteristics *	1.63	1.78	1.92

Note. ^a The asterisks (*) mark the dimensions where there were significant differences between the groups at the .05 level. The lower the score the greater the importance of that dimension.

^b CCCE - Centre Co-ordinator of Clinical Education (or Centre Clinical Co-ordinator)

Table 4 presents the groups which had significant differences of opinion, as indicated in Table 3.

Table 4

Significant Differences between the Three Groups of Subjects

Dimensions	Differences at $p < .05$
Instructional Skill	CCCE to Students CCCE to Clinicians
Clinical Supervision	CCCE to Students
Clinical Competence	CCCE to Students CCCE to Clinicians
Professional Characteristics	CCCE to Students CCCE to Clinicians Students to Clinicians

Note. CCCE - Centre Co-ordinator of Clinical Education (or Centre Clinical Co-ordinator)

For the dimension, Instructional Skill, (see Tables 3 and 4) the differences between the mean ratings of the centre clinical co-ordinators and those of either the students or the clinicians were statistically significant ($p < .05$). The centre clinical co-ordinators mean rating on Instructional Skill was significantly less (lower rating = greater importance) than that for either the students or the clinicians. No significant difference was found between the mean ratings for students and clinicians. Students and clinicians had similar ratings of importance with mean ratings of 1.77 and 1.78, respectively.

For the dimension, Clinical Supervision, (see Tables 3 and 4) the difference between the mean ratings of the centre clinical co-ordinators' and those of the students was statistically significant ($p < .05$). The centre clinical co-ordinators' mean rating on Clinical Supervision was significantly less (lower rating = greater importance) than that for the students. No significant difference was found between the mean ratings for the students and the clinicians, or between the centre clinical co-ordinators and the clinicians. Students and clinicians had similar ratings of importance with mean ratings of 1.91 and 1.87, respectively. Centre clinical co-ordinators and clinicians also had similar ratings of importance with mean ratings of 1.76 and 1.87, respectively.

For the dimension, Clinical Competence, (see Tables 3 and 4) the differences between the mean ratings of the centre

clinical co-ordinators and those of the students or the clinicians were statistically significant ($p < .05$). The centre clinical co-ordinators mean rating on Clinical Competence was significantly less (lower rating = greater importance) than that for either the students or the clinicians. No significant difference was found between the mean ratings for students and clinicians. Students and clinicians had similar ratings of importance with mean ratings of 2.00 and 1.78, respectively.

For the dimension, Professional Characteristics, (see Tables 3 and 4) the differences between the mean ratings of the centre clinical co-ordinators and those of the students or the clinicians were statistically significant ($p < .05$). The centre clinical co-ordinators' rating on Professional Characteristics was significantly less (lower rating = greater importance) than that for either the students or the clinicians.

For the dimension, Professional Characteristics, (see Tables 3 and 4) the difference between the mean ratings of the students and the clinicians was statistically significant ($p < .05$). The clinicians mean rating on Professional Characteristics was significantly less (lower rating = greater importance) than that for the students.

Hypothesis Set II: There will be no difference in the ratings (based on total scores) given by students at each

School of Physiotherapy, across Canada, on each of the following eight dimensions:

- a) Organization/Clarity
- b) Enthusiasm/Stimulation
- c) Instructor Knowledge
- d) Rapport
- e) Instructional Skill
- f) Clinical Supervision
- g) Clinical Competence
- h) Professional Characteristics

Eight null hypotheses of no significant difference were tested, one null hypothesis corresponding to each of the eight dimensions.

In the initial analysis of the data, the hypotheses for the dimensions: Organization/Clarity, Enthusiasm/Stimulation, Rapport, Instructional Skill, Clinical Supervision, Clinical Competence and Professional Characteristics were accepted at the .05 level of confidence. There were no significant differences among the various groups of students and, therefore, the groups were considered to have rated these dimensions in a similar fashion (Table No 5).

The hypothesis for Instructor Knowledge was rejected as differences were apparent among the groups of students in their ratings of this dimension at the .05 level of confidence (Table 5).

Table 5

Comparison of Ratings for each Dimension by Students at each School of P.T.

Dimensions	Institutions								
	Dal.	U.W.O.	Qu.	U. of T.	Moh.	U. of M.	U. of S.	U. of A.	U.B.C.
Org.	1.69	1.75		1.72	1.59	1.96	1.72	1.91	1.93
Enthu.	2.07	2.12		2.15	2.18	2.40	2.15	2.34	2.35
Inst. Kn.	2.07	2.07		*1.94	1.93	2.07	2.16	2.30	*2.40
Rapport	2.01	1.76		1.77	1.87	1.92	1.77	2.07	1.95
Inst. Sk.	2.13	2.03		1.98	1.93	2.09	1.93	2.08	2.30
Cl. Sup.	1.89	1.85		1.89	1.96	1.91	1.83	2.00	2.06
Cl. Comp.	1.98	2.12		1.92	1.84	1.95	1.97	2.01	2.20
Prof. Ch.	1.89	1.97		1.85	1.86	1.86	1.87	2.04	2.10

Note. ^a The asterisks mark the groups among which there were significant differences, at the .05 level, for each dimension.

^b Org. ----- Organization/Clarity
 Enth. ----- Enthusiasm/Stimulation
 Inst. Kn. --- Instructor Knowledge
 Rapport ----- Rapport
 Inst. Sk. --- Instructional Skill
 Cl. Sup. ---- Clinical Supervision
 Cl. Comp. --- Clinical Competence
 Prof. Ch. --- Professional Characteristics

For the dimension, Instructor Knowledge, (see Table 5) the difference between the mean ratings for the students at the University of Toronto and those for the students at the University of B.C. was statistically significant ($p < .05$). The University of Toronto students' mean rating on Instructor Knowledge was significantly less (lower rating = greater importance) than that for the University of B.C. students. No significant difference was found between the mean ratings of the remaining groups of students. Clinical Competence was rejected as there were significant differences among the groups at the .05 level of significance (Table 5).

Hypothesis Set III: There will be no difference in the ratings (based on total scores) given by clinicians, affiliated with each of the Schools of Physiotherapy across Canada, on each of the following eight dimensions:

- a) Organization/Clarity
- b) Enthusiasm/Stimulation
- c) Instructor Knowledge
- d) Rapport
- e) Instructional Skill
- f) Clinical Supervision
- g) Clinical Competence
- h) Professional Characteristics

Eight null hypotheses of no significant difference were tested, one null hypothesis corresponding to each of the eight dimensions.

In the initial analysis of the data the null hypotheses for the dimensions Organization/Clarity and Professional Characteristics were accepted, at the .05 level of confidence, as there were no significant differences between the groups (Table 6). The null hypotheses for the dimensions Enthusiasm/Stimulation, Instructor Knowledge, Rapport, Instructional Skill, Clinical Supervision and Clinical Competence were rejected as there were significant differences among the groups at the .05 level of confidence (Table 6).

Table 6

Comparison of Ratings by the Clinicians for each Dimension

Dimensions	Institutions								
	Dal.	U.W.D	Qu.	U. of T.	Moh.	U. of M.	U. of S.	U. of A.	U.B.C.
Org.	1.86	1.79	1.98	1.67	1.88	1.91	1.63	1.85	1.68
Enthu.	2.18	2.29	2.45	*2.13	2.30	*2.44	2.10	2.13	2.22
Inst. Kn.	2.11	2.12	2.27	*2.02	2.30	*2.33	1.93	2.11	2.14
Rapport	1.93	1.90	2.01	1.81	1.92	*2.09	*1.64	1.92	1.88
Inst. Sk.	2.10	1.93	2.25	1.86	*2.18	2.12	1.79	2.03	*1.86
Cl. Sup.	2.02	1.81	2.04	*1.75	**2.05	1.99	1.73	1.91	*1.77
Cl. Comp.	1.94	1.92	2.11	*1.83	2.10	**2.12	1.78	1.90	*1.80
Prof. Ch.	1.89	1.67	1.95	1.69	1.90	1.96	1.68	1.77	1.73

Note. ^a The asterisks mark the groups among which there were significant differences, at the .05 level, for each dimension. The double asterisks indicate that those groups differ significantly from two other groups.

^b The lower the score the greater the importance.

^c Org. ----- Organization/Clarity
 Enth. ----- Enthusiasm/Stimulation
 Inst. Kn. --- Instructor Knowledge
 Rapport ---- Rapport
 Inst. Sk. --- Instructional Skill
 Cl. Sup. ---- Clinical Supervision
 Cl. Comp. --- Clinical Competence
 Prof. Ch. --- Professional Characteristics

For the dimension, Enthusiasm/Stimulation, (see Table 6) the difference between the mean ratings of the clinicians affiliated with the University of Toronto and the clinicians affiliated with the University of Manitoba was statistically significant ($p < .05$). The mean rating on Enthusiasm/Stimulation for clinicians, affiliated with the University of Toronto, was significantly less (lower rating = greater importance) than that for the clinicians affiliated with the University of Manitoba. No significant difference was found between the mean ratings of the remaining groups of clinicians.

For the dimension, Instructor Knowledge, (see Table 6) the difference between the mean ratings of the clinicians affiliated with the University of Toronto and those of the clinicians affiliated with the University of Manitoba was statistically significant ($p < .05$). The mean rating for the clinicians affiliated with the University of Toronto, on Instructor Knowledge, was significantly less (lower rating = greater importance) than that for the clinicians affiliated with the University of Manitoba. No significant difference was found between the mean ratings of the remaining groups of clinicians.

For the dimension, Rapport, (see Table 6) the difference between the clinicians affiliated with the University of Saskatchewan and the clinicians affiliated with the University of Manitoba was statistically significant ($p < .05$). The mean rating for the clinicians affiliated with the University of Saskatchewan, on Rapport, was significantly less (lower rating = greater importance) than that for the clinicians affiliated with the University of Manitoba. No significant difference was found between the mean ratings of the remaining groups of clinicians.

For the dimension, Instructional Skill, (see Table 6) the difference between the clinicians affiliated with the University of B.C. and those affiliated with Mohawk College was statistically significant ($p < .05$). The mean rating for the clinicians affiliated with the University of B.C., on Instructional Skill, was significantly less (lower rating =

greater importance) than that for the clinicians affiliated with Mohawk College. No significant difference was found between the mean ratings for the remaining groups of clinicians.

For the dimension, Clinical Supervision, (see Table 6) the differences between the mean ratings for the clinicians affiliated with the Universities of B.C. and Toronto and the clinicians affiliated with Mohawk College were statistically significant ($p < .05$). The mean ratings for the clinicians affiliated with the Universities of B.C. and Toronto, on Clinical Supervision, were significantly less (lower rating = greater importance) than that for the clinicians affiliated with Mohawk College. No significant difference was found between the mean ratings of the remaining groups of clinicians.

For the dimension, Clinical Competence, (see Table 6) the difference between the mean ratings for the clinicians affiliated with the Universities of B.C. and Toronto were statistically significant ($p < .05$). The mean ratings for the clinicians affiliated with the Universities of B.C. and Toronto, on Clinical Competence, were significantly less (lower rating = greater importance) than that for the clinicians affiliated with Mohawk College. No significant difference was found between the mean ratings of the remaining groups of clinicians.

Hypothesis Set IV: There will be no difference in the ratings (based on total scores) given by centre clinical co-ordinators, affiliated with each of the Schools of Physiotherapy across Canada, on each of the following eight dimensions:

- a) Organization/Clarity
- b) Enthusiasm/Stimulation
- c) Instructor Knowledge
- d) Rapport
- e) Instructional Skill
- f) Clinical Supervision
- g) Clinical Competence
- h) Professional Characteristics

Eight null hypotheses of no significant difference were tested, one null hypothesis corresponding to each of the eight dimensions.

In the initial analysis of the data the null hypotheses for Organization/Clarity, Enthusiasm/ Stimulation, Instructor Knowledge, Rapport, Clinical Supervision, Clinical Competence and Professional Characteristics were accepted, at the .05 level of significance, as there were no significant differences in the ratings among the groups of centre clinical co-ordinators (Table 7).

The null hypothesis for the dimension Instructional Skill was rejected as differences were found among the groups of centre clinical co-ordinators at the .05 level of significance (Table 7).

Table 7

Comparison of the Ratings by Centre Clinical Co-ordinators
for each Dimension

Dimensions	Institutions								
	Dal.	U.W.D	Qu.	U.of T.	Moh.	U.of M.	U.of S.	U.of A.	U.B.C.
Org.	1.74	1.43	1.93	1.56	2.05	2.01	1.62	1.69	1.50
Enthu.	2.15	2.07	2.03	2.06	2.30	2.42	2.03	2.03	1.93
Inst. Kn.	1.94	2.00	2.26	1.87	2.31	2.34	1.80	2.05	1.97
Rapport	2.03	1.62	1.68	1.75	2.06	2.01	1.43	1.89	1.77
Inst. Sk.	2.00	1.85	1.76	*1.69	2.04	*2.19	1.78	1.77	1.79
Cl. Sup.	1.71	1.64	1.85	1.62	1.83	2.07	1.70	1.85	1.74
Cl. Comp.	1.69	1.48	1.76	1.54	1.62	2.02	1.97	1.77	1.56
Prof. Ch.	1.64	1.40	1.75	1.55	1.52	1.86	1.72	1.70	1.63

Note.^a The asterisks mark the groups among which there were significant differences, at the .05 level, for each dimension.

^b The lower the score the greater the importance.

^c Org. ----- Organization/Clarity
Enthu. ----- Enthusiasm/Stimulation
Inst. Kn. --- Instructor Knowledge
Rapport ----- Rapport
Inst. Sk. --- Instructional Skill
Cl. Sup. ---- Clinical Supervision
Cl. Comp. --- Clinical Competence
Prof. Ch. --- Professional Characteristics

For the dimension, Instructional Skill, (see Table 7) the difference between the mean ratings for the centre clinical co-ordinators affiliated with the University of Toronto and those for the centre clinical co-ordinators affiliated with the University of Manitoba was statistically significant ($p < .05$). The mean rating for the centre clinical co-ordinators affiliated with the University of Toronto, on Instructional Skill, was significantly less (lower rating = greater importance) than that for the centre clinical co-ordinators affiliated with the University of Manitoba. No

significant difference was found between the mean ratings of the remaining groups of centre clinical co-ordinators.

Hypothesis Set V: There will be no difference in the ratings (based on total scores) among the three groups; students, clinicians and centre clinical co-ordinators across each School of Physiotherapy and its affiliated clinical centres on each of the following eight dimensions:

- a) Organization/Clarity
- b) Enthusiasm/Stimulation
- c) Instructor Knowledge
- d) Rapport
- e) Instructional Skill
- f) Clinical Supervision
- f) Clinical Competence
- g) Professional Characteristics

Eight null hypotheses of no significant difference were tested, one null hypothesis corresponding to each of the eight dimensions.

In the initial analysis of the data the null hypothesis for the dimension Rapport was accepted, at the .05 level of significance, as no significant differences were found among the groups (Table 11).

The null hypotheses for the dimensions: Organization/Clarity, Enthusiasm/Stimulation, Instructor Knowledge, Instructional Skill, Clinical Supervision, Clinical

Competence and Professional Characteristics were rejected as differences were apparent among the three groups at the .05 level of significance (Tables 8-10 and 12-15).

Table 8

Organization/Clarity

Comparison of groups for each institution

	CCCE	Clinicians	Students
Dalhousie University	1.74	1.86	1.69
University of Western Ontario	1.43	1.79	1.75
Queen's University	1.93	1.98	
University of Toronto	1.56	1.67	1.72
Mohawk College	2.05	1.88	1.59
University of Manitoba	2.01	1.91	1.96
University of Saskatchewan	1.62	1.63	1.72
University of Alberta	1.69	1.85	1.91
University of B.C.	*1.50	1.68	*1.93

Note. ^a The asterisks mark the groups where there were significant differences at the .05 level.

^b The lower the score the greater the importance.

^c CCCE - Centre Co-ordinators of Clinical Education (or Centre Clinical Co-ordinators)

For the dimension, Organization/Clarity, (see Table 8) the difference between the mean rating for the students at the University of B.C. and the centre clinical co-ordinators affiliated with the University of B.C. was statistically significant ($p < .05$). The centre clinical co-ordinators' mean rating on Organization/Clarity was significantly less (lower rating = greater importance) than that for the students. No significant difference was found between the mean ratings of the clinicians affiliated with the University of B.C. and those of the students at the University of B.C., or between

the mean ratings of the clinicians and the centre clinical co-ordinators affiliated with the University of B.C.

No significant differences were found between the mean ratings of the various groups of students, clinicians and centre clinical co-ordinators at the other schools.

Table 9

Enthusiasm/Stimulation

Comparison of groups for each institution

	CCCE	Clinicians	Students
Dalhousie University	2.15	2.18	2.07
University of Western Ontario	2.07	2.29	2.12
Queen's University	2.03	2.45	
University of Toronto	2.06	2.13	2.15
Mohawk College	2.30	2.30	2.18
University of Manitoba	2.42	2.44	2.40
University of Saskatchewan	2.03	2.10	2.15
University of Alberta	2.03	2.13	2.34
University of B.C.	*1.93	2.22	*2.35

Note. ^a The asterisks mark the groups where there were significant differences at the .05 level.

^b The lower the score the greater the importance.

^c There were no questionnaires returned for students at Queen's University.

^d CCCE - Centre Co-ordinators of Clinical Education (or Centre Clinical Co-ordinators)

For the dimension, Enthusiasm/Stimulation, (see Table 9) the difference in the mean ratings between the students at University of B.C. and the centre clinical co-ordinators affiliated with the University of B.C. was statistically significant ($p < .05$). The centre clinical co-ordinators' mean rating on Enthusiasm/Stimulation was significantly less (lower rating = greater importance) than that for the students. No significant difference was found between the

mean ratings of the centre clinical co-ordinators and those of the clinicians affiliated with the University of B.C., or between the mean ratings of the clinicians affiliated with the University of B.C. and those of the students at the University of B.C.

Table 10

Instructor Knowledge			
Comparison of groups for each institution			
Institution	CCCE	Clinicians	Students
Dalhousie University	1.94	2.11	2.07
University of Western Ontario	2.00	2.07	2.12
Queen's University	2.26	2.27	1.87
University of Toronto	1.87	2.02	1.94
Mohawk College	2.31	2.30	1.93
University of Manitoba	2.34	2.33	2.07
University of Saskatchewan	1.80	1.93	2.16
University of Alberta	2.05	2.11	2.30
University of B.C.	*1.97	2.14	*2.40

Note. ^a The asterisks mark the groups where there were significant differences at the .05 level.

^b The lower the score the greater the importance.

^c CCCE - Centre Co-ordinators of Clinical Education (or Centre Clinical Co-ordinators)

For the dimension, Instructor Knowledge, (see Table 10) the difference between the centre clinical co-ordinators affiliated with the University of B.C. and the students at University of B.C. was statistically significant ($p < .05$). The mean rating for the centre clinical co-ordinators on Instructor Knowledge was significantly less (lower rating = greater importance) than that for the students. No significant difference was found between the mean ratings of

the centre clinical co-ordinators and those of the clinicians affiliated with the University of B.C., or between the mean ratings of the clinicians affiliated with the University of B.C. and those of the students at the University of B.C.

Table 11

Rapport

Comparison of groups for each institution

	CCCE	Clinicians	Students
Dalhousie University	2.03	1.93	2.01
University of Western Ontario	1.62	1.76	1.90
Queen's University	1.68	2.01	
University of Toronto	1.75	1.81	1.77
Mohawk College	2.06	1.92	1.87
University of Manitoba	2.01	2.09	1.92
University of Saskatchewan	1.43	1.64	1.77
University of Alberta	1.89	1.92	2.07
University of B.C.	1.77	1.88	1.95

Note. ^a The asterisks mark the groups where there were significant differences at the .05 level.

^b The lower the score the greater the importance.

^c CCCE - Centre Co-ordinators of Clinical Education (or Centre Clinical Co-ordinators)

For the dimension, Rapport, (see Table 11) no significant differences ($p < .05$) were found between the mean ratings for the three groups, at each of the schools.

Table 12

Instructional Skill

Comparison of groups for each institution

	CCCE	Clinicians	Students
Dalhousie University	2.00	2.10	2.13
University of Western Ontario	1.85	1.93	2.05
Queen's University	1.76	2.25	
University of Toronto	*1.69	1.91	*1.98
Mohawk College	2.04	2.18	1.93
University of Manitoba	2.19	2.12	2.09
University of Saskatchewan	1.78	1.79	1.93
University of Alberta	1.77	2.03	2.08
University of B.C.	*1.79	*1.86	**2.30

Note. ^a The asterisks mark the groups where there were significant differences at the .05 level. The double asterisk marks where one group differed significantly at the .05 level from two other groups.

^b The lower the score the greater the importance.

^c CCCE - Centre Co-ordinators of Clinical Education (or Centre Clinical Co-ordinators)

For the dimension, Instructional Skill, (see Table 12) the difference between the mean ratings for centre clinical co-ordinators and the clinicians affiliated with the University of B.C. and the students at the University of B.C. were statistically significant ($p < .05$). The mean ratings for the centre clinical co-ordinators and the clinicians were significantly less (lower rating = greater importance) than that for the students.

The difference between the mean ratings for the centre clinical co-ordinators affiliated with the University of Toronto and the students at the University of Toronto, on the

dimension, Instructional Skill, was statistically significant ($p < .05$). The centre clinical co-ordinators' mean rating was significantly less (lower rating = greater importance) than that for the students. No significant difference was found between the mean ratings for the students at the University of Toronto and the clinicians affiliated with the University of Toronto. No significant difference was found between the mean ratings of the three groups at the remaining schools, on the dimension, Instructional Skill.

Table 13

Clinical Supervision

Comparison of groups for each institution

	CCCE	Clinicians	Students
Dalhousie University	1.71	2.02	1.89
University of Western Ontario	1.64	1.81	1.85
Queen's University	1.85	2.04	
University of Toronto	*1.62	1.75	*1.89
Mohawk College	1.83	2.05	1.96
University of Manitoba	2.07	1.99	1.91
University of Saskatchewan	1.70	1.73	1.83
University of Alberta	1.85	1.91	2.00
University of B.C.	1.74	*1.77	*2.06

Note. ^a The asterisks mark the groups where there were significant differences at the .05 level.

^b The lower the score the greater the importance.

^c CCCE - Centre Co-ordinators of Clinical Education (or Centre Clinical Co-ordinators)

For the dimension, Clinical Supervision, (see Table 13) the difference between the mean ratings for the centre clinical co-ordinators affiliated with the University of Toronto and the students at the University of Toronto was statistically significant ($p < .05$). The centre clinical co-ordinators' mean rating was significantly less (lower rating = greater importance) than that for the students. No significant difference was found between the mean ratings of the students at the University of Toronto and the clinicians affiliated with the University of Toronto.

The difference between the mean ratings for the clinicians affiliated with the University of B.C. and the students at the University of B.C., on the dimension Clinical Supervision, was statistically significant ($p < .05$). The clinicians' mean rating was significantly less (lower rating = greater importance) than that for the students. No significant difference was found between the mean ratings of the students at the University of B.C. and the centre clinical co-ordinators affiliated with the University of B.C..

No significant difference was found between the mean ratings for the three groups at each of the remaining schools, on the dimension Clinical Supervision.

Table 14

Clinical Competence

Comparison of groups for each institution

	CCCE	Clinicians	Students
Dalhousie University	1.69	1.94	1.98
University of Western Ontario	*1.48	1.92	*2.12
Queen's University	1.76	2.11	
University of Toronto	**1.54	*1.83	*1.92
Mohawk College	1.62	2.10	1.84
University of Manitoba	2.02	2.12	1.95
University of Saskatchewan	1.97	1.78	1.97
University of Alberta	1.77	1.90	2.01
University of B.C.	*1.56	*1.80	**2.20

Note. ^a The asterisks mark the groups where there were significant differences at the .05 level. The double asterisks mark where one group differed significantly at the .05 level from two other groups.

^b The lower the score the greater the importance.

^c CCCE - Centre Co-ordinators of Clinical Education (or Centre Clinical Co-ordinators)

For the dimension, Clinical Competence, (see Table 14) the difference between the mean ratings for the centre clinical co-ordinators affiliated with the University of Western Ontario and the students at the University of Western Ontario was statistically significant ($p < .05$). The centre clinical co-ordinators' mean rating was significantly less (lower rating = greater importance) than that of the students. No significant difference was found between the mean ratings of the students at the University of Western Ontario and the clinicians affiliated with the University of Western Ontario.

The difference between the mean ratings of the clinicians affiliated with the University of Toronto, the students at the University of Toronto and the centre clinical co-ordinators affiliated with the University of Toronto, on the dimension Clinical Competence, were statistically significant ($p < .05$). The centre clinical co-ordinators' mean rating on Clinical Competence was significantly less (lower rating = greater importance) than those for the clinicians and the students.

The difference between the mean ratings for the centre clinical co-ordinators and the clinicians affiliated with the University of B.C., and the students at the University of B.C., on the dimension Clinical Competence, was statistically significant ($p < .05$). The mean ratings for the centre clinical co-ordinators and the clinicians was significantly less (lower rating = greater importance) than that for the students.

No significant difference was found between the mean ratings of the three groups at the remaining schools, on the dimension Clinical Competence.

The centre clinical co-ordinators' mean rating was significantly less (lower rating = greater importance) than that of the students. A significant difference was found between the mean ratings of the students at the University of Western Ontario and the clinicians affiliated with the University of Western Ontario.

Table 15

Professional Characteristics

Comparison of groups for each institution

	CCCE	Clinicians	Students
Dalhousie University	1.64	1.89	1.89
University of Western Ontario	*1.40	1.67	*1.97
Queen's University	1.75	1.95	
University of Toronto	*1.55	1.69	*1.85
Mohawk College	1.52	1.90	1.86
University of Manitoba	1.86	1.86	1.96
University of Saskatchewan	1.72	1.68	1.87
University of Alberta	1.70	1.77	2.04
University of B.C.	*1.63	*1.73	**2.10

Note. ^a The asterisks mark the groups where there were significant differences at the .05 level. The double asterisks mark where one group differed significantly at the .05 level from two other groups.

^b The lower the score the greater the importance.

^c CCCE - Centre Co-ordinators of Clinical Education (or Centre Clinical Co-ordinators)

For the dimension, Professional Characteristics, (see Table 15) the difference between the mean ratings for the centre clinical co-ordinators affiliated with the University of Western Ontario and the students at the University of Western Ontario was statistically significant ($p < .05$). The centre clinical co-ordinators' mean rating was significantly less (lower rating = greater importance) than that of the students. No significant difference was found between the mean ratings of the students at the University of Western Ontario and the clinicians affiliated with the University of Western Ontario.

The difference between the mean ratings of the centre clinical co-ordinators affiliated with the University of Toronto and the students at the University of Toronto, on the dimension Professional Characteristics, was statistically significant ($p < .05$). The centre clinical co-ordinators' mean rating was significantly less (lower rating = greater importance) than that of the students. No significant difference was found between the mean ratings of the students at the University of Toronto and the clinicians affiliated with the University of Toronto.

The differences between the ratings of the centre clinical co-ordinators and the clinicians affiliated with the University of B.C., and the students at the University of B.C., on the dimension Professional Characteristics, were statistically significant ($p < .05$). The mean ratings for the centre clinical co-ordinators and the clinicians was significantly less (lower rating = greater importance) than that of the students.

No significant differences were found between the mean ratings of the three groups at each of the remaining schools, on the dimension Professional Characteristics.

Chapter V

Summary and Conclusions

Summary

This study investigated the perceptions, of students and clinical faculty in Physiotherapy, regarding the behaviors that would define an effective clinical instructor. This study began with a concern that clinicians were not told how to teach students in the clinical setting. Instead, students were being placed in the clinical centres, under the supervision of practising clinicians, with minimal direction given to the clinicians as to the methods by which the objectives of the placement might be achieved.

There is little evidence in the literature of any research specifically relating to clinical teacher effectiveness (Daggett et al, 1978), and most of the literature that does exist focuses on other professions (i.e. nursing, medicine and dentistry) rather than physiotherapy. Irby's (1978) research, in the field of medicine, summarized the main findings in the literature on the characteristics of effective clinical instructors. Eight dimensions of effective clinical instruction were detailed; organization/clarity, enthusiasm/ stimulation, instructor knowledge, rapport, instructional skill, clinical supervision, clinical competence and modeling of professional characteristics.

Irby (1978) found no differences between students and faculty in medicine in their ratings of each of the eight dimensions of effective clinical instruction. O'Shea and

Parsons (1979) did find some differences between the perceptions of students and faculty in nursing on the importance of various behaviors to effective clinical teaching. Minimal information is available in the field of physiotherapy on the characteristics of effective clinical instructors. The need for specific information on the characteristics of effective clinical instructors in physiotherapy became the focus for this study.

Irby (1978) devised a questionnaire that was used in clinical instructor evaluation, based on the eight dimensions of effective clinical instruction; organization/ clarity, enthusiasm/stimulation, instructor knowledge, rapport, instructional skill, clinical supervision, clinical competence and professional characteristics. Permission to use the questionnaire in this study was granted by Dr. Irby.

As part of this study, questionnaires were sent out to nine Schools of Physiotherapy across Canada, as well as the affiliated clinical centres for each of the schools. The subjects included students, at each of the schools, and clinical faculty (centre clinical co-ordinators and clinicians) at the clinical centres affiliated with each of the schools.

The data from the questionnaires were tabulated and analyzed, using the Bonferroni test, to determine if there were any similarities or differences between the ratings of the students and the clinical faculty on the importance of the eight dimensions to effective clinical instruction.

Conclusions

Significant differences were found, at the .05 level, between the three groups; students, clinicians and centre clinical co-ordinators, across Canada, in their ratings of four of the eight dimensions of effective clinical teaching as propounded by Irby (1978); Instructional Skill, Clinical Supervision, Clinical Competence and Professional Characteristics. Students rated these dimensions as less important than did clinicians and centre clinical co-ordinators. Clinicians rated the dimensions as less important than did centre clinical co-ordinators. It could be conjectured from the similarities in the ratings of the clinicians and the students, that clinicians have the greatest influence on students while they are in the clinical setting and thus influence the students' attitudes. Another possibility may be that the centre clinical co-ordinators are more aware, in their role as organizers and trouble-shooters of the students' clinical program, of the behaviors that constitute effective clinical teaching and, thus, rate the dimensions more highly than the other two groups (students and clinicians). Further research is needed, however, to clarify this issue.

The differences in the ratings between students and clinical faculty vary from the results presented by Irby (1978). Irby's research (1978) showed no significant differences between medical students and clinical faculty in

their ratings of the dimensions of effective clinical teaching. Findings similar to Irby's (1978) were found when the data for the individual schools were analyzed. In Irby's (1978) study only one school was examined. In this study when any one school is considered, the results (six schools with no differences) are usually the same as those found by Irby (1978); no significant differences between the clinical faculty and the students. The three groups (students, clinicians and centre clinical co-ordinators), in six cases, demonstrated agreement in their ratings of the eight dimensions of effective clinical teaching. There were three exceptions in which differences were apparent between students and faculty. The most noticeable was the University of B.C. and its affiliated clinical centres. In this instance, there were significant differences between the mean scores for students and clinical faculty (either centre clinical co-ordinators, clinicians or both) in seven of the eight dimensions. The only dimension on which agreement was reached by all the three groups in B.C. was Rapport. The second place where differences were noticeable, between students and faculty, was in Ontario, at the University of Toronto and its affiliated clinical centres. In this case, differences in the ratings of the importance of the dimensions were noted in four of the eight dimensions; Instructional Skill, Clinical Supervision, Clinical Competence and Professional Characteristics. The third case, in which differences were evident, in the ratings of the

importance of the dimensions, by students, clinicians and the centre clinical co-ordinators was the University of Western Ontario and its affiliated clinical centres. The dimensions were Clinical Competence and Professional Characteristics.

When student groups were compared between the schools a consistent method of ratings was apparent. The only significant difference was between students at the University of Toronto and those at the University of B.C. in the mean ratings for Instructor Knowledge. The mean ratings for the clinicians, affiliated with the various clinical centres, showed a much less homogeneous grouping. Significant differences were apparent in the mean ratings of Enthusiasm/Stimulation, Instructor Knowledge, Rapport, Instructional Skill, Clinical Supervision and Clinical Competence. In each case, two or three groups of clinicians were in disagreement as to the importance of each of the dimensions. The only dimensions that showed no significant disagreement were: Organization/Clarity and Professional Characteristics. Centre clinical co-ordinators again reflected a more homogeneous grouping. The only point of disagreement was in the mean ratings of Instructional Skill and this involved only the University of Manitoba and the University of Toronto.

Overall, the results of this study confirm Irby's (1978) findings. In spite of the fact that there were some significant differences between the three groups (students, clinicians and centre clinical co-ordinators) in their

ratings of the dimensions of effective clinical teaching, the dimensions were rated consistently between important (3) and crucial (1). This confirms that these eight dimensions are considered by both students and faculty to be important to effective teaching in the clinical setting.

Recommendations for Further Research

1. Investigate why there are differences between the various groups (clinicians, centre clinical co-ordinators and students) in their ratings of the eight dimensions of effective clinical teaching.

The differences in ratings would seem to represent significant differences in the various groups' perception of the importance of at least four of the eight dimensions of effective clinical teaching. These differences need to be further explored to determine the effect these differences have, if any, on the clinical teaching process.

2. Determine if the behaviors represented by the eight dimensions; Organization/Clarity, Enthusiasm/ Stimulation, Instructor Knowledge, Rapport, Instructional Skill, Clinical Supervision, Clinical Competence and Professional Characteristics, of effective clinical teaching are actually utilized by clinicians in the instruction of students in the clinical setting.

This study has shown that, although there are differences in the degree of importance attributed to each

dimension by the clinical faculty and the students, that these behaviors are considered important to effective clinical teaching. The next step is to determine what actually happens when the clinicians teach students in the clinical setting.

3. Replicate this study using junior (first or second year) students to determine if differences exist between ratings given by senior students and junior students.

It has been shown by O'Shea and Parsons (1979) that differences do exist in the ratings of effective clinical teaching behaviors by junior and senior students in nursing. It might be useful to know if these differences exist in physiotherapy and the occurrence of any trends with respect to an increase or decrease in the importance of clinical teaching at the various stages of the education program and into practice.

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Williamson, J.A. & Therrien, B.A. The nurse preceptor. In J.A. Williamson (Ed.), Current perspectives in nursing education - The changing scene. St. Louis: The C.V. Mosby Company, 1978.

Faculty

The W.K. Kellogg Foundation. Action programs for developing allied health educators. Battlecreek, Michigan: Author, 1977.

University

World Health Organization. Training and preparation of teachers for school of medicine and of allied health sciences: Report of a W.H.O. study group. World Health Organization Technical Report Series, 1973, No. 521.

Centre

Yonke, A.M. The art and science of clinical teaching. Medical Education, March 1979, 13, 86-90.

NOTE: Read this information carefully before proceeding to answer the questionnaire.

Definitions

Facility (or Centre)	A health care institution (eg., hospital, community clinic, private practice, home care agency).
Physiotherapy Service or Department	An organized unit providing physiotherapy by qualified physiotherapists and appropriate support personnel.
Clinician	A physiotherapist on the staff of a clinical facility who teaches and supervises students in addition to other responsibilities.
Curriculum	An educational plan which includes content, instructional methods and evaluation measures.
Faculty	Physiotherapists who have a full-time academic appointment to teach courses in physiotherapy, as well as other academic responsibilities.
University Co-ordinator of Clinical Education (UCCE)	An academic faculty member who is responsible for the co-ordination of the clinical curriculum, including the placement of students for clinical education.
Centre Co-ordinator of Clinical Education (CCCE)	A physiotherapist who is responsible for the co-ordination of the students' activities while in the clinical facility. This position may be held by the Director of Physiotherapy Services or a staff member designated by the Director.

INSTRUCTIONS: In the following questions it is important that you respond to every item in every question (unless specifically instructed to do otherwise). Please answer each item by circling the appropriate response number.

C 1

4

SECTION I Clinical Learning Experience

1.A The quality of a clinical education experience for students may be due to a variety of factors. Indicate the importance of each of the following in contributing to a good clinical education experience for STUDENTS.

	*1.B Check Below	Absolutely Essential	Very Useful	Useful But Not Essential	Not Very Useful	Not Useful At All	For Office Use Only
Many patients to treat	☐ 5	1	2	3	4	5	☐ 16
A variety of patients to treat	☐	1	2	3	4	5	☐
Interesting patients to treat	☐	1	2	3	4	5	☐
A well run department	☐	1	2	3	4	5	☐
An atmosphere of receptiveness to students	☐	1	2	3	4	5	☐
Well prepared students	☐ 10	1	2	3	4	5	☐ 21
Harmony in the department	☐	1	2	3	4	5	☐
Duration of assignment sufficiently long to accomplish student's centre's objectives	☐	1	2	3	4	5	☐
Sufficient information from the school	☐	1	2	3	4	5	☐
An experienced staff to learn from	☐	1	2	3	4	5	☐
The opportunity (for students) to practice patient care	☐ 15	1	2	3	4	5	☐ 26

1.A Continued ...

	* 1.B Check Below						For Office Use Only
		Absolutely Essential	Very Useful	Useful But Not Essential	Not Very Useful	Not Useful At All	
Opportunities (for students) to explore their interests & objectives	☐ 27	1	2	3	4	5	☐ 38
Opportunities (for students) to participate in research projects	☐	1	2	3	4	5	☐
Opportunities (for students) to have a variety of educational experiences	☐	1	2	3	4	5	☐
The presence of other students	☐	1	2	3	4	5	☐
Staff interested in teaching students	☐	1	2	3	4	5	☐
Sufficient feedback from staff (to the student) on student's performance of clinical tasks and procedures	☐ 32	1	2	3	4	5	☐
Presence of planned learning experiences for students	☐	1	2	3	4	5	☐
Presence of departmental objectives (including clinical education)	☐	1	2	3	4	5	☐
An administration that supports clinical education	☐	1	2	3	4	5	☐
Adequate number of staff available for student supervision	☐	1	2	3	4	5	☐
Other (Specify) _____	☐ 37	1	2	3	4	5	☐ 48

* 1.B In the above question, for those criteria rated absolutely essential, please check the box beside those criteria that are met by your centre.

2. How often do you personally use each of the following items or methods for instructing students in the clinical setting?

	Daily	At Least 1x/week	At Least 1x/month	Less Than 1x/month	Never	For Office Use Only
Lectures	1	2	3	4	5	☐ 49
Audio-visual presentations	1	2	3	4	5	☐ 50
Case studies or case conferences	1	2	3	4	5	☐
Demonstrations	1	2	3	4	5	☐
Videotaping of student performance	1	2	3	4	5	☐
Observations of special procedures, etc.	1	2	3	4	5	☐
Simulated cases	1	2	3	4	5	☐ 55
Supervised activity in patient care	1	2	3	4	5	☐
Reading assignments	1	2	3	4	5	☐
Self instructional packages	1	2	3	4	5	☐
Working side by side with students	1	2	3	4	5	☐
Group discussions or seminars	1	2	3	4	5	☐ 60
Direct questioning of the student	1	2	3	4	5	☐
Independent Study	1	2	3	4	5	☐
Feedback to students/ interns on their performance	1	2	3	4	5	☐
Other (Specify) _____	1	2	3	4	5	☐ 64

3. How do you handle student's problems in clinical education? (If you have never encountered student problems, skip this question and go to Q. 4)

	Always	Usually	Occasionally	Rarely	Never	For Office Use Only
Day to day feedback to student	1	2	3	4	5	☐ 65
Midterm and final evaluation conference with student	1	2	3	4	5	☐
Contact UCCE (University Co-ordinator of Clinical Education) and let school handle problem	1	2	3	4	5	☐
Send the final evaluation to the school and let them deal with the student	1	2	3	4	5	☐
Request that the student be removed from our facility	1	2	3	4	5	☐
Confer with the CCCE (Centre's Co-ordinator of Clinical Education)	1	2	3	4	5	☐ 70
Ask the CCCE to handle the problem	1	2	3	4	5	☐
Make specific suggestions for improvement	1	2	3	4	5	☐
Offer special help when problems arise	1	2	3	4	5	☐
Other (Specify) _____	1	2	3	4	5	☐ 74

4. In your opinion, how important is it that clinical students have each of the following specific learning opportunities as part of their clinical learning experience (at your facility)?

	Very Important	Important	Undecided	Not Very Important	Unimportant	For Office Use Only
Attending inservices	1	2	3	4	5	☐ 5
Attending lectures	1	2	3	4	5	☐
Observing	1	2	3	4	5	☐
Treating patients	1	2	3	4	5	☐
Working side by side with staff	1	2	3	4	5	☐
Participating in case conferences and/or ward rounds	1	2	3	4	5	☐ 10
Reading patient charts	1	2	3	4	5	☐
Parallel reading in books and journals	1	2	3	4	5	☐
Attending staff meetings	1	2	3	4	5	☐
Informal discussions with staff	1	2	3	4	5	☐
Working on patient care teams	1	2	3	4	5	☐ 15
Working with an exper- ienced clinician	1	2	3	4	5	☐
Viewing audio-visual presentations	1	2	3	4	5	☐
Presenting case studies	1	2	3	4	5	☐
Helping staff with pa- tients with difficult problems	1	2	3	4	5	☐
Working on independent study projects	1	2	3	4	5	☐ 20
Working on writing skills (eg, progress notes, patient assessments)	1	2	3	4	5	☐
Provide patient/family education	1	2	3	4	5	☐
Assign tasks to support personnel	1	2	3	4	5	☐
Other (Specify) _____	1	2	3	4	5	☐ 24

5. How do you plan your students' activities? (For each item circle the one response that best describes how often you use each method).

	Always	Usually	Occasionally	Rarely	Never	For Office Use Only
Use the plan developed by the centre's co-ordinator of clinical education	1	2	3	4	5	☐ 25
Use the plan developed by the university's co-ordinator of clinical education	1	2	3	4	5	☐
Discuss student's objectives (with student)	1	2	3	4	5	☐
Review student's past experience	1	2	3	4	5	☐
Observe the student's initial clinical performance	1	2	3	4	5	☐
Fit the student into my schedule	1	2	3	4	5	☐
Other (Specify) _____	1	2	3	4	5	☐ 31

- 6.A When students are assigned to you how often are each of the following types of information provided?

#6.B Check Below	Always	Usually	Occasionally	Rarely	Never	For Office Use Only
Courses completed ☐ 32	1	2	3	4	5	☐ 39
University objectives for clinical education ☐ 33	1	2	3	4	5	☐
Student's personal objectives ☐	1	2	3	4	5	☐
Student's strengths ☐	1	2	3	4	5	☐ 42
Student's weaknesses ☐	1	2	3	4	5	☐
Procedures for student evaluation ☐	1	2	3	4	5	☐
Student evaluation forms ☐ 38	1	2	3	4	5	☐ 45

- * 6.B In the above question check () boxes beside those items that are most useful in planning your student's programme.

6.C The information received (see 6.A) is supplied by:
(Check all that apply)

The university co-ordinator of clinical education

☐ 46

Other faculty

☐

A form or log book given to the student prior to
placement

☐

A form given to the student by clinical personnel

☐

The centre co-ordinator of clinical education

☐

Students

☐

Other (Specify) _____

☐ 52

7.A During the clinical placements how often did you use the following
methods to evaluate your students' performance in the following
manner? (Circle the appropriate response number for each item).

	Always	Usually	Occasionally	Rarely	Never	N.A.	For Office Use Only
Observation by super- vising therapist	1	2	3	4	5	6	☐ 53
Observation by CCCE	1	2	3	4	5	6	☐
Observation by faculty	1	2	3	4	5	6	☐
Video-taping of students' performance (eg., patient treatment)	1	2	3	4	5	6	☐
Case presentations	1	2	3	4	5	6	☐ 57
Self-evaluation (by student)	1	2	3	4	5	6	☐
Other (Specify) _____	1	2	3	4	5	6	☐ 59

7.B How were the students made aware of their level of performance?

	Always	Usually	Occasionally	Rarely	Never	N.A.	For Office Use Only
Daily conference with (supervising therapist) (CI)	1	2	3	4	5	6	☐ 60
Weekly conference with (supervising therapist) (CI)	1	2	3	4	5	6	☐
Mid-term evaluation	1	2	3	4	5	6	☐
Immediate feedback on performance after being observed	1	2	3	4	5	6	☐
Only an occasional com- ment or correction	1	2	3	4	5	6	☐
End of placement eval- uation	1	2	3	4	5	6	☐ 65

8.A In your role as a clinical educator do you have any contact with faculty members?

If yes, check here

☐ 66

No, my contact is through our
centre co-ordinator of clinical
education

☐ 67

No, no contact at all

☐ 68

(If you answered no to this question, go on to Q. 9)

8.B If you answered Yes in question 8.A, indicate the individuals with whom you have had contact. (Check all that apply).

University co-ordinator of clinical educa-
tion or person acting in that role

☐ 69

Faculty member with a joint academic-clinical
appointment

☐

Academic faculty member

☐

Other (Specify) _____

☐ 72

SECTION II Staff

10.A Does your facility have a Centre Co-ordinator of Clinical Education (CCCE), or someone who functions in that role as a major responsibility?

If yes, check here ☐ 13

If no, proceed to Q. 11.

B If you answered yes in 10.A, indicate how important each of the following are in determining whether an individual is an effective Centre Co-ordinator of Clinical Education (CCCE)?

	Absolutely Essential	Very Useful	Useful But Not Essential	Not Very Useful	Not Useful At All	For Office Use Only
Good communicator	1	2	3	4	5	☐ 14
Well organized	1	2	3	4	5	☐
Is a good clinician	1	2	3	4	5	☐
Is a good educator	1	2	3	4	5	☐
Knowledgeable of clinical education	1	2	3	4	5	☐
Knowledgeable of clinical facilities	1	2	3	4	5	☐
Good public relations skills	1	2	3	4	5	☐ 20
Experience treating patients	1	2	3	4	5	☐
Experience as a clinical instructor	1	2	3	4	5	☐
Experience (or educational training) in adminis- tration	1	2	3	4	5	☐
Enthusiastic	1	2	3	4	5	☐
Personally secure and self-confident	1	2	3	4	5	☐
Interested in his/her work	1	2	3	4	5	☐
Respects clinicians	1	2	3	4	5	☐
Respects school faculty	1	2	3	4	5	☐
Relates well with the staff	1	2	3	4	5	☐
Relates well with students	1	2	3	4	5	☐ 30

10.B Continued ...

	Absolutely Essential	Very Useful	Useful But Not Essential	Not Very Useful	Not Useful At All	For Office Use Only
Keeps staff informed about interactions with the school(s)	1	2	3	4	5	☐ 31
Supports the PT staff in disputes with the schools	1	2	3	4	5	☐
Attends (attended) con- tinuing education courses in education theory	1	2	3	4	5	☐
Attends (attended) con- tinuing education courses in clinical instruction	1	2	3	4	5	☐
Attends (attended) con- tinuing education courses in interpersonal relations	1	2	3	4	5	☐
Knowledgeable about the educational programme and its objectives	1	2	3	4	5	☐
Is a good counsellor	1	2	3	4	5	☐
Involved in evaluation of clinical education programme	1	2	3	4	5	☐
Other (Specify) _____	1	2	3	4	5	☐ 39

SECTION III Clinician - Your Academic, Educational Activities
and Experience

11. Effective instruction depends on many different factors, no two instructors use the same styles and techniques. The following list represents many possible instructor behaviours. Read each item carefully, then determine how important each of the following items is in determining whether an individual is an effective clinician? (i.e., student supervisor)

(Circle the appropriate response number for each item).

Instructor Behaviour	Crucial	Very Important	Important	Not Very Important	Unimportant	For Office Use Only
<u>I ORGANIZATION/CLARITY</u>						
a) summarizes major points	1	2	3	4	5	☐ 40
b) explains clearly	1	2	3	4	5	☐
c) communicates what is expected (objectives)	1	2	3	4	5	☐
d) presents material in an organized fashion	1	2	3	4	5	☐
e) emphasizes what is important	1	2	3	4	5	☐
f) organizes, plans and schedules time well	1	2	3	4	5	☐ 45
g) uses time well, balances needs of patients and students	1	2	3	4	5	☐
h) appears to be well-prepared for responsibilities	1	2	3	4	5	☐ 47
<u>II ENTHUSIASM/STIMULATION</u>						
a) stimulates students interest in subject	1	2	3	4	5	☐ 48
b) is enthusiastic about subject	1	2	3	4	5	☐
c) seems to enjoy teaching	1	2	3	4	5	☐
d) is a dynamic and energetic individual	1	2	3	4	5	☐
e) has an interesting style of presentation	1	2	3	4	5	☐
f) stimulates students to be active learners	1	2	3	4	5	☐ 53

11. Continued ...

Instructor Behaviour	Crucial	Very Important	Important	Not Very Important	Unimportant	For Office Use Only
g) stimulates students to work independently	1	2	3	4	5	☐ 54
h) encourages students to use own judgement and to do own planning	1	2	3	4	5	☐
i) inspires or demands reasonable student effort	1	2	3	4	5	☐
j) stimulates students interest by giving exposure to research projects	1	2	3	4	5	☐
k) encourages critical and analytical thought	1	2	3	4	5	☐ 58
<u>III INSTRUCTOR KNOWLEDGE</u>						
a) reveals broad reading in specialty area	1	2	3	4	5	☐ 59
b) directs students to useful references	1	2	3	4	5	☐
c) discusses current issues in field	1	2	3	4	5	☐
d) demonstrates general knowledge in P.T.	1	2	3	4	5	☐
e) discusses other points of view than own	1	2	3	4	5	☐
f) displays critical and analytical reasoning	1	2	3	4	5	☐
g) reveals knowledge of school objectives and school curriculum	1	2	3	4	5	☐ 65
<u>IV RAPPORT</u>						
a) provides professional support and encouragement to students	1	2	3	4	5	☐ 66
b) establishes rapport with others	1	2	3	4	5	☐
c) encourages a climate of mutual respect	1	2	3	4	5	☐
d) listens attentively	1	2	3	4	5	☐
e) shows a personal interest in students	1	2	3	4	5	☐ 70

11. Continued ...

Instructor Behaviour	Crucial	Very Important	Important	Not Very Important	Unimportant	For Office Use Only
f) corrects students without belittling them	1	2	3	4	5	☐ 71
g) demonstrates sensitivity to needs of others	1	2	3	4	5	☐
h) willingly remains accessible to students	1	2	3	4	5	☐
i) displays a sense of humor	1	2	3	4	5	☐
j) promotes a friendly warm climate	1	2	3	4	5	☐ 75
						☐ 3 80
V <u>INSTRUCTIONAL SKILL</u>						
a) encourages active participation in discussions	1	2	3	4	5	☐ 5
b) uses well-chosen examples to clarify ideas	1	2	3	4	5	☐
c) utilizes audio-visual and references wisely	1	2	3	4	5	☐
d) gives students positive reinforcement for good contributions, observations or performance	1	2	3	4	5	☐
e) diagnoses students readiness level	1	2	3	4	5	☐
f) gears instruction to students level	1	2	3	4	5	☐ 10
g) encourages student questions, opinions, comments	1	2	3	4	5	☐
h) quickly grasps what student is asking or telling	1	2	3	4	5	☐
i) answers carefully and precisely their questions	1	2	3	4	5	☐
j) questions students to elicit underlying reasoning	1	2	3	4	5	☐
k) emphasizes applied problem-solving	1	2	3	4	5	☐ 15

11. Continued ...

Instructor Behaviour	Crucial	Very Important	Important	Not Very Important	Unimportant	For Office Use Only
1) helps students organize thoughts about patient problems	1	2	3	4	5	☐ 16
m) demonstrates clinical procedures & techniques	1	2	3	4	5	☐ 17
<u>VI CLINICAL SUPERVISION</u>						
a) communicates role expectations to students	1	2	3	4	5	☐ 18
b) guides students development of clinical skills	1	2	3	4	5	☐
c) provides specific practice opportunities	1	2	3	4	5	☐
d) prepares students for difficult clinical situations	1	2	3	4	5	☐
e) offers special help when problems arise	1	2	3	4	5	☐
f) offers counselling when required	1	2	3	4	5	☐
g) observes student performance frequently	1	2	3	4	5	☐
h) encourages student self-evaluation	1	2	3	4	5	☐ 25
i) identifies students' strengths and limitations objectively	1	2	3	4	5	☐
j) provides frequent feedback on students performance	1	2	3	4	5	☐
k) makes specific suggestions for improvement	1	2	3	4	5	☐
l) seems well-prepared for teaching contacts	1	2	3	4	5	☐
m) questions students in a nonthreatening manner	1	2	3	4	5	☐ 30
n) never corrects student in front of patient	1	2	3	4	5	☐
o) demonstrates impartiality in student evaluation	1	2	3	4	5	☐
p) allows "breathing space" when student ready	1	2	3	4	5	☐ 33

11. Continued ...

Instructor Behaviour	Crucial	Very Important	Important	Not Very Important	Unimportant	For Office Use Only
q) readily locatable throughout day	1	2	3	4	5	☐ 34
<u>VII CLINICAL COMPETENCE</u>						
a) demonstrates clinical skill and judgement	1	2	3	4	5	☐ 35
b) demonstrates skill at data-gathering	1	2	3	4	5	☐
c) interprets lab and other data skillfully	1	2	3	4	5	☐
d) objectively defines patient problems	1	2	3	4	5	☐
e) synthesizes patients problems rapidly	1	2	3	4	5	☐
f) demonstrates current clinical techniques	1	2	3	4	5	☐
g) communicates effectively with others- written and verbal	1	2	3	4	5	☐ 41
<u>VIII PROFESSIONAL CHARACTERISTICS</u>						
a) takes responsibility for own actions	1	2	3	4	5	☐ 42
b) recognizes own limitations	1	2	3	4	5	☐
c) seems to have self-confidence and inner security	1	2	3	4	5	☐
d) is self-critical	1	2	3	4	5	☐
e) is open-minded and non-judgemental	1	2	3	4	5	☐
f) does not appear arrogant	1	2	3	4	5	☐
g) is willing to admit mistakes	1	2	3	4	5	☐
h) is aware of implications of role-modelling	1	2	3	4	5	☐
i) works effectively in interdisciplinary team work	1	2	3	4	5	☐ 50

11. Continued ...

Instructor Behaviour	Crucial	Very Important	Important	Not Very Important	Unimportant	For Office Use Only
j) delegates and consults as necessary	1	2	3	4	5	☐ 51
k) conforms to ethical standards of C.P.A.	1	2	3	4	5	☐
l) promotes humanitarian application of P.T.	1	2	3	4	5	☐
m) ensures minimal risk to patient at all times	1	2	3	4	5	☐
n) enforces institutional rules	1	2	3	4	5	☐ 55

12.A Within the last five years, have you received any training that aids you in your role as a Clinician?

If yes, check

☐

56 (Go on to Part B)

If no, go on to part 12.C

12.B If you answered yes in 12.A, indicate the courses taken and the year.

		Most Recent Year Course Taken	
Communication techniques	☐ 57	☐ ☐ 59	
Learning theory	☐	☐ ☐	
Clinical specialty (physiotherapy)	☐	☐ ☐	
Teaching techniques	☐	☐ ☐	
Writing objectives	☐	☐ ☐	
Educational programme planning	☐	☐ ☐	
Evaluation (students)	☐ 75	☐ ☐ 77	☐ 80
Evaluation (programmes)	☐ 5	☐ ☐ 7	
Supervisory techniques	☐	☐ ☐	
Counselling and interpersonal relations	☐	☐ ☐	
Problem solving	☐	☐ ☐	
Other _____	☐ 17	☐ ☐ 19	

- 12.C If you answered no in 12.A, are there any such courses, workshops or other types of instruction offered in your area?

If yes, check here

☐ 20

-
13. Years experience as a physiotherapist in a clinical setting

. 23

Your highest academic degree:

Code

1. Diploma
2. Bachelor's Degree
3. Masters (Specify) _____
4. Other (Specify) _____

☐ 24

-
14. Are you currently involved in the work of your professional association or other health related agencies?

If yes, check here

☐ 25

-
15. Years of experience supervising physiotherapy students in the clinical setting.

. 28 years

-
16. In your centre were you required to meet any particular job specifications (e.g., training, years of experience) prior to being allowed to supervise students?

If yes, check here

☐ 29

If no, go on to Q. 17.

If yes, please specify.

17. How do you see your role in clinical education?
(Put code number in box provided).

Code

1. Instructor
2. Supervisor
3. Both of the above

☐ 30

Please give your reasons for your choice of role(s).

18. When you accepted your present position, were you informed that clinical instruction of students would be part of your job?
(Put appropriate code number in the box provided).

Code

1. Yes
2. No
3. I was not informed because students were not accepted here until after I joined the staff.

☐ 31

19. Do the students you supervise ever have an opportunity to provide feedback on your performance as a clinical instructor?

If yes, check here

☐ 32

20. Are you (or do you function in the role of) the Co-ordinator of Clinical Education for the physiotherapy department in your centre?

If yes, check here

☐ 33

21. Please indicate the extent to which you agree or disagree with each of the following statements.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	For Office Use Only
<u>A</u> Among the <u>advantages</u> of having students assigned to me:						
Intellectual stimulation	1	2	3	4	5	☐ 34
Gain new knowledge	1	2	3	4	5	☐
Help in treating more patients (than usual)	1	2	3	4	5	☐
Personal satisfaction in providing assistance to students	1	2	3	4	5	☐
Enjoyment of teaching	1	2	3	4	5	☐
<u>B</u> Among the <u>disadvantages</u> of having students assigned to me are:						
Difficulty in adjusting to the varied interests and needs of students	1	2	3	4	5	☐
Supervising students is too time consuming	1	2	3	4	5	☐ 40
Unable to treat as many patients as usual	1	2	3	4	5	☐
No satisfaction in working with students	1	2	3	4	5	☐
Students ask too many questions	1	2	3	4	5	☐
<u>C</u> The advantages of having students outweigh the disadvantages	1	2	3	4	5	☐ 44
						☐ 79
						☐ 5 80

THANK YOU FOR YOUR CO-OPERATION AND ASSISTANCE

NOTE: Read this information carefully before proceeding to answer the questionnaire.

Definitions

Facility (or Centre)	A health care institution (e.g. hospital, community clinic, private practice, home care agency).
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Clinician	A physiotherapist on the staff of a clinical facility who teaches and supervises students in addition to other responsibilities.
Curriculum	An educational plan which includes content, instructional methods and evaluation measures.
Faculty	Physiotherapists who have a full-time academic appointment to teach courses in physiotherapy, as well as other academic responsibilities.
University Co-ordinator of Clinical Education (UCCE)	An academic faculty member who is responsible for the co-ordination of the clinical curriculum, including the placement of students for clinical education.
Centre Co-ordinator of Clinical Education (CCCE)	A physiotherapist who is responsible for the co-ordination of the students' activities while in the clinical facility. This position may be held by the Director of Physiotherapy Services or a staff member designated by the Director.

INSTRUCTIONS: In the following questions it is important that you respond to every item in every question (unless specifically instructed to do otherwise.)

B 1

4

Section I The Clinical Learning Experience

1. Is there a written statement of objectives for your Department's Clinical Educational Programme?

If yes, check here

☐ 5

2. Are staff members encouraged to become involved in clinical education?

If yes, check here

☐ 6

3. Is it difficult to get staff members involved in clinical education?

Yes

☐ 7

If no, go on to question 4.

If yes, please give the reasons.

NOTE: In the following questions, please answer by circling the appropriate response number (unless otherwise advised).

4. Indicate below the methods usually used by the Clinicians in your facility to teach physiotherapy students.

	Daily	At Least 1x/Week	At Least 1x/Month	Less Than 1x/Month	Never	For Office Use Only
Lectures	1	2	3	4	5	☐ 8
Audio-Visual presentations	1	2	3	4	5	☐
Case studies or case conferences	1	2	3	4	5	☐
Demonstrations	1	2	3	4	5	☐
Videotaping of student performance	1	2	3	4	5	☐ 12
Observations of special procedures, etc.	1	2	3	4	5	☐
Simulated cases	1	2	3	4	5	☐
Supervised activity in patient care	1	2	3	4	5	☐
Reading assignments	1	2	3	4	5	☐
Self instructional packages	1	2	3	4	5	☐
Working side by side with students	1	2	3	4	5	☐ 18
Group discussions or seminars	1	2	3	4	5	☐
Direct questioning of the student	1	2	3	4	5	☐
Independent study	1	2	3	4	5	☐
Feedback to students/ interns on their performance	1	2	3	4	5	☐
Other (Specify) _____	1	2	3	4	5	☐ 23

5.A The quality of a clinical education experience for students may be due to a variety of factors. Indicate the importance of each of the following in contributing to a good clinical education experience FOR STUDENTS. (Circle one number for each item).

	#5.B Check Below	Absolutely Essential	Very Useful	Useful But Not Essential	Not Very Useful	Not Useful At All	For Office Use Only
Many patients to treat	☐ 24	1	2	3	4	5	☐ 37
A variety of patients to treat	☐	1	2	3	4	5	☐
Interesting patients to treat	☐	1	2	3	4	5	☐
A well run department	☐	1	2	3	4	5	☐
An atmosphere of receptiveness to students	☐	1	2	3	4	5	☐
Well prepared students	☐ 29	1	2	3	4	5	☐ 42
Harmony in the department	☐	1	2	3	4	5	☐
Duration of assignment sufficiently long to accomplish school's/centre's objectives	☐	1	2	3	4	5	☐
Sufficient information from school	☐	1	2	3	4	5	☐
An experienced staff to learn from	☐	1	2	3	4	5	☐
The opportunity (for students) to practice patient care	☐	1	2	3	4	5	☐
Opportunities (for students) to explore their interests & objectives	☐	1	2	3	4	5	☐
Opportunities (for students) to participate in research projects	☐ 36	1	2	3	4	5	☐ 49

5.A Continued

5.B Check Below	Absolutely Essential	Very Useful	Useful But Not Essential	Not Very Useful	Not Useful At All	For Office Use Only
Opportunities (for students) to have a variety of educational experiences ☐ 50	1	2	3	4	5	☐ 59
The presence of other students ☐	1	2	3	4	5	☐
Staff interested in teaching students ☐	1	2	3	4	5	☐
Sufficient feedback from staff (to the student) on student's performance of clinical tasks and procedures ☐	1	2	3	4	5	☐
Presence of planned learning experience for students ☐	1	2	3	4	5	☐
Presence of departmental objectives (incl. clinical education) ☐	1	2	3	4	5	☐
An administration that supports clinical education ☐	1	2	3	4	5	☐
Adequate number of staff available for student supervision ☐	1	2	3	4	5	☐
Other (Specify) ☐ 58	1	2	3	4	5	☐ 67

*5.B. In the above questions, for those criteria rated absolutely essential please tick (✓) boxes beside those criteria that are met by your centre.

6. In your opinion, how important is it that clinical students have each of the following specific learning opportunities as part of their clinical learning experience in your facility:

	Very Important	Important	Undecided	Not Very Important	Unimportant	For Office Use Only
Attending inservices	1	2	3	4	5	☐ 5
Attending lectures	1	2	3	4	5	☐
Observing	1	2	3	4	5	☐
Treating patients	1	2	3	4	5	☐
Working side by side with staff	1	2	3	4	5	☐
Participating in case conferences and/or ward rounds	1	2	3	4	5	☐ 10
Reading patient charts	1	2	3	4	5	☐
Parallel reading in books and journals	1	2	3	4	5	☐
Attending staff meetings	1	2	3	4	5	☐
Informal discussions with staff	1	2	3	4	5	☐
Working on patient care teams	1	2	3	4	5	☐ 15
Working with an experienced clinician	1	2	3	4	5	☐
Viewing audio-visual presen- tations	1	2	3	4	5	☐
Presenting case studies	1	2	3	4	5	☐
Helping staff with patients with difficult problems	1	2	3	4	5	☐
Working on independent study projects	1	2	3	4	5	☐ 20
Working on writing skills (e.g. progress notes, patient assessments)	1	2	3	4	5	☐
Provide patient/family education	1	2	3	4	5	☐
Assign tasks to support personnel	1	2	3	4	5	☐
Other (Specify) _____	1	2	3	4	5	☐ 24

7. Which of the following do you see as providing incentives to the students in their clinical work experience?

	Strong Incentive	Mild Incentive	No Incentive	For Office Use Only
Constructive criticism from clinician	1	2	3	☐ 25
Gain in self-confidence	1	2	3	☐
Development of skills	1	2	3	☐
Exploration of their abilities	1	2	3	☐
Exploration of their interests	1	2	3	☐
Acquisition of new knowledge	1	2	3	☐
Patients' appreciation of the students efforts	1	2	3	☐
Positive feedback from several sources (from staff, patients, etc)	1	2	3	☐
Grades	1	2	3	☐ 33

8. How do you handle student problems in clinical education? (If you have never encountered student problems, skip this question and go to Q. 9).

Circle one number for each item.

	Always	Usually	Occasionally	Rarely	Never	For Office Use Only
Day-to-day feedback to student	1	2	3	4	5	☐ 34
Midterm & final evaluation conference with student	1	2	3	4	5	☐
Following discussion with the clinician talk with the student	1	2	3	4	5	☐
Contact the UCCE & let school handle the problem	1	2	3	4	5	☐
Send the final evaluation to the school & let them deal with the student	1	2	3	4	5	☐
Request that the student be removed from our facility	1	2	3	4	5	☐
Confer with the clinician	1	2	3	4	5	☐ 40
Other (Specify) _____	1	2	3	4	5	☐ 41

9. Indicate the importance of each of the following individuals in helping students to learn during their clinical experience.

	Very Important	Important	Undecided	Not Very Important	Unimportant	For Office Use Only
The centre co-ordinator of clinical education	1	2	3	4	5	☐ 42
The supervising clinician	1	2	3	4	5	☐
Other staff physio- therapists	1	2	3	4	5	☐
Other students	1	2	3	4	5	☐
Other professionals	1	2	3	4	5	☐
Other (Specify) _____	1	2	3	4	5	☐ 47

REMEMBER TO RESPOND TO EACH ITEM IN EACH QUESTION BY CIRCLING THE APPROPRIATE NUMBER (UNLESS OTHER INDICATED).

SECTION II Personnel

10. Effective instruction depends on many different factors; no two instructors use the same styles and techniques. The following list represents many possible behaviours. Read each item carefully, then determine how important each of the following instructor behaviours is in determining whether an individual is an effective clinician (ie., student supervisor).

Instructor Behaviour	Crucial	Very Important	Important	Not Very Important	Unimportant	For Office Use Only
<u>I ORGANIZATION/CLARITY:</u>						
a) summarizes major points	1	2	3	4	5	☐ 48
b) explains clearly	1	2	3	4	5	☐
c) communicates what is expected (objectives)	1	2	3	4	5	☐
d) presents material in an organized fashion	1	2	3	4	5	☐
e) emphasizes what is important	1	2	3	4	5	☐
f) organizes, plans & schedules time well	1	2	3	4	5	☐
g) uses time well, balances needs of patients and students	1	2	3	4	5	☐
h) appears to be well-prepared for responsibilities	1	2	3	4	5	☐ 55
<u>II ENTHUSIASM/STIMULATION:</u>						
a) stimulates students interest in subject	1	2	3	4	5	☐ 56
b) is enthusiastic about subject	1	2	3	4	5	☐
c) seems to enjoy teaching	1	2	3	4	5	☐
d) is a dynamic and energetic individual	1	2	3	4	5	☐
e) has an interesting style of presentation	1	2	3	4	5	☐ 60

10. Continued

Instructor Behaviour	Crucial	Very Important	Important	Not Very Important	Unimportant	For Office Use Only
f) stimulates students to be active learners	1	2	3	4	5	☐ 61
g) stimulates students to work independently	1	2	3	4	5	☐
h) encourages students to use own judgement and to do own planning	1	2	3	4	5	☐
i) inspires or demands reasonable student effort	1	2	3	4	5	☐
j) stimulates students interest by giving exposure to research projects	1	2	3	4	5	☐
k) encourages critical & analytical thought	1	2	3	4	5	☐ 66
III INSTRUCTOR KNOWLEDGE:						
a) reveals broad reading in specialty area	1	2	3	4	5	☐ 67
b) directs students to useful references	1	2	3	4	5	☐
c) discusses current issues in field	1	2	3	4	5	☐
d) demonstrates general knowledge in P.T.	1	2	3	4	5	☐
e) discusses other points of view than own	1	2	3	4	5	☐
f) displays critical and analytical reasoning	1	2	3	4	5	☐
g) reveals knowledge of school objectives and school curriculum	1	2	3	4	5	☐ 73
						☒ 80
IV RAPPORT:						
) provides professional support and encouragement to students	1	2	3	4	5	☐ 5
) establishes rapport with others	1	2	3	4	5	☐ 6

10. Continued

Instructor Behaviour	Crucial	Very Important	Important	Not Very Important	Unimportant	For Office Use Only
c) encourages a climate of mutual respect	1	2	3	4	5	☐ 7
d) listens attentively	1	2	3	4	5	☐
e) shows a personal interest in students	1	2	3	4	5	☐
f) corrects students without belittling them	1	2	3	4	5	☐
g) demonstrates sensitivity to needs of others	1	2	3	4	5	☐
h) willingly remains accessible to students	1	2	3	4	5	☐
i) displays a sense of humor	1	2	3	4	5	☐
j) promotes a friendly warm climate	1	2	3	4	5	☐ 14
<u>INSTRUCTIONAL SKILL:</u>						
a) encourages active participation in discussions	1	2	3	4	5	☐ 15
b) uses well-chosen examples to clarify ideas	1	2	3	4	5	☐
c) utilizes audio-visual & references wisely	1	2	3	4	5	☐
d) gives students positive reinforcement for good contributions, observations or performance	1	2	3	4	5	☐
e) diagnoses students readiness level	1	2	3	4	5	☐
f) gears instruction to students level	1	2	3	4	5	☐ 20
g) encourages student questions, opinions, comments	1	2	3	4	5	☐
h) quickly grasps what student is asking or telling	1	2	3	4	5	☐
i) answers carefully and precisely their questions	1	2	3	4	5	☐ 23

10. Continued

Instructor Behaviour	Crucial	Very Important	Important	Not Very Important	Unimportant	For Office Use Only
j) questions students to elicit underlying reasoning	1	2	3	4	5	☐ 24
k) emphasizes applied problem-solving	1	2	3	4	5	☐
l) helps students organize thoughts about patient problems	1	2	3	4	5	☐
m) demonstrates clinical procedures & techniques	1	2	3	4	5	☐ 27
<u>VI CLINICAL SUPERVISION:</u>						
a) communicates role expectations to students	1	2	3	4	5	☐ 28
b) guides students development of clinical skills	1	2	3	4	5	☐
c) provides specific practice opportunities	1	2	3	4	5	☐
d) prepares students for difficult clinical situations	1	2	3	4	5	☐
e) offers special help when problems arise	1	2	3	4	5	☐
f) offers counselling when required	1	2	3	4	5	☐
g) observes student performance frequently	1	2	3	4	5	☐
h) encourages student self-evaluation	1	2	3	4	5	☐ 35
i) identifies students' strengths and limitations objectively	1	2	3	4	5	☐
j) provides frequent feedback on students' performance	1	2	3	4	5	☐
k) makes specific suggestions for improvement	1	2	3	4	5	☐
l) seems well-prepared for teaching contacts	1	2	3	4	5	☐
m) questions students in a non-threatening manner	1	2	3	4	5	☐ 40

10. Continued

Instructor Behaviour	Crucial	Very Important	Important	Not Very Important	Unimportant	For Office Use Only
n) never corrects student in front of patient	1	2	3	4	5	☐ 41
o) demonstrates impartiality in student evaluation	1	2	3	4	5	☐
p) allows "breathing space" when student ready	1	2	3	4	5	☐
q) readily locatable throughout day	1	2	3	4	5	☐ 44
<u>VII CLINICAL COMPETENCE:</u>						
a) demonstrates clinical skill and judgement	1	2	3	4	5	☐ 45
b) demonstrates skill at data gathering	1	2	3	4	5	☐
c) interprets lab and other data skillfully	1	2	3	4	5	☐
d) objectively defines patient problems	1	2	3	4	5	☐
e) synthesizes patients problems rapidly	1	2	3	4	5	☐
f) demonstrates current clinical techniques	1	2	3	4	5	☐
g) communicates effectively with others - written and verbal	1	2	3	4	5	☐ 51
<u>VIII PROFESSIONAL CHARACTERISTICS:</u>						
a) takes responsibility for own actions	1	2	3	4	5	☐ 52
b) recognizes own limitations	1	2	3	4	5	☐
c) seems to have self-confidence and inner security	1	2	3	4	5	☐
d) is self-critical	1	2	3	4	5	☐
e) is open-minded and non-judgemental	1	2	3	4	5	☐
f) does not appear arrogant	1	2	3	4	5	☐ 57

10. Continued ...

Instructor Behaviour	Crucial	Very Important	Important	Not Very Important	Unimportant	For Office Use Only
g) is willing to admit mistakes	1	2	3	4	5	☐ 58
h) is aware of implications of role-modelling	1	2	3	4	5	☐
i) works effectively in interdisciplinary team	1	2	3	4	5	☐ 60
j) delegates and consults as necessary	1	2	3	4	5	☐
k) conforms to ethical standards of C.P.A.	1	2	3	4	5	☐
l) promotes humanitarian application of P.T.	1	2	3	4	5	☐ 63
m) ensures minimal risk to patient at all times	1	2	3	4	5	☐ 64
n) enforces institutional rules	1	2	3	4	5	☐ 65

PART II SUMMARY

On the basis of the preceding ratings, circle the numbers on the scales which indicate how effectively the items describe the clinical teaching of the clinicians in your facility. This is a general overall rating.

Dimensions	Not at all Descriptive		Very Descriptive			Not Applicable	For Office Use Only
I Organization/Clarity.....	1	2	3	4	5	6	☐ 66
II Enthusiasm/Stimulation.....	1	2	3	4	5	6	☐
III Instructor Knowledge.....	1	2	3	4	5	6	☐
IV Rapport	1	2	3	4	5	6	☐
V Instructional Skill.....	1	2	3	4	5	6	☐
VI Clinical Supervision.....	1	2	3	4	5	6	☐
VII Clinical Competence.....	1	2	3	4	5	6	☐
VIII Professional Characteristics..	1	2	3	4	5	6	☐ 73

11. Indicate the importance of each item below in the selection of a clinician for your facility.

	Very Important	Important	Undecided	Not Very Important	Unimportant	For Office Use Only
Completion of educational programme designed for clinical instructors	1	2	3	4	5	☐ 74
Personal knowledge (by CCCE) of clinicians interest and capability	1	2	3	4	5	☐
Input from UCCE	1	2	3	4	5	☐
Input from Director of Physiotherapy	1	2	3	4	5	☐
Expression of interest by clinician	1	2	3	4	5	☐ 78
A predetermined amount of clinical experience (What is that amount? _____)	1	2	3	4	5	☐ 3 80
Previous experience as a clinician	1	2	3	4	5	☐ 5
Other (Specify): _____	1	2	3	4	5	☐ 7

12. In assigning students to a clinician in your facility indicate the degree of importance you place on each of the following considerations:

	Very Important	Important	Undecided	Not Very Important	Unimportant	For Office Use Only
Matching personalities of student and clinician	1	2	3	4	5	☐ 8
Matching student's interest with clinician's expertise	1	2	3	4	5	☐
Honoring UCCE's request concerning assignments	1	2	3	4	5	☐
Patient load of clinician	1	2	3	4	5	☐
Skill of clinician	1	2	3	4	5	☐
Desires of Clinician	1	2	3	4	5	☐
Existing time commitments of the staff	1	2	3	4	5	☐ 14

13. In your opinion, how important are each of the following in determining whether an individual is an effective Centre Co-ordinator of Clinical Education (CCCE)?

	Absolutely Essential	Very Useful	Useful But Not Essential	Not Very Useful	Not Useful At All	For Office Use Only
Good communicator	1	2	3	4	5	☐ 15
Well organized	1	2	3	4	5	☐
Is a good clinical therapist	1	2	3	4	5	☐
Is a good educator	1	2	3	4	5	☐
Knowledgeable of clinical education	1	2	3	4	5	☐
Knowledgeable of clinical facilities	1	2	3	4	5	☐
Good interpersonal re- lations	1	2	3	4	5	☐ 21
Good public relations skills	1	2	3	4	5	☐ 22
Experience treating patients	1	2	3	4	5	☐
Experience as a clinician	1	2	3	4	5	☐
Experience (or educational training) in administration	1	2	3	4	5	☐
Flexible	1	2	3	4	5	☐
Tactful	1	2	3	4	5	☐
Enthusiastic	1	2	3	4	5	☐
Personally secure and self-confident	1	2	3	4	5	☐
Interested in his/her work	1	2	3	4	5	☐ 30
Respects clinicians	1	2	3	4	5	☐
Respects school faculty	1	2	3	4	5	☐
Relates well with staff	1	2	3	4	5	☐
Relates well with students	1	2	3	4	5	☐
Keeps staff informed about interactions with the school(s)	1	2	3	4	5	☐ 35

15. In your opinion, how important are each of the following in determining whether an individual is an effective University Co-ordinator of Clinical Education?

(Circle the appropriate response number for each item).

	Absolutely Essential	Very Useful	Useful But Not Essential	Not Very Useful	Not Useful At All	For Office Use Only
A good clinician	1	2	3	4	5	☐ 57
A good educator	1	2	3	4	5	☐
Communication skills	1	2	3	4	5	☐
Public relations skills	1	2	3	4	5	☐
Good interpersonal relations	1	2	3	4	5	☐
Well organized	1	2	3	4	5	☐
Knowledgeable about clinical education	1	2	3	4	5	☐
Knowledgeable about clinical facilities	1	2	3	4	5	☐ 64
Enthusiastic	1	2	3	4	5	☐
Respects clinicians	1	2	3	4	5	☐
Respects school faculty	1	2	3	4	5	☐
Respects students	1	2	3	4	5	☐
A good counsellor	1	2	3	4	5	☐
Is involved in evaluation of the Clinical Education	1	2	3	4	5	☐ 70
Is involved in evaluation of the clinician's clinical teaching skills	1	2	3	4	5	☐
Is involved in Programme planning for clinical education	1	2	3	4	5	☐
Other (Specify) _____	1	2	3	4	5	☐ 73

16. Which of the items below do you consider important to the effectiveness of a working relationship with the UCCE and/or other faculty members?

	Absolutely Essential	Very Useful	Useful But Not Essential	Not Very Useful	Not Useful At All	For Office Use Only
Discussion of student performance	1	2	3	4	5	☐ 5
Discussion of clinic's activities	1	2	3	4	5	☐
Information on curriculum changes	1	2	3	4	5	☐
Receiving feedback from previous students	1	2	3	4	5	☐
Discussions <u>with</u> the students	1	2	3	4	5	☐
Other (Specify) _____	1	2	3	4	5	☐ 10

17.A University co-ordinators of clinical education (UCCE) evaluate their student programmes in various ways.

Indicate which of the following procedures are important to you for an appropriate evaluation of your facility (including the clinical education programme). (Circle those that apply).

*17B. Check Below	Absolutely Essential	Very Useful	Useful But Not Essential	Not Very Useful	Not Useful At All	For Office Use Only
Visits to the facility (by UCCE) ☐ 11	1	2	3	4	5	☐ 17
Discussions with clinicians ☐ 12	1	2	3	4	5	☐ 18
Discussion with the Centre Co-ordinator of Clinical Education ☐	1	2	3	4	5	☐
Discussions with Director of Physiotherapy ☐	1	2	3	4	5	☐
Students' evaluation of the facility ☐	1	2	3	4	5	☐
Other (Specify) _____ ☐ 16	1	2	3	4	5	☐ 22

*17.B. In the above question, check boxes beside those items that are presently used to evaluate your facility and/or student programme.

18. Indicate how frequently each of the following individuals has input into the content of the curriculum of the school affiliating with your facility.

	Always	Usually	Occasionally	Rarely	Never	For Office Use Only
Director of Physiotherapy	1	2	3	4	5	☐ 23
CCCE	1	2	3	4	5	☐
Clinician through CCCE	1	2	3	4	5	☐
Physiotherapist - not a Clinician	1	2	3	4	5	☐ 26

19.A Has your facility ever refused to accept students from a school or schools.

If yes, please check ☐ 27

If no, proceed to part 19.B

If yes, give the reasons for this decision.

19.B Has any school ever refused to place students with your facility?

If yes, please check ☐ 28

If no, go on to Q. 20

If yes, what reasons were given for this decision.

20. Does your facility provide placements for:
(Put coded response in box provided)

Code

1. Students

2. Interns

3. Both students and interns

☐ 29

SECTION III

Centre Co-ordinator of Clinical Education

- your academic, educational and clinical background

21. Number of years of experience as a physiotherapist in a clinical setting.

. 32

22. Number of years of experience as a centre co-ordinator of clinical education.

. 35

23. Are you currently involved in the work of your professional association or other health related agencies?

If yes, please check

☐ 36

24. Number of years of experience supervising physiotherapy students in the clinical setting.

. 39

25. Highest level of academic achievement: Put the appropriate code number in the box provided.

Code

1. Diploma
2. Bachelor's Degree
3. Master's Degree

40

26. How would you rate yourself with respect to each of the following:
(Circle your responses)

	One of My Strongest Areas	A Fairly Strong Area For Me	Not as Sure of Myself as I'd Like to be	For Office Use Only
Clinical Skills	1	2	3	☐ 41
Teaching skills	1	2	3	☐
Supervisory skills	1	2	3	☐
General knowledge of physio- therapy	1	2	3	☐
Knowledge of PT theory	1	2	3	☐
Inter-personal relations	1	2	3	☐
Organization & administration	1	2	3	☐
Clinical research metho- dologies	1	2	3	☐
Other (Specify) _____	1	2	3	☐ 49
				☐ 79
				☐ 5 80

It would be appreciated if you would enclose the following items when returning the questionnaire.

A copy of your job description _____ (enclosed)

A copy of the statement of
objectives for Clinical Education _____ (enclosed)

THANK YOU FOR YOUR PARTICIPATION

26. How would you rate yourself with respect to each of the following:
(Circle your responses)

	One of My Strongest Areas	A Fairly Strong Area For Me	Not as Sure of Myself as I'd Like to be	For Office Use Only
Clinical Skills	1	2	3	☐ 41
Teaching skills	1	2	3	☐
Supervisory skills	1	2	3	☐
General knowledge of physio- therapy	1	2	3	☐
Knowledge of PT theory	1	2	3	☐
Inter-personal relations	1	2	3	☐
Organization & administration	1	2	3	☐
Clinical research metho- dologies	1	2	3	☐
Other (Specify) _____	1	2	3	☐ 49
				☐ 79
				☐ 5 80

It would be appreciated if you would enclose the following items when returning the questionnaire.

A copy of your job description _____ (enclosed)

A copy of the statement of
objectives for Clinical Education _____ (enclosed)

THANK YOU FOR YOUR PARTICIPATION

Curriculum Vitae

Valerie Friesen

Education:

- 1981 Pre-masters in Health Education
University of Manitoba
- 1978 Bachelor of Physiotherapy
University of Manitoba
- 1971 Diploma of Physiotherapy
University of Manitoba

Work Experience:

- October 1983 to Present: Program Director
Day Hospital
Deer Lodge Centre
Winnipeg, Manitoba
- May 1983 to October 1983: Program Assistant
Project to develop an
Identification Protocol
for Childrens' Diseases,
Disorders and Depend-
encies, Faculty of
Education, University of
Manitoba
- April 1983 (Locum): Staff Physiotherapist
Victoria General Hospital
Winnipeg, Manitoba
- January 1983 to
March 1983: Program Assistant
Work-Study Program
Faculty of Education
University of Manitoba
- August 1981 to
December 1982: Lecturer/Clinical
Co-ordinator
School of Medical
Rehabilitation
University of Manitoba

August 1979 to
July 1981

Joint Position:

Lecturer/Clinical
Co-ordinator
School of Medical
Rehabilitation
University of Manitoba

Clinical Co-ordinator
St. Boniface General
Hospital
Winnipeg, Manitoba

November 1978 to
August 1979

Staff Physiotherapist
St. Boniface General
Hospital

March 1973 to
November 1978

Staff Physiotherapist
Canadian Arthritis
Society
Manitoba

July 1971 to
March 1973

Staff Physiotherapist
Kitchener-Waterloo
General Hospital
Kitchener, Ontario

May 1971 to July 1971
(Locum)

Staff Physiotherapist
Municipal Hospitals
Winnipeg, Manitoba