EXPLICATING EXPECTATIONS OF FACULTY AND STUDENTS
IN THE PROFESSIONAL EDUCATION OF PHYSIOTHERAPY

by

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A thesis submitted in conformity with the requirements for the Degree of Doctor of Education
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Explicating Expectations of Faculty and Students in the Professional Education of Physiotherapy
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ABSTRACT

The focus of my research was directed at explicating the expectations of faculty and students as they relate to Physiotherapy education. The scope of expectation involved perceptions of the faculty and students as to various educational elements of the Physiotherapy training.

My research was conducted over a four year period between 1987 and 1990, and included three subsequent Physiotherapy classes and the Physiotherapy Faculty at an Ontario Community College.

Students and faculty were asked to respond to questions pertaining to their expectations of (a) program design,
(b) design of instruction, (c) elements of student learning, and (d) professional issues. The method used to explicate faculty and student expectation involved a matching of responses to questions focusing on aspects of the same academic element.

The results of the study indicated that students and faculty had inaccurate expectations in terms of the same academic issues. Both students and faculty underestimated the level of adaptation which was necessary for students to adjust to the demands of the educational environment. Students had inaccurate expectations of themselves in terms of their ability to process theoretical information and apply theory to practical application. Students also had inaccurate expectation as to their potential for success and positive adaptation to the educational environment.

Faculty had inaccurate expectations of student ability and the effectiveness of the curriculum and instructional design to develop clinical competence and performance in students.

There were also instances where the structure of the academic program did not support the expectations of both faculty and students in terms of supporting teaching and learning initiatives.
Explicit communication of student, instructional and professional expectations, plus the provision of a mechanism for formative feedback amongst students and faculty would allow for a more positive adaptation to academic and professional demands.
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CHAPTER ONE: EXPECTATION IN PHYSIOTHERAPY EDUCATION

Purpose of the Study

The purpose of this study was to explicate discrepancies in student and faculty expectation within the context of the professional education of Physiotherapists, and to consider the implications of these discrepancies on their perception of performance. The focus of the research was directed at providing an opportunity for Physiotherapy students and faculty to reflect and disclose their expectations and experiences as they related to the academic training in Physiotherapy. The ideas of expectation and perception of performance were considered in reference to four areas of student and faculty concern within the Physiotherapy program: (a) program organization, (b) design of instruction, (c) elements of student learning, and (d) professional issues.

Program organization refers to the administrative structure of the Physiotherapy Program. This involves organizational elements such as the sequencing of courses, the allocation of faculty, and policy of promotion. The organization of program design provides the structure within which instruction and learning take place.

The design of instruction involves both a general and individual faculty philosophy of how to teach, and how
students learn best. This includes instructional strategies such as teaching methods, evaluation methods, course content concerns and educational resources incorporated into the teaching/learning interaction.

Elements of student learning involve both the perspective of faculty, and the perspective of the students themselves in terms of academic performance. It includes three areas, (a) the expectation of learning, (b) the perception of learning, and (c) feedback on learning.

Professional issues involve very distinct expectations of faculty and students. Faculty issues centre on their teaching responsibility as both academic faculty and members of the Physiotherapy profession. Student expectations are focused on employment opportunities in the Physiotherapy field.

Covert expectations and discrepant expectations within these four areas have significant impact on student adaptation to the educational environment within the Physiotherapy Program.

It is my belief that if the expectations of faculty and students are explicit and accessible to each party, and the academic program is structured to support formative feedback to students concerning expectation, then there is greater potential for positive student adaptation within the
educational environment.

Initial Research Focus

The idea of *implicit and discrepant expectations* was not the initial focus of my research. My original intention was to consider empirical variables that influenced student performance in the Physiotherapy Program.

In March of 1987, I was asked to attend a meeting of the Physiotherapy Faculty, to present information on learning styles. The Faculty members stated that they were concerned with student performance and were considering possible reasons for student academic problems. In my consideration of possible areas for my doctoral research I had been focusing on the influence of feedback in improving student performance, focusing on a concept that I had termed as conceptual disparity. The basic premise of conceptual disparity was the inequity of conceptual knowledge between teacher and student. How are teachers able to present information effectively to students who have in most cases a more limited conceptual understanding within that discipline? The problem presented by the Physiotherapy faculty seemed to provide a concrete opportunity to pursue my research interests. Perhaps student difficulty could be identified with the disparity of
In my initial contact with the Faculty of Physiotherapy, their concern was that certain students were experiencing academic difficulties. Initially my research plan was a direct response to this concern, trying to identify variables that had implications to student performance. Faculty were also interested in identifying empirical variables to use in improving the process of applicant selection.

A procedure was designed to consider variables which could predict or influence student performance. The original intention statement considered the identification of performance variables which assist or hinder student adaptation to the instruction and evaluation processes of the Physiotherapy Program. A research format was devised to consider variables such as educational history, prerequisite grade point average, learning style information and personality profiles in relation to student performance in the Physiotherapy Program. These variables were chosen after reviewing relevant literature focused on selection and performance in Physiotherapy and allied health fields, and variables which appeared to fit the program focus of problem based learning.

My original research direction became problematic as a result of my investigation of student performance in the
existing Physiotherapy classes. The concerns of faculty regarding students they judged to be experiencing academic difficulties were not substantiated in actual student grades or promotion. There was very low attrition in the program and all students identified by faculty as weak, had passing academic grades. So on what basis were faculty characterizing student academic difficulty? After further discussion with faculty, their concern seemed to represent a subjective evaluation of student professional behaviour. It appeared that they were more concerned with factors affecting the students’ movement toward clinical and professional competence as Physiotherapists, than with traditional academic performance as reflected in grades and promotion.

This concern for professional development seemed to suggest an implicit expectation of student performance not overtly presented in course objectives and academic evaluations, nor verbally communicated to the student.

Refocus of Research

The idea of *implicit expectation* formed a new starting point to consider other expectations that might be present in the academic environment. The faculty were still interested in receiving information that might assist in the
creation of a more valid selection procedure, so the initial research design was maintained over the next three years of the research.

Once the research phase had begun, early feedback from students indicated that they had expectations that were not only implicit, but that were also discrepant. The students' expectations of the Physiotherapy Program were inaccurate in comparison to what they were actually experiencing.

So the research design was altered to retain the initial focus on potential performance variables while refocusing to include the explication of implicit and discrepant expectations. In terms of professional education in Physiotherapy the following questions were addressed.

1. What are the expectations of students?
2. What are the expectations of faculty?
3. Are these expectations congruent or discrepant?
4. What types of behaviours are evident in students and faculty as a result of these expectations?
5. How may the judgment of these behaviours affect the faculty's perception of student performance and student self assessment of performance?

These are the questions which formed the basis of my research investigation.
In day to day life I believe that our actions and beliefs associated with future situations are guided by our expectations. For example, "What will happen at work today?" "What will happen at school?" "How should I structure the meeting I'm chairing today?" In order to make some decisions to allow preparation for these upcoming events, we make certain assumptions as to what we expect will happen. Students and teachers have expectations of what will happen within the educational environment. "What will the exam be like?" "How familiar are students with this new content being taught?" Establishing clear expectations allows students and teachers time and direction in their academic preparation.

This anticipation potentially allows for the best utilization of time and resources when the instructional interaction takes place. Consider the potential problems that may occur however, if people use inaccurate or discrepant information or ideas to formulate their expectations.

Expectation involves an individual's conceptual organization of anticipated outcomes or events. In short; "this is what I think will or should happen." In terms of my research; What do Physiotherapy students and faculty
think will or should happen in reference to specific elements of the educational environment?

The types of expectations considered in my research are academic and professional. Academic expectations refer to what faculty and students think should happen in the classroom or in the clinical setting. What expectations do students have of teachers in terms of instruction and evaluation? What expectations do teachers have of students in terms of performance?

Professional expectations refer to qualities and behaviours that faculty judge are representative of the potential professional Physiotherapist. For example, faculty expect students to be self motivated, accepting of feedback, and able to work both independently and in groups. These expectations are not tied to the explicit curriculum but reflect the values associated with acceptable professional behaviour.

In terms of a preliminary consideration of expectation, I identified four elements of expectation: (a) predispositional factors, (b) expectational antecedents, (c) expectational formulations, and (d) expectational consequences.
Predispositional Factors

Predispositional factors refer to all possible elements that may influence expectation. When we reflect on factors which influence our expectation, we focus on those elements which are important to our understanding of the situation. As such we establish boundaries of consideration. Consider the factors which a student may use to explain expectation of future performance.

"I think I'll do well on the exam, I studied all week."

"I think I'll do well on the exam, the teacher sets easy exams."

"I think I'll do well on the exam, my horoscope is positive."

Students and faculty formulate expectations of the educational environment, based on consideration of certain elements or factors which they see are relevant. The value of my research is to illustrate the predispositional factors of expectation that students and faculty focus on which may impact on their perception of performance. These expectations are often implicit to faculty and students or are difficult to formulate.

There are other possible factors influencing performance which go beyond the scope of my research. For example, I considered some characteristics of the
educational environment which may influence expectation based on constructs present in learning theory, professional education or medical education. It is possible, however, to consider variables such as gender issues, socioeconomic factors, issues of compliance, to mention a few in relation to expectation and the perception of performance. The elements which I focused on in this thesis are based on expectational formulations provided by faculty and students in response to the different inquiry instruments used in my research.

Predispositional factors therefore are the large pool of potential elements which may influence expectation.

**Expectational Antecedents**

Individuals focus on certain predispositional factors when formulating their expectations. Expectational antecedents form the context of the answer to the question *why one expects something*. Why do students expect certain behaviours from teachers? Students and faculty focus on certain predispositional factors when attempting to answer the questions of *why* they expect something.

I will focus on two types of expectational antecedents, (a) implicit antecedents, and (b) explicit antecedents.
Implicit Antecedents.

Implicit antecedents are elements which are unknown to one party in an interaction, or are present but not well formulated, communicated or understood. The starting point of my research was based on the idea that students perhaps were not aware of the professional expectations used by faculty to judge student performance. Faculty were not clear as to the basis of their expectations, which was evident in the difficulty they had in formulating the nature of their concern for student performance. In this example, professional expectation is implicit to the students because they are unaware of its influence on how they are evaluated. Professional expectation is also implicit to faculty because its influence on their perception of student performance is poorly defined.

Explicit Antecedents

Explicit antecedents are the elements which individuals identify as being the basis for their expectation. These elements are dependent on the existing boundaries of consideration which the individual uses to focus expectation.
Explicit conceptual antecedents refer to the conceptual structure of preconceived ideas or schemata resulting from our organization of ideas, facts, principles, and the attribution of meaning to environmental information through the processes of assimilation and accommodation. For example; "I expect teachers to be very directive in their instruction because they have a better understanding of the content being presented". When factual information is not accessible, our expectations are based on beliefs and past experiences. In the example cited, the expectation makes a generalized characterization of all teachers. Access to factual information concerning all teachers is not accessible, so our expectations are based on what we believe should happen in the situation.

Conceptual antecedents are focused on ideology and outcome. Ideology refers to what one believes. The example cited above relating to student expectation of teacher direction in instruction is an example of ideological based expectation. Outcome antecedents involve the cognitive appraisal of personal competence and the evaluation of environmental factors which may influence performance.

Ideological expectation has a tremendous impact on student perception of educational expectations in terms of the type and amount of work required. Ideological expectation also has a major impact on teacher design of
instruction, influencing such areas as amount of material covered, pace of instruction, amount of student work required, and the amount of direct instruction provided.

Outcome expectation is directed at future performance based on anticipated success or failure, or previous experience. For example; "I expect to do quite well in anatomy since I've studied most of that material before at university". In most cases students perceive the program requirements as falling within the range of expectations of academic situations for which they have already demonstrated achievement. Confident in their ability and confident in the academic environment, students anticipate high potential for success in the new academic program.

Problems emerge as students realize that many of their expectations are not accurate. This realization causes students to re-evaluate their ability and their potential for success.

**Expectational Formulation**

Expectational formulation refers to the identification of what one expects. If asked the question; *what do you expect*, the expectational formulation would be the structure of the answer. What do teachers expect to happen in the classroom? Teachers expect students to listen
attentively to the lesson being presented. What do students expect to happen in the clinical setting? Physiotherapy students expect the clinical environment to be structured so that they gradually assume responsibility in the care of patients.

In considering expectation it is important to be aware that by asking students and faculty to identify and explain their expectational formulations they are forced to consider the expectational antecedents which form their foundation and then in turn the predispositional factors. This process is important in explicating implicit expectations. The process may become even more powerful if students and faculty are asked to share the formulations with each other. The process of encouraging students and faculty to identify their expectational formulations and in turn the expectational antecedents which support their expectation, formed the basis for the methodology used in this research.

Expectational Consequences

The final element of expectation is expectational consequence. This refers to the implications of expectation on behaviour. What happens as a result of the expectation? If students expect a multiple choice exam, then they can structure their learning and studying within that context.
If faculty expect students to independently research content areas, then they may not spend as much time covering this content in their instruction. In most cases expectational consequences are the most overt element of expectation.

Expectation therefore involves a complex organization of antecedent, formation and consequence. Expectations however are much like icebergs, the overt behaviours or consequences are the elements seen. The expectational formulations and antecedents often remain hidden. The basic premise of my research is that student and faculty adaptation can be enhanced by broadening the base of information they use to generate expectational formulations through cognitive appraisal and formative feedback.

Explication

My use of the term explicate, in respect to expectation involves two applications. The first application is directed at making implicit expectations explicit. The second application involves making discrepant expectations explicit.
Implicit Expectation

Many of the expectations within the educational environment are implicit or covert. As suggested by Michael Orme (1978):

All of us have had countless experiences both formal and informal, in which we have acted as teachers and as learners. As a result, from childhood onward we approach the teaching process with a number of implicit assumptions and expectations about how people learn and how we should teach. Cultural, student and teacher expectations then influence the process from the onset. (p. 5)

It is important then to illustrate the implicit assumptions which are brought to the teacher\learner interaction. Assumptions brought by the faculty and student affect the expectations which each have of the learning process. My first research concern was to illustrate or bring to light expectations and expectational antecedents that were implicit in the educational environment of the Physiotherapy Program.
Discrepant Expectation

The expectations of faculty and students may not only be implicit, but also in many cases these implicit expectations may be incongruent and discrepant from actual experience.

The expectations identified in this research have different forms. Discrepancy may be based on differences between what students expect and what faculty expect in the same situations. An example would be that students expect faculty to be very directive in the presentation of subject material. Faculty are expected to demonstrate relevant application and clarity in course content organization. Faculty on the other hand feel it is important to reinforce self direction in the student and expect the clarity and content to be organized by the students themselves. Place yourself in the position of the student. What would your reaction be if you expected clarity and organization of course content and were involved with faculty who redirected your questions in such a way that you were forced to develop this understanding through your own learning? If as a student you interpret this redirection within your boundaries of expectational antecedents, as a challenge to your learning, the outcome or consequence may be quite positive. If on the other hand you interpret the faculty's
redirection as a frustration of what you expected, your response may not be as positive.

**Discrepancy of Expectation and Experience**

Discrepancy may be based on variance between expectation and experience. An example would be; "I expected to do poorly on my exam, but when I completed it, I felt quite confident I had done well". The variance is between what is anticipated to happen and the experience of the actual event.

**Discrepancy of Expectation, Experience and Feedback**

A student may feel confident going into an exam, feel quite confident after completing the exam, but feel the grade or feedback received did not reflect their effort or learning. In this case the student evaluation of performance was inconsistent with the faculty evaluation.

**Discrepancy Based on Role Conflict**

There may be discrepancy based on expectations which result from a conflict of roles. For example the faculty may have different expectations as teachers than they do as
members of the Physiotherapy Profession. Faculty as instructors may support the student's freedom to choose the best manner in which to learn. As such they may support student choice of class attendance. As members of a profession they value behaviours in students that reflect professional behaviour. The faculty in my research judged absence from classes as irresponsible behaviour for potential professionals.

Perception of Student Learning

The key to the existence of a problem in the Physiotherapy program centred on two areas of dissatisfaction. One is the concern of faculty in terms of their perception of student performance. The second is the awareness of students, that their experiences of the educational environment were not what they had anticipated.

Faculty have certain expectations of students. These expectational formulations are based on antecedents derived from their complex roles of teacher and professional Physiotherapists. These expectations are not clearly formulated to the students, and are not easily translated into academic requirements. Some students can adapt their learning styles to accommodate these expectations. The students who are unable to understand these expectations and
as such have difficulty adapting, are identified by faculty as having academic difficulties. This evaluation by faculty is based primarily on the expectational consequences perceived in student behaviour.

Students on the other hand have made many decisions concerning the type of educational experience that they are accessing, and their potential for success. These expectational formulations are based on antecedents from past experience in educational environments and program information concerning what the instructional environment will be like within the Physiotherapy program. Once involved in the educational environment, the students find that some of these expectations are not accurate. The differences in expectation and experiences influence student confidence and behaviour.

Literature

What factors structure and influence our expectations? I believe that my expectations are structured by what I believe and what I know. This belief and knowledge develops from my conceptual understanding and my continual interaction with the world around me. In considering expectation we must look at characteristics of what we believe and know, as well as information concerning our
interaction with the environment. It is important to avoid reducing the focus of investigation to one element. In understanding the problems resulting from inaccurate expectation in education we cannot focus solely on the student, the faculty, or the educational environment.

As suggested by Watts (1966) "the scientist, be he biologist, sociologist, or physicist, finds very rapidly that he cannot say what the organism is doing unless, at the same time, he describes the behaviour of its surroundings" (p. 84).

The understanding of the interactions of the student, faculty and the academic environment is key in my research. I was interested in student and faculty perception of the pace of instruction as well as student and faculty expectation of pace of instruction. I was not interested in measuring the phenomena of the pace of instruction. I was interested in the student's self evaluation of ability and faculty expectation and perception of student ability. I was not attempting to measure the student's actual conceptual ability or level of performance.

Examples of interactive frameworks in education and psychology are presented by Hunt and Sullivan (1974), Gagne (1977) and Moos (1979).

Hunt and Sullivan (1974) provide a formula useful in considering educational issues. They suggest that behaviour
is a function of the person interacting with the environment; \( B = f (P + E) \). Restructured within the constructs of expectation that I have identified; expectational outcome is a function of the person's cognitive appraisal of their personal abilities and ideas within the context of their appraisal of elements of their environment. Hunt and Sullivan (1974) suggest that:

The investigation of person-environment interaction forces attention on the process of interaction. Not only must the person and the environment be represented in comparable terms, but the effect of their relation to one another on performance and satisfaction must be spelled out. The relationship between person and environment may be described in terms of matched, optimal or best fit. (p. 20)

The research of R.H. Moos (1979) considers the interaction of two similar systems. One he identifies as the personal system the other is the environmental system. The interaction is considered in terms of the potential for the development of a positive environment for learning. A chart illustrating this model of the relationship between environmental and personal variables and student stability and change is provided in Appendix A.

The key focus therefore is the conceptual organization the individual uses to interpret the interaction.
According to Moos (1979):

Personal and environmental factors influence each other creating a process of cognitive appraisal. Cognitive appraisal is the individual's perception of the environment as being either potentially harmful, beneficial or irrelevant (primary appraisal) and his or her perception of the range of available coping alternatives (secondary appraisal). (p. 11)

Hunt (1971) considers a similar construct in terms of the individual's evaluation of the environment.

A system characterizes the organizational structure through which a person processes information or "reads" events. It is concerned with how information is processed not with the content of the information. Systems also have an important interpersonal component in that they characterize the form of self-other relatedness or interpersonal orientation: how the person conceptualizes himself, others, and the relationship between himself and others. (p. 18)

Moos's idea of cognitive appraisal and Hunt's idea of conceptual system, reflect the elements of expectation which I referred to as explicit expectational antecedents. The individuals judge their interactions with the environment based on their awareness of personal and
environmental presuppositions. The more information available to the individual, the greater the potential for a more positive expectation. To use Hunt and Sullivan's terms, there is a greater potential for "a matched, optimal or best fit" (Hunt & Sullivan, 1974, p. 20). Students appraise the requirements of their academic and professional environment based on expectations of faculty, professionals and fellow students.

In terms of my research, literature was reviewed relating to significant elements composing the environmental and personal systems and their interaction.

Considering environmental variables such as educational theory, information on Medical and Physiotherapy education, and Professional education, gives us information about some of the ideas which influence expectations within the educational environment.

The following matrix graphically represents the interactions within my research.
The key concern is focused on the congruency or accuracy of faculty and student expectation and experience.

Students have expectations of fellow students, faculty and their academic program. How consistent is their experience with their expectation?

Faculty have expectations of students, fellow faculty and the academic program. How consistent is their experience with their expectation?

It is somewhat misleading to suggest that an academic program actually expects something but the designed structure of an academic program involves various criteria which infer expectation. The academic program has a fourteen week semester. This infers the expectation that the course content can be effectively taught and learned
within that time period. Other expectations are products of the structure of the academic environment.

Elements of Environmental Systems

In understanding some of the environmental or program expectations which are present in the academic milieu I considered information in the following areas:
(a) educational theory, (b) professional education,
(c) medical education, and (d) physiotherapy education.

Educational Theory

How do students learn? What is the best way to teach a certain content or skill? How does student learning influence expectation? Reflecting back to Michael Orme's quote, many of the answers to these questions are derived from our experience and remain implicit in our participation in the learning/teaching interaction. Individuals involved in teaching and instructional design can look to learning theorists to provide more information regarding the educational process.

Much research has been directed at attempting to design an appropriate educational environment to maximize student learning. Starting with Skinner (1953) through Bloom
Expectation in Physiotherapy Education

(1956), Bruner (1966), Ausubel (1968), much attention has been focused on identifying significant elements of the learning process.

Through the seventies instructional design was dominated by the theories of Merrill (1977), and Gagne and Briggs (1979) in terms of structuring curriculum to match concept and performance complexity. These perspectives on education have been carried through the eighties by such instructional design theorists as Romiszowski (1981), Scandura (1982), and Reigeluth (1983).

I believe that the focus of concern has shifted from the learner to the content matter to be learned. Although the idea of assessing student learning needs is present in most instructional design theories (Reigeluth 1983), its emphasis appears to be disproportionate to the consideration of content elaboration. Put simply, more time appears to be devoted to what to teach and how best to organize it, than to how well the learner will be able to understand the instruction. There appears to be an implicit assumption that logical structure is sufficient to ensure conceptualization on the part of the learner. This emphasis I believe disadvantages the learner. The learner is asked to respond to a system designed and constructed in many cases independent of consideration of the learner's actual ability. If we refer back to the equation of learning as a
function of the interaction of the student and the environment, the important homeostatic balance is disrupted by overemphasis on the logical construction of concept organization.

One theory which attempts to reintegrate the elements of the person and the educational environment has been identified by M.E. Cheren (1987), in his consideration of transitional structured learning. I feel that this perspective has great application to the learning issues present in my research. Cheren (1987) suggests that:

Educators generally have underestimated what is required for people to move from passive dependent roles as learners to active managers of their own development. It is not a simple role change that can be accomplished with a new outlook and terminology..... Transitional structure is flexible structure capable of being gradually reduced as internal structure, internal skills and a stronger internal context for decision making are developed within the individual. (p. 33)

Cheren's reference to internal processes are the personal elements brought by the student to the instructional interaction. Transitional structured learning refers to the environmental organization of the instructional interaction which supports the conceptual development of the learner. Emphasizing student transition into the learning environment
may lead to increased consideration of the learner in the instructional design process. An important element of this transitional structure would be directed at the communication of expectation through the process of formative feedback.

This process is supported by Abbey (1973):

> It is important that at each stage of the learning process the learner be able to ask for and to receive feedback as to how he is doing, just as you need to get feedback from him as to how you are doing in presenting the material. (p. 35)

However as suggested by Hurt, Scott and McCroskey (1978): "ironically, our experience with teachers and as teachers, has indicated that feedback is rarely if ever effectively controlled and manipulated in the classroom as a teaching strategy" (p. 20).

Within the context of my research there appears to be an implicit assumption that students can adapt to a problem based learning approach to instruction without specific direction from the environment to that process. The significance of this expectation is felt, as suggested by Cheren, in the lack of consideration of learning transition. This may provide some insight into the continual search by physiotherapy educators for valid selection tools to select students who will be successful. It also clarifies the
continual restructuring of content so that students will be able to process the information more effectively. The focus of concern is not directed at the process of learning transition.

Emphasizing faculty consideration of the process of student transition into problem based learning increases the opportunity for formative interaction with the student ensuring the consideration of what Bloom calls "cognitive entry skills". Bloom (1976) defines cognitive entry skills as "those prerequisite types of knowledge, skills, and competencies which are essential to the learning of a particular new task or set of tasks" (p. 32). Without emphasis on student transition, there is the tendency to expect that students either have the prerequisite skills, or the structure of course content allows easy acquisition of prerequisite skills.

Professional Education

Literature directed at professional education has identified the complexity of expectation inherent in the educational process. One factor which has significant relevance to my research involves the consideration of professional education as a socialization process. Singer (1982) suggests that:
Joining a profession is a complex process which involves much more than the acquisition of concepts, information, and skills. It involves joining a culture which has its own values, norms, and language. One's profession tends to get inside oneself and become part of one's identity. (p. 48)

Students entering a professional training program often have professional dreams but academic expectations, and are not prepared for the changes necessary to successfully adapt to the socialization process. Often the expectations of the profession are very subtle or are obscured in academic requirements and students have difficulty interpreting expectations effectively.

Faculty in professional programs have a dual role in teaching the course content and at the same time ensuring the appropriate socialization of professional behaviour and values. This dual role often results in mixed messages to students in terms of what is expected of them. Many of these messages are not overtly communicated. The literature in medical professional education programs repeatedly presents this dichotomy of educational and professional expectation. (Jacobson, 1983; Tidd, & Conine, 1974)

The problems identified by the Physiotherapy faculty seemed to reflect these concerns. The most significant being the question as to whether graduate Physiotherapy
students are prepared to appropriately represent the profession in terms of responsibility and accountability. These concerns however are not well defined. Faculty concern for professional performance therefore remains implicit. They are important to the faculty, but they are not translated into formal expectations of the student, nor are they directly communicated to the student. This implicitness makes student adaptation to the expectation difficult.

**Medical Education**

The information in the literature suggests that medical education has continually struggled with the problem of balancing content and performance issues. It has been important for medical schools to consider the most effective way to assure a certain level of medical content expertise while at the same time addressing student learning needs and professional performance. As stated by the Harvard Faculty of Medicine as early as 1871:

The primary goal of medical education in the eyes of Harvard faculty was not to provide students an encyclopedia knowledge of facts but to foster the student's ability to think critically, to solve problems, to acquire new information, to keep up with
the changing times. (Ludmerer, 1985, p. 52)

When faced with the great magnitude of information being brought forward from medical research and development, as well as obligations to practising hospitals and limited instructional resources, medical programs have focused on ensuring content expertise in their students.

Teaching was authoritarian and paternalistic. Students took rigidly prescribed courses and learned their lessons by rote with retention of the undigested corpus of information serving as the sole end of instruction.... its emphasis on memorization and mental discipline allowed for little critical analysis or independent thought. (Ludmerer, 1985, p.39)

The concern for balance in the theory and practice of medical education is still identified as a focus for professional development. Stemmler (1988) suggests that:

The most urgent reform required in contemporary medical education is a more appropriate balance between the student's need to learn the theoretical basis of medicine and also to become an expert at the practice of medicine. (p. 82)

The presence of this dichotomy of theory and practice in medical education makes the design of effective instruction quite difficult. What emphasis takes priority? Do you focus on information acquisition or effective application?
How are expectations identified in instructional objectives? Here again we have a situation which makes the establishment and appreciation of academic expectations difficult. This lack of clarity of program direction results in poorly communicated expectations.

**Problem based learning.** Traditional medical education has been organized around what has been described as a triune structure of medical instruction. Initially information is structured in terms of general scientific theory. This is meant to form the underpinnings of medical theory. Secondly applied medical information is studied, applying science to specific medical situations. Thirdly students are placed in a practical learning situation where applications of their learning can be demonstrated. As identified by Schon (1987), this approach to learning medical information seemed insufficient preparation for medical practitioners.

The university based schools of the professions are becoming increasingly aware of troubles in certain fundamental assumptions which they had traditionally depended for their credibility and legitimacy. They have assumed that academic research yields professional knowledge and that professional knowledge taught in the schools prepares students for the demands of real world
practice. Both assumptions are coming increasingly into question. (p. 10)

McMaster University in Hamilton has been one of the first medical schools to design and implement a program aimed at providing equal consideration of content expertise and student learning needs. The instructional design associated with the McMaster Medical School has been termed the problem based approach. It is suggested by Barrows (1980) that:

In the problem based learning approach the student takes on a patient problem, a health delivery problem or research problem as a stimulus for learning in areas, subjects or disciplines that are appropriate for the student at that time. (p. 12)

Advocates of the problem based learning approach feel it is the most appropriate approach to medical education when one considers the learning process it supports. Curriculum emphasis on problem based learning moves toward greater concern for the learning process rather than traditional emphasis on content acquisition. Norman (1992) indicates that:

There are small or negative differences between the overall knowledge and competence of students trained by problem based learning and by conventional curriculum. However there are substantial differences related to the retention of knowledge and learning skills....
There is also a strong theoretical basis for the idea that the PBL student may be better able to transfer concepts to new problems and there is some preliminary evidence to this effect. (p. 563)

Based on the ideas proposed in the problem based learning approach it would appear that it provides a process that would respond to the problems of curriculum design that I have been referring to. The problem remains as to the manner in which the components of the problem based learning approach are implemented.

Theorists involved with problem based learning, however acknowledge the change which results from this new learning focus. Woods (1994), suggests that "much has changed in the PBL approach, the role of the teacher, the role of the student, the role of examinations, and general expectations (p. 1-5)".

Physiotherapy Education

It is not surprising that Physiotherapy education reports the same instructional issues as identified in medical education. Van Langenberghe (1988) reports that:

The teaching frequently emphasizes the acquisition of large quantities of factual information rather than critical assessment and appraisal of information. The
course content may not always be relevant to professional practice and there may be little integration of subject matter. The student thus may have difficulty integrating information from various disciplines. Additionally, evidence exists that students when faced with large amounts of factual information coupled with a degree of perceived irrelevancy, may resort to rote learning or memorization in an attempt to reproduce this information...Traditional forms of teaching fail to take into account the process of learning. (p. 522)

Factors present in the predispositional areas of learning theory, professional education, medical education and physiotherapy education have significant impact on student learning. Many of the issues emerging from these areas remain obscure to students, faculty, and program administrators making it difficult to structure a sound academic environment where expectations are clearly communicated to the student.

Elements of the Personal System

What factors do students and faculty bring to the academic situation? Do elements such as ability, prior experience, educational history play a role in student
performance. Gartland (1977) indicates, that the "evidence is equivocal and critical appraisals of admissions research express doubt that any single pre-entry measure alone can predict success" (p. 6).

The specific construct which I examined in attempts to answer these questions of student and faculty perception of performance was expectation.

Much of the research and literature on expectation is focused on the idea of expectancy. There are several theoretical approaches to this construct including; locus of control (Rotter 1966), self efficacy (Bandura 1977), personal causation, (deCharms 1976, White 1959) and attribution theory (Weiner 1980).

The ideas examined in these theoretical perspectives have some application to my research, however they did not seem adequate in terms of dealing with the totality of the situation which I was investigating. Expectancy theories focus almost exclusively on performance and don't appear to address the issues of conceptual understanding. They focus primarily on outcome expectational antecedents. The various expectancy theories, like locus of control and attribution are very useful in helping us to understand how students identify reasons for certain outcomes. Additional information is necessary to understand the conceptual basis for student perception of outcome and
the development of ideological formulations. It was therefore necessary to consider theoretical perspectives that although not labelled as expectation, represented similar constructs. This involved a consolidation of behavioral expectation with conceptual expectation much like the psychotherapeutic movement of Cognitive-Behavioural Therapy.

Cognitive Psychology.

I feel that cognitive theorists have dealt with the idea and significance of expectation without identifying their work with this label. The application of cognitive psychology has application to the appraising of the individual's environment in general as well as specifically to an educational environment. As suggested by Kelly (1955):

People analyze events in terms of similarities and differences and to do this they build up idiosyncratic sets of personal constructs. A construct is a device for construing or interpreting perceptions.... These constructs help to shape behaviour, but people also alter constructs to make sense of experience. (p. 241)
William Perry (1980), also provides a structure or scheme by which individuals make sense of their experiences. The meaning of a given moment in experience emerges from a highly complex and selective interaction of forms derived from two pools: (1) the pool of those forms or orderings a person brings to the moment as expectancies; (2) the pool of those forms humanly discernable as inherent in the environment..... The meaning emerging from the interaction will bear varying degrees of congruence and incongruence with the forms of expectancies the person brought to the experience. The degree and nature of the incongruence will determine the work a person has to do to "make sense" of the experience. The work to make sense consists of some balance between two processes... assimilation and accommodation. (p. 42)

This "work" is the adaptation of the student. My suggestion is that instruction should involve a more balanced approach considering how the work is accomplished rather than just what the content of the work is.

Much of the work of cognitive psychologists like Piaget, Bruner, and Ausubel involves the identification of a conceptual scheme which provides the basis for the assimilation and accommodation of new information specifically within the academic environment.
Ausubel (1964) suggests that:

The human nervous system as a data processing and storing mechanism is so constructed that new ideas and information can be meaningfully learned and retained only to the extent that more inclusive and appropriately relevant concepts are already available in cognitive structure to serve a subsuming role or to provide ideational anchorage..... It is impossible to conceive of any instance of learning that is not affected in some way by existing cognitive structures and this learning experience in turn results in new transfer by modifying cognitive structure. (p. 257)

Davis (1983), also identifies the idea of cognitive structure in terms of student learning.

Our past learning and experience are organized into knowledge structures or cognitive structures. A cognitive structure .... is comprised of both a content and an organization. The existence of a cognitive structure is the principle factor influencing learning. New material is subsumed or incorporated into an existing structure by anchoring the new ideas to the old. (p. 221)
This cognitive structure infers expectation in that the most recent organization of ideas within this structure form the basis for my ideation and belief. Initially students seek information which reinforces their organization of ideas. Once a level of confidence is achieved they can begin to adjust to new environmental input. What happens however if environmental information disrupts the confidence level of the learner? What behaviours will be demonstrated in response to this reduction in student confidence?

It is my belief that the presence of a conceptual scheme develops elements of expectation in faculty and students. This conceptual scheme determines the boundaries which student use to identify expectational antecedents. There is a tendency to approach a new learning task with an assumption or an expectation of assimilation or relatively easy accommodation. This expectation is often misleading to students until their psychological structure of knowledge is sufficiently sophisticated as to be comparable to that of an expert. Until this situation occurs, students tend to project the responsibility to ensure accommodation onto the faculty.

Current research into student adaptation and problem based learning still reference the ideas of Ausubel, Perry, and Piaget. Newer references within the literature are directed at new applications of the basic work of these
The concept of differing conceptual structures related to performance expectation prompted consideration of literature on clinical reasoning problems and expert/novice reasoning (Hillerbrand 1985). Expert/novice research draws attention to the clinical reasoning process and considers the application of the conceptual process to the exploration of student performance issues. In terms of my research the construct of novice/expert reasoning had application only in reinforcing the inaccurate expectation teachers may have of students for the ease of processing information.

Research also suggests that there is a tendency of faculty to underestimate the level of accommodation required by students to process material effectively, when they design their instruction. Goranson (1976) gave teachers various tasks to perform and monitored the time required to complete the tasks. Once familiar with the concepts teachers were asked to identify a reasonable time for colleagues to complete the same process. The findings of the research indicated that teachers identified times which were less than the time it took them to become familiar with the same information. As suggested by Goranson (1976):

Students are ignorant but not necessarily stupid. A major task for the teacher is to accurately diagnose the students' ignorance.... Paradoxically, the greater
the teacher's expertise, the greater the distortion. Teachers who have fully mastered the problems of their discipline can be expected to under judge the difficulty that these problems pose for their students. (p. 5)

Outcomes of the Interaction of Systems

Moos (1979), identifies a concept within his model of the interaction between environmental and personal variables called cognitive appraisal. (see Appendix A)

Moos suggests that, "cognitive appraisal and activation are mediating variables involved in the process of person/environment interaction and they influence effort to adapt (coping) and the results of such effort, (outcome)" (p. 6).

I feel that the concept of cognitive appraisal is central to my research. Moos however makes no attempt to expand in any way on providing more detail to the concept or indicating where this concept was derived. In a sense it is presented as self evident. In my mind cognitive appraisal is the process whereby students and faculty evaluate informational and conceptual antecedents in the formulation of their expectation. This formulation then influences their behaviour. When students and faculty use inaccurate
information or generalize expectation based on conceptual beliefs there is the potential that their actions will not contribute to the goal that they anticipated.

In dealing with behaviour and personality Frederick Perls talks repeatedly of the individual's interaction with the environment. By focusing these ideas on an educational environment we find that there is much useful information derived. Perls (1973), suggests that:

Man seems to be born with a sense of social and psychological balance as acute as his sense of physical balance. Every movement he makes is in the direction of establishing equilibrium between his personal needs and the demands of his society. His difficulties spring not from the desire to reject such equilibrium but from misguided movements aimed toward finding and maintaining it. (p. 27)

And also:

If through some disturbance in the homeostatic process the individual is unable to sense his dominant need or to manipulate the environment in order to obtain them, he will act in a disorganized and ineffective way. (p. 18)

This perspective is useful in considering the interaction and ineffective behaviour resulting from the mismatch of expectation I am considering in my research. The
ineffective and disorganized actions of students are the cues which alert the faculty to student difficulties.

William Perry (1970), also provides useful ideas in considering the interaction of students with the educational environment. Perry suggests that when considering cognitive development and the interaction with an academic environment, a person may suspend, nullify or even reverse the process of growth. When presented with a situation where students and faculty are aware of an inaccuracy or discrepant expectation the process of academic growth may be suspended. Students and faculty must wait until there is some clarity to know how to proceed. Perry identifies these responses as temporizing retreat or escape. This perspective is useful in considering the behaviour of students in response to a challenging educational environment.

The third theoretical framework which provided a useful context to examine my research involved the work of John Keller (1983). His work is focused on the effect of educational design on student motivation. Keller suggests that four elements are necessary for student motivation. These elements are interest, relevance, competence and success. It is particularly useful to consider which of these elements of motivation are in question for those students who are perceived to be in difficulty. Students
and faculty will have difficulty identifying these elements in an environment which is inconsistent or discrepant.

The final perspective useful in identifying student behaviours in terms of their attempt to adapt to the educational environment, is provided by Woods (1994). Wood's ideas are useful in that they focus specifically on student adaptation to the problem based learning environment. In his book *Problem Based Learning: How to Gain the Most from PBL*, Woods equates the student adjustment process with the process of grieving a loss. Woods introduces the student to the idea of adapting to the problem based focus by suggesting that:

> We get very comfortable with routine. Many things happen when a change is made. If we institute the change, we are impatient, excited and work hard to make it work. If the change is forced on us them we basically grieve. We suffer most of the symptoms of someone who has lost a family member through death.

(p. 1-1)

Woods draws on the work of Taylor (1986) identifying an eight step grieving process whereby a student moves through the stages of 1. shock, 2. denial, 3. strong emotion, 4. resistance and withdrawal, 5. surrender and acceptance, 6. struggle, 7. sense of direction and 8. integration.
The focus of Woods in dealing with change seems to be understand it and adapt to it. Within limited time constraints in academic programs, I think it is necessary for the academic environment to provide sufficient structure to support this adaptation.

From the literature it appears that the environmental variables central to the structuring of effective physiotherapy education are quite complex. These variables have been the focus of concern for many years. On the other hand the personal variables demonstrate the theoretical potential for students to adapt to this complex environment. Some students adapt well within the environmental expectations while other students struggle. The concerns of faculty seem to be focused on the struggle of students and the inability of the educational environment to adjust to the unsuccessful efforts of student adaptation. It is my suggestion that the difficulty of student adaptation is symptomatic of the discrepancy between student expectation and faculty expectation and their experience of the educational environment.

Frequent searches of contemporary publications and literature on student learning and expectation have not provided any new insights into the phenomena as identified in my research.
The ideas of Cheren, in terms of transitional structured learning appear to have had little influence on current research direction. Contemporary investigation and research in medical and physiotherapy education focus primarily on restructuring and reorganizing the learning environment to support the problem based learning design. The concern for the conceptual process by which students attempt to adapt to this new learning focus and the responsibility of the educational environment to support this adaptation remain obscure.

Range of Applications of Explication of Expectation

The collection of data for this dissertation covered the time period from 1987 to 1990. The preparation to present the findings has covered a six year period beyond the original research. Though the specific context of the research has ended, I am surprised that the construct of discrepancy of expectation is continually evident in my work. The influence of student and faculty expectation on instruction is a useful perspective in organizing faculty and curriculum development. It is also a useful perspective in organizing initiatives for student success and development. As a counsellor in the Community College community, I attempt to assist faculty in realizing
expectational disparity in the design of their curriculum and instruction. Recently a Nursing faculty approached me with similar issues raised by the Physiotherapy faculty. Her concern was student apprehension in the clinical setting. When I asked her to reflect on her own training and identify the point at which she felt confident, she realized that the level of confidence she was expecting did not occur in her own practice until she had graduated and was employed in a consistent medical environment.

The idea of discrepant expectation is also useful in helping students improve their academic performance. Often students direct their efforts based on what they think they should know. It is helpful for students to consider their approach to learning based on what the teacher expects of them as instructors and members of the various professions they represent. Students seem able to appreciate the course content better when they realize the applications of what they are learning to the various vocations for which they are training.

One of the most startling realizations for me during this research, was that elements of the thesis process I was involved in to complete the requirements of my doctoral degree were similar to the issues I was investigating in the focus of my research; teacher \ student expectation. As a doctoral level student, I felt quite confident that I
understood the requirements and expectations necessary for the completion of the dissertation.

My expectations of the process in which I was involved were inaccurate. First, I underestimated the time required to complete the requirements of the thesis. Secondly I felt confident that I could complete the requirements while working full time. Thirdly I felt confident that I understood the requirements of completing and documenting my doctoral research.

These expectations all proved to be inaccurate. The thesis process proved to be much more complex and demanding than I had anticipated. Why did I have these unrealistic expectations? Where did my context for evaluating these educational issues develop from? The answer is my experience, belief and understanding of the educational environment. My unrealistic expectations involve inaccurate information, inaccurate self assessment and inaccurate understanding of the thesis process.

It would appear from my research and experiences, that the ideas of implicit and discrepant expectation have application to many situations. Consider expectations between employer and employee, health provider and patient, government and citizen, consumer and business, and interactions within families. If we can make expectations explicit and available to both sides of the human
interaction, there is greater potential for accurate understanding and positive adaptation.
CHAPTER TWO: METHOD

Participants

Students

The study was carried out at a community college in an urban area of Ontario. Eighty one physiotherapy students were involved in the research. There were twenty eight first year students in the 1987-88 physiotherapy class, twenty eight first year students in the 1988-89 class and twenty five first year students in the final year, 1989-90. All eighty one students completed a student information questionnaire and participated in a classroom discussion.

In the final year of the data collection, 1989-1990, ten students were chosen from among the students within the three years to be interviewed. The breakdown of students involved in the interviews was: four students from third year, three students from second year and three first year students.
Faculty

There were ten faculty members who participated in the research. Four of these faculty were instructional faculty, in that they were responsible for the teaching of classroom theory. One of the four instructional faculty was the Chairperson of the Physiotherapy Program, so access to administrative expectation was possible. Six faculty were clinical instructors who taught the students within the various hospital settings. All ten faculty were involved in the workshop which I conducted.

The four primary faculty as well as four additional clinical instructors were interviewed. These faculty members participated voluntarily.

Information concerning the participants in the study is provided in Table 2.
Table 2

Participant Information

<table>
<thead>
<tr>
<th>Students</th>
<th>Number of Students</th>
<th>Male</th>
<th>Female</th>
<th>Age Range</th>
<th>Mean Age</th>
<th>Age Mode</th>
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<td>7</td>
<td>21</td>
<td>19-29</td>
<td>23</td>
<td>23</td>
</tr>
<tr>
<td>1988</td>
<td>28</td>
<td>9</td>
<td>19</td>
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<td>23</td>
</tr>
<tr>
<td>1989</td>
<td>25</td>
<td>5</td>
<td>20</td>
<td>20-28</td>
<td>21</td>
<td>23</td>
</tr>
<tr>
<td>Total</td>
<td>81</td>
<td>21</td>
<td>60</td>
<td>-</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Faculty and Clinical Instructors</th>
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<th>Faculty</th>
<th>Clinical Instr.</th>
<th>Male</th>
<th>Female</th>
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</thead>
<tbody>
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<td>4</td>
<td>6</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Interv.</td>
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<td>4</td>
<td>4</td>
<td>1</td>
<td>7</td>
</tr>
</tbody>
</table>

Methods for Collecting Information

Each method used to collect the research information focused on the four topical areas of expectation; (a) program organization, (b) design of instruction, (c) perception of student performance, and (d) professional issues.
Student Information Questionnaire

A questionnaire was given to all eighty-one students in the first month of their attendance in the Physiotherapy Program within the three years of the research. A copy of the questionnaire is provided in Appendix B.

Format

The questionnaire consisted of twelve questions. These questions were utilized to generate information relating to the four topical areas of expectation.

Program organization. Questions 6 through 8 focused on the students' expectations related to the organization of the Physiotherapy program. These questions focused on (a) reasons they chose to apply to the specific college program, (b) student expectation of the program, and (c) their perceived accuracy of their expectations.

Design of instruction. Design of instruction refers to areas such as, (a) faculty role, (b) form of instruction, and (c) pace of instruction. Questions 9 and 10 provided information relating to the role of the faculty. Question 8 provided information on both form and pace of instruction.
Perception of student learning. Question 12 was used to identify the areas that students focused on in anticipating success in the program.

Professional issues. Information concerning professional issues was provided in questions 11, and question 5.

Other areas. Questions 1 to 4 were used to gather information on the educational history of the students in the research.

Procedure

Questionnaires were completed in class, within the first two weeks of September, in each of the three years of research. Student responses from the questionnaires were summarized into common responses based on the topic areas identified. Questionnaire responses were noted and tallied if they involved comments relating to the four topical areas. Percentages identified in the Results section represent the frequency of responses amongst students to specific academic issues. For example if a student responded to question number 7 identifying the self directed learning format as a factor that motivated them to apply to
the physiotherapy program then the response was noted under instructional design. The frequency of student responses in that area were tallied and converted to a percentage. In terms of the actual research 36% of the students made a similar response. (See Table 14) Appendix F provides details of the research categories.

Classroom Group Discussions

Format

The classroom discussion was an open forum for students to discuss expectations that they had of the Physiotherapy Program and Profession. The classroom discussion gave students an opportunity to discuss expectations and some of the misconceptions which they had held prior to entering the program. The discussion centred primarily on the expectational area of program organization.

Procedure

The classroom discussion took place at the end of September in each of the three years of the research. These discussions were audiotaped and then transcribed for reference to establish expectational formulations. Information from these discussions was summarized around the
central topic of their expectations and the accuracy of their expectations. It is interesting to note that the topics or issues did not vary from year to year.

Faculty Workshop

A three hour faculty workshop was held January 9, 1990. This date was set to coincide with a scheduled faculty meeting so all participants were available to take part.

Format

Exercises and open discussion were used to focus the direction of the workshop. A sample of the workshop exercises is provided in Appendix C.

In the first exercise I posed the situation of another university developing a physiotherapy program. Faculty were asked to provide information to help shape the design of this new program. The purpose of this exercise was to identify some of the key elements which faculty attribute to quality in a professional training program. I was interested in what factors faculty would identify in terms of student selection, instruction and evaluation.

The second exercise asked the faculty to identify students within the three years of the program and to
classify them into three categories: students that they as faculty expected to do well; students expected to have difficulties; and, after the semester was over, students whose performance was a surprise. Faculty were then asked to identify qualities of the students in each group. This task of identifying student characteristics was repeated for all three years of students in my research.

The focus of the workshop was to identify faculty members' understanding of the process of professional Physiotherapy education and also their expectation of student performance.

Procedure

The faculty workshop took place in the final year of the information collection portion of the research. Faculty completed the exercises, and discussed the outcomes as a group. Faculty submitted written summaries of the exercises completed and the discussion during the workshop was audio taped. The written responses of the faculty were summarized under topic areas and the audio tape was transcribed and summarized in the same manner.
Student Interviews

Student interviews allowed me the opportunity to direct questions to the students pertaining to the four topical areas of expectation. A sample segment of a student interview is provided in Appendix E.

Format

The intent of the interview was to explicate student expectations in terms of various elements of the Physiotherapy program. This included areas such as the amount of work, type of instruction, type of evaluation, access to faculty and academic support services, design of curriculum and overall their expectation to the education of professional physiotherapists. Students were asked to identify their initial expectations and also to identify how accurate their expectations were and the effect that it had on their confidence in completing the training.

There were two criteria used in the selection of students to be interviewed. The first criterion was to ensure a balanced representation from each year of the program.

The second criterion focused on data from the student information questionnaires. Students were chosen based on
questionnaire responses which appeared to reflect self direction and independence on one hand or dependence in terms of adaptation to the academic environment on the other. Some sample responses which reflected a strong potential for adaptation were:

I expected the program to be a lot like university and it took a little while to adjust, but once I understood what they were trying to do it seemed very positive. (SQR 28)

There is more group learning than I had expected, and also a lot of learning that is done by your own research. (SQR 37)

I expected the course to have group work. I now realize that the group work will involve a more cooperative type of interaction to satisfy all members rather than just working together for the sake of finishing an assignment. (SQR 9)

Five students were approached who, based on questionnaire responses, identified factors which seemed to reflect a dependence upon the environment. Some sample response are:

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1Refer to Table 4 for an explanation of the Data Coding Summary.
I expect the faculty to teach me everything I need to know in order to become a successful physiotherapist. ... The faculty will supply me with the information. (SQR 31)

Faculty will prepare us for all aspects of this job..knowledge, skill etc. (SQR 4)

I expected to be involved in relevant Physiotherapy courses but find myself frustrated that after being in school for so long I have to waste yet another year while I'm eager to be finished and get into the real world. (SQR 23)

Procedure

Student interviews took place in the months of January and February 1990. This represented a point where all three classes were within the physiotherapy program. The interviews represented students from first, second and third years of the program. There were four students from the third year, three students from the second year, and three students who were enrolled in first year. This allowed for a consideration of changes students had experienced since their first year in the program. Students were interviewed
individually and the duration of each interview was approximately an hour. Interviews were audiotaped and then transcribed for evaluation. Comments from the interview were summarized into relevant topical areas.

Faculty Interviews

Format

Faculty interviews allowed me the opportunity to direct questions to the faculty pertaining to the four topical areas of expectation. Portions of a faculty interview are provided in Appendix D.

The intent of the interview was to explicate faculty expectations in terms of various elements of the program. This included areas such as the amount of work, type of instruction, type of evaluation, design of curriculum and their overall expectation about the education of Professional Physiotherapists.

Procedure

Faculty interviews were held in January and February, 1990. The faculty members were interviewed individually. The duration of each interview varied from one hour to an
hour and a half.

Faculty interviews were audiotaped and then transcribed for evaluation. Comments were summarized in relevant topical areas related to program design, instructional design, student learning and professional issues.

A chronological outline of the research procedure is provided in Table 3.

Table 3

Chronological Outline of Research

March 1987
Preliminary discussion with faculty
Examine relevant literature on Physiotherapy student selection.

May 1987
Gather admission information on Sept 87 class using application information.
Applicant selection for September takes place

Sept. 1987
Meet with class of 87 to explain research
Have class sign research authorization
Administer student information questionnaire

Sept. 1987
Group class interview in terms of expectation.

May 1988
Gather admission information on Sept 88 class using application information

Sept. 1988
Meet with class of 88 to explain research
Have class sign research authorization
Administer student information questionnaire

Sept. 1988
Group class interview in terms of expectation.

May 1989
Gather admission information on Sept 89 class using application information

(table continues...)
Sept. 1989
Meet with class of 89 to explain research
Have class sign research authorization
Administer questionnaire
Sept. 1989
Group class interview in terms of expectation.
January - March 1990
Faculty Workshop
Individual faculty interviews
Individual student interviews
March - 1990
Consolidate research information

In this study direct quotes from all sources were coded for identification as follows.

Table 4
Data Coding Summary

1. Student information questionnaires . . (SQR#)
2. Faculty workshop exercise . . . . . . . (FWER#)
3. Faculty workshop discussion . . . . . . (FWDR#)
4. Faculty interview . . . . . . . . . . . . (FIR#)
5. Student interview . . . . . . . . . . . . (SIR#)

The numbering of the references was maintained so that all students and faculty retained the same identification number in each aspect of the research. Therefore sources for faculty workshop (FWR 2) and faculty interview (FIR 2) are the same instructor.
CHAPTER THREE: RESULTS

What do Physiotherapy students expect of their education? What do Physiotherapy faculty expect in terms of their instruction of students? What expectations are present in the formal structure of the academic program? How consistent or discrepant are these expectations? How consistent are their expectations with their experiences? This is the information I attempted to discover in my research.

The results of the research will be presented under the following topical headings: (a) student expectation, (b) faculty expectation, and (c) discrepancy. These headings will be used to examine expectations in the areas of:

1. Program Organization
2. Design of Instruction
3. Elements of Student Learning
4. Professional Issues

The percentages in Tables 5 through 16 represent the responses most frequently given by faculty or students in respect to information, expectations and experiences as they relate to elements of the four academic areas identified.
Since responses from the student questionnaire and the faculty workshop represent a range of expectational formulations, all responses were included in the calculation of percentages. Though only one student or faculty made a certain response to a question, it may represent an expectational antecedent which others have not yet realized or formulated.

Program Organization

Expectations related to the organization of the Physiotherapy program were focused on three areas, (a) the admission process, (b) curriculum design, and (c) faculty allocation.

Admission Process

Student Expectations

There are two issues related to student expectation of their performance, and faculty expectation of performance in the Physiotherapy program based on the admission process. Initially students reported that they were quite optimistic having been selected by the College in terms of admission. The admission procedure for entry to the Physiotherapy
program is quite extensive. It begins with a consideration of academic performance in prerequisite subjects, continues through standardized testing in reading and general reasoning and finally involves a personal interview. Student who were successful in gaining admission felt quite a sense of achievement.

Being selected for the course was a real shock. It was great though to think I was one out of all those applicants that was chosen. (SIR 9)

I tried to cover all my bases by applying to other programs just in case I wasn't accepted. I didn't want to have nothing to do if I didn't get accepted. (SIR 4)

When I found out that there were about fifteen hundred applications for twenty five spots I felt like there was no hope. I feel lucky things worked out. (SIR 2)

The second expectation reflected a sense of apprehension because of potential problems in the admission process. One student identified the situation in that, "students consciously or unconsciously misrepresent their skill in the interview process. They use ideas they know the interviews are looking for. Basically we'll say anything to get accepted" (SIR 8).
Students who knew that in some ways they misrepresented themselves were somewhat concerned with their ability to succeed. One student suggested that: "In a way it was very scary that I would have to live up to what I had told them in the interview. I mean I had done things in groups but not that much" (SIR 5).

Faculty Expectation

There is an inconsistency amongst faculty and program administration in terms of the expectation related to student admission and selection. The initial focus of faculty interest in my research was directed at the identification of variables of student success which could be incorporated into selection procedures. There was concern that the admission procedures as practised did not work as well as they should. In terms of selection for the program, one faculty felt that the interview did not effectively measure the students' ability to work effectively in groups. The statement made was: "selection interviews should be directed at evaluating students' ability in group process not just experiences with groups. We need to ask questions beyond superficial group involvement" (FIR 4).
Other faculty were more concerned with effectively teaching the students rather than better methods of selection.

There is a message from the profession that there is a stereotyped Mohawk grad. So if students accepted with a variety of academic experiential backgrounds graduate with common skills and abilities then the process is working. We are successful in graduating qualified people. We would like to do it better. (FIR 1)

**Discrepancy**

In terms of student expectation there are those students who view the admission process as arduous and as such draw from it a certain expectation for academic success. Information from the literature concerning the limitations of the admission procedure suggest that using the procedure as a predictor of academic success is not sound judgement (Gaitland, 1977; McGinnis, 1984). Other students realize that in a certain sense they falsified information as to their ability and are concerned that this deficiency at some point may become evident in the program.

The faculty discrepancy of expectation impacts on the direction taken in terms of program reform. The question
being: Do we focus on improving selection or improving instruction? Faculty seem divided in this respect.

Curriculum Design

Faculty and students share concerns with the manner in which the curriculum of the Physiotherapy program has been organized.

The curriculum design focuses on such elements as, (a) how the courses are sequenced, (b) direct relevance of course content, and (c) ratio of applied and theoretical course.

Student Expectation

The focus of expectations of the majority of students in terms of program design was directed at their involvement in an environment that emphasized applied Physiotherapy information. Most of the students had been involved in other academic programs and chose the Physiotherapy program because of its practical application. Recalling information in the Review of Literature section, the triune structure of traditional medical education reserved student involvement in applied courses until later in the academic program. The Physiotherapy program appeared to students to be an
alternative to the traditional approach to education.

The expectation of applied courses is reflected in the responses to four of the questions on the questionnaire. The initial question concerned the educational history of the Physiotherapy students. Table 5 identifies the educational background of the students within the research.

Table 5

<table>
<thead>
<tr>
<th>Academic Background of Physiotherapy Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Students who had graduated from a post secondary program. .................. 70%</td>
</tr>
<tr>
<td>2. Students who had graduated from a relevant post secondary program. ........ 67%</td>
</tr>
<tr>
<td>3. Students who had completed some post secondary education .................. 21%</td>
</tr>
<tr>
<td>4. High School graduates (no post secondary) .................. 11%</td>
</tr>
<tr>
<td>5. Mature Applicants .................. 2%</td>
</tr>
</tbody>
</table>

Table 5 indicates that seventy percent of the Physiotherapy students had graduated from a Post secondary institution. Also sixty seven percent of the students had graduated from relevant programs such as Kinesiology, Biology or Physical Education. There is an expectation here
that the Physiotherapy program could provide some opportunity that their previous educational achievement could not. This specific expectation is made clear in the responses of students to the question concerning the factors motivating them to apply to the Physiotherapy program.

Table 6
Factors Motivating Student Application to Physiotherapy Program

<table>
<thead>
<tr>
<th>Factor</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Job in the medical profession</td>
<td>88%</td>
</tr>
<tr>
<td>2. Job in physiotherapy</td>
<td>70%</td>
</tr>
<tr>
<td>3. Job working with people</td>
<td>55%</td>
</tr>
<tr>
<td>4. Profession providing job satisfaction</td>
<td>37%</td>
</tr>
<tr>
<td>5. Job that is well paid</td>
<td>33%</td>
</tr>
<tr>
<td>6. Profession providing job security</td>
<td>31%</td>
</tr>
<tr>
<td>7. Profession linked with athletics</td>
<td>26%</td>
</tr>
<tr>
<td>8. Parents were Physiotherapists</td>
<td>1%</td>
</tr>
</tbody>
</table>

The responses to this question make it clear that a majority of the students expected the Physiotherapy program to provide them with access to employment opportunities.

In terms of program design another element related to their expectation of applied course work is reflected in
their initial expectations of the program.

Table 7

Student Initial Expectation of Physiotherapy Program

<table>
<thead>
<tr>
<th>Expectation</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Applied courses immediately</td>
<td>92%</td>
</tr>
<tr>
<td>2. A lot of work</td>
<td>76%</td>
</tr>
<tr>
<td>3. Small classes</td>
<td>38%</td>
</tr>
<tr>
<td>4. Independent study</td>
<td>23%</td>
</tr>
<tr>
<td>5. Group work</td>
<td>7%</td>
</tr>
</tbody>
</table>

The expectation of applied classes is quite evident. Some sample responses from the questionnaire which focus on initial student expectation of the program are as follows.

I was expecting to come to the program and immediately start on physiotherapy. But I found I had to redo the basics before starting anything new. (SQR 4)

It's frustrating that only eight & a half hours out of thirty two are used for physio courses. (SQR 17)

I am disappointed by the number of courses offered which are not directly related to physio. The
worth of the course content is disappointing.

(SQR 64)

Truthfully, I had wanted to start into professional information. I hadn't quite expected to be on and on with Physics and Chemistry. (SQR 31)

Student expectation of curriculum design is also reflected in the students' perceived accuracy of their expectations.

Table 8
Perceived Accuracy of Student Expectation of the Physiotherapy Program

1. Expected fewer service courses . . . . . . 67%
2. Expected greater credit for prior learning 50%
3. Didn't expect as much group work . . . . 48%
4. Didn't expect self directed learning . . 40%
5. Accurate as to the amount of work . . . . 40%
6. Expected a slower pace . . . . . . . . . 25%
7. Didn't expect to travel to different areas 12%
8. Accurate expectation of affiliation
   with fellow students . . . . . . . . . . 10%
9. Expected course to be more physically challenging . . . . . . . . . . . . . . . . . . . . 1%
Some sample responses to the question of accuracy of expectation are as follows.

All of my initial expectations were of the profession not the course per se. (SQR 2)

Not exactly accurate, as I didn't realize a basic Chemistry, Physics and Statistics course was part of the curriculum. (SQR 35)

My expectations were not very accurate. I expected to start more courses directly related to Physiotherapy. I expected more guidance from faculty in terms of course work. (SQR 48)

I was hoping for needed knowledge, but the course was set up for people graduating from high school. I feel some teachers treat you like you just came out of high school. (SQR 22)

It is interesting to note in Table 8, concerning the responses to the question of accuracy of expectation, that students felt for the most part that they had anticipated the amount of work, but not the type of work required.
Concerns about program organization were repeated in the classroom discussions. Students who voiced their opinions focused primarily on the same areas that were identified in the individual questionnaires. The primary areas of concern were (a) frustration with not doing more applied physiotherapy courses in first semester, and (b) use of non Physiotherapy faculty in service subjects (for example physics).

The first expectation is reflective of the responses to the student information questionnaire. The second expectation will be covered later.

Concern for the program organization was identified by students in the individual interviews.

I thought the Physiotherapy Program would provide me with a direct application to potential employment, but you really have to discipline yourself to get through the service courses. (SIR 3)

Coming from University I expected a much more focused program, I saw it as an opportunity to gain some applied skills and knowledge. It took quite a while before we got to do Physio skills and practice. (SIR 7)
It didn't make much sense to me that we had to do all that Physics, Chemistry and other courses, since it never got applied to Physiotherapy. (SIR 9)

So the expectation of students can be summarized in the idea of immediate involvement in learning the theory and skills of physiotherapy.

**Faculty Expectation**

In terms of curriculum structure, faculty expectation is supportive of student expectation. Faculty value learning through application. This was identified in the workshop and in the faculty interviews.

The emphasis of faculty was clearly directed to supporting the student's ability to apply theoretical information to practical situations.

Responses in the workshop to the question of how the faculty envisioned the process whereby students develop professional Physiotherapy skills are summarized in Table 9.
Table 9

**Process by Which Faculty Envision Student Development of Professional Physiotherapist Skills.**

<table>
<thead>
<tr>
<th>Process</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Integration of theory and application at all levels</td>
<td>50%</td>
</tr>
<tr>
<td>2. Early interaction with patients</td>
<td>37%</td>
</tr>
<tr>
<td>3. Multiple resources for instruction</td>
<td>25%</td>
</tr>
<tr>
<td>4. Teach the ability to problem solve within content format</td>
<td>12%</td>
</tr>
</tbody>
</table>

In reviewing the interview responses of faculty in this area there was for the most part agreement that the actual program design was not what students expected.

In our first year there isn't a clear flow of program direction because of the number of service courses the students are involved in. (FIR 3)

Our program has an emphasis on problem based learning; but we're really not a problem based curriculum. We put so much store in our students defining the problem when essentially we should be looking at the processes the students use in problem identification. (FIR 1)
Discrepancy

There is agreement between faculty and students in terms of expectation of program organization. The student is still faced with inconsistent expectation however the source of the discrepancy is not reflected in teacher expectation. The discrepancy in expectation related to curriculum organization involves the difference between the students' expectation of the program and their actual experience. Students expected courses and instruction which clearly introduced them to elements of the practice of Physiotherapy.

Faculty support the problem-based learning philosophy. Traditional college organization of courses however makes the restructuring of curriculum design to support student expectation and instructional philosophy difficult.

Allocation of Faculty

The third focus of student expectation directed at program organization is identified in the allocation of non Physiotherapy Faculty to teach service courses. In this case Engineering Faculty were assigned to teach Physics and Chemistry to Physiotherapy students.
**Student Expectation**

Student expectation in the area of faculty allocation represented their need to have the structure of the content to be learned grounded in Physiotherapy application.

I was frustrated with the number of service courses. Instructors in these courses don't apply the theory to Physiotherapy. They lack the understanding of the process Physio students are being indoctrinated into. (SIR 9)

My expectations of the program were inaccurate. The courses start more slowly with traditional teaching methods. It makes it difficult to see how it all fits. (SQR 26)

**Faculty Expectation**

Expectation of allocation of faculty was not directly identified by faculty as an issue, but is inferred in the characteristics of the optimal curriculum design identified in the faculty workshop, as mentioned in the previous section.
Discrepancy

The discrepancy of faculty allocation is not a matter of variance between faculty and student expectation, but is reflective in the variance between faculty and student expectation and the ability of the formal educational environment to respond to learning needs. The expectation of students and faculty is that instruction should provide clear learning opportunities related to applications of physiotherapy. Applied instruction is the expectation of students and is voiced in the expectation of faculty in terms of preferred design of instruction. The traditional curriculum design does not provide an opportunity for the fulfilment of either expectation. Table 10 provides an outline of the courses within the first semester of the Physiotherapy Program.
Table 10

Outline of Physiotherapy Program in First Semester

The formal course outline is as follows

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH 111 Life Science (Chemistry)</td>
<td>3</td>
</tr>
<tr>
<td>CH 112 Lab</td>
<td>2</td>
</tr>
<tr>
<td>PT 101 Human Biology</td>
<td>6.5</td>
</tr>
<tr>
<td>PT 106 Intro to Physiotherapy</td>
<td>1</td>
</tr>
<tr>
<td>MA 125 Mathematics</td>
<td>4</td>
</tr>
<tr>
<td>LL 888 Language Studies</td>
<td>3</td>
</tr>
<tr>
<td>PE 109 Physics</td>
<td>4</td>
</tr>
<tr>
<td>SS 205 Behavioural Science</td>
<td>4</td>
</tr>
<tr>
<td>PT 402 Massage</td>
<td>2</td>
</tr>
<tr>
<td>PT 811 Critical Appraisal</td>
<td>1</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

Hours per week

(Source: College Calendar 1987 - 88)

Physiotherapy faculty are assigned to teach only PT subjects. So students have ten and a half hours out of thirty three and a half hours with Physiotherapy faculty. Or conversely, students have twenty three hours with faculty who are not Physiotherapists and who are not involved in the problem based focus of instruction.

Design of Instruction

Expectations related to the design of instruction involved the following areas of concern: (a) the role of faculty, (b) small group learning, (c) problem based
learning, (d) the pace of instruction, and (e) feedback and evaluation.

Role of Faculty

Student Expectation

Initially when students commence their studies in Physiotherapy, their expectations of faculty reflect a very traditional teacher centred framework. This is evident in the students' questionnaire responses to questions concerning their expectation of faculty and their perception of their roles as students. The student responses in terms of expectations of faculty are summarized in Table 11.

Table 11
Student Expectation of Physiotherapy Faculty

1. Pass on information . . . . . . . . . . . . 80%
2. Be accessible to students . . . . . . . . 58%
3. Provide guidance as to what is expected . . . . . . . . . . . . . . . . . . . . . . . . 54%
4. Provide practical training . . . . . . . . 30%
5. Provide quality instruction . . . . . . . . 24%
6. Get to know students . . . . . . . . . . 1%
The primary response from the student questionnaire to the expectation of the faculty's role, is that faculty will be very directive. The main expectation of the role of faculty was to organize learning and pass on accurate information.

"The faculty should set out guidelines as to what should be learned and they should be available to give advice and direction to the student when required. (SQR 20)

Faculty should provide adequate guidance as to what is expected of the student. (SQR 37)

I expected more guidance from teachers. (SQR 10)

I know now that I have to dig to get information out of instructors and that I am on my own. (SQR 41)

Expectation of faculty is implicit in the students' expectations of their personal responsibility in the learning process. The responses of students seem primarily focused on controlling external influences so as to devote their primary time to learning the material. Student responsibility in their interaction with faculty is seen as very passive.
Table 12

Student Perception of Their Role in Physiotherapy Program

<table>
<thead>
<tr>
<th>Perception</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do the work assigned to me</td>
<td>60%</td>
</tr>
<tr>
<td>2. Acquire the knowledge presented to me</td>
<td>47%</td>
</tr>
<tr>
<td>3. Support other students</td>
<td>22%</td>
</tr>
<tr>
<td>4. Conform to what is expected</td>
<td>5%</td>
</tr>
<tr>
<td>5. Put school as my only priority</td>
<td>1%</td>
</tr>
<tr>
<td>6. Integrate the material</td>
<td>1%</td>
</tr>
</tbody>
</table>

Some sample responses to the question of student perception of their role were:

I'll have to sacrifice my social life, because I need to put school as my number one priority. (SQR 33)

My role is to take in everything that is taught, sort out what I feel is valid and chuck out the garbage (SQR 78)

My role is to take everything in that is taught to me. To listen carefully to my instructors and follow through on their instruction." (SQR 48)
My role is to "conform" to what is expected no matter how unreasonable it sometimes may be, because after all the grades you get are all that really counts. (SQR 52)

Student expectation of faculty is also implied in the report of their accuracy of expectation of the Physiotherapy program. The felt accuracy of expectation of students is presented in Table 8.

Forty percent of the students did not expect to be involved with as much self directed learning which may imply the expectation of more teacher directed learning.

Responses in the student interviews presented an interesting divergence. Some students voice the same concerns for faculty direction as identified in the questionnaire. There are, however, some students who had become comfortable with the non directive role which faculty felt was important. As noted in Chapter 2, questionnaires were completed by first year students in the first month of their program. The interviews however involved students who had been involved in the program in their second, fifth or seventh semester of the program. It is interesting that the dependent students viewed faculty as basically "not doing their job". Independent students perceive faculty involvement as a challenge to develop their own abilities.
In the interviews some of the dependent students responses were:

Faculty provide individual attention however I don't always feel it is welcome. (SIR 4)

Our questions seem to be always evaluated by teachers as to how prepared we are. (SIR 3)

Responses by the self directed students reflect a different view of the faculty role.

They (faculty) are saying "you really have to go after it yourself." But this doesn't mean that faculty are not available. They will never leave you in the dark. (SIR 8)

Faculty are very explicit in terms of course objectives and expectations. They make you aware of the program's specific approaches and direction. (SIR 4)

Faculty Expectation

Faculty are very conscious of maintaining their resource role in responding to students. This position is not well communicated to the student. In the faculty interviews the instructors were aware of the difference in
what students expected and what they as faculty felt were positive responses to student requests for assistance.

There is a difference between a student requesting teacher feedback for direction and self assessment and the request for information to reduce the amount of effort necessary to pass an evaluation (FIR 6)

At a point in the program students are implicitly given the message that they are on their own and to receive intervention you must come with very clear ideas of needed input. (FIR 9)

**Discrepancy**

Here we see a discrepancy in student and teacher expectation as it relates to the role that faculty play in instruction. Students started their Physiotherapy program with very clear expectations that faculty will be very directive and involved in student learning. Some students maintain this expectation through most of the program. Others are able to adapt to the faculty's facilitative role. Those students who lack the background for self direction and who have an expectation of faculty to provide direction, not surprisingly interpret faculty behaviour as
disruptive to student learning. As suggested by one student in the interview:

Faculty send us mixed messages. They say find out the information, be accurate, but don't expect us to provide the direction. If students have questions they are expected to use other resources to find the answers. (SIR 3)

Small Group Learning

Student Expectation

Students were not anticipating that their academic environment involved as much group learning. This was reflected in their responses on the questionnaire to their accuracy of expectation. Forty eight percent of the students reported that their expectation of the amount of group work was inaccurate. This is identified in Table 8.

Concern for the amount of small group activity and the effectiveness of group activity were issues raised by the five students interviewed who lacked self direction. Although identified as an area of inaccurate expectation by a large number of students, small group activity seemed only a concern for the non self directed students.
Expectation in Physiotherapy Education

Students entering the Physiotherapy program do not have an adequate understanding of what group learning involves. Their expectations are inaccurate in terms of amount of group learning and also its form.

I realize now that group learning is more than just sitting around discussing ideas presented in class. (SIR 9)

I had high expectations of small group learning but now I realize that group learning is often negative due to the group dynamics. The group becomes a living structure. (SIR 7)

Faculty assume that if the group process doesn't work well it's the group's fault. They don't consider other reasons like how hard the work is. (SIR 1)

Faculty Expectation

Faculty see small group instruction as very important in student learning. Responses to the faculty workshop question on how instructors structure their courses to develop clinical skills in students are provided in the next table.
Table 13

**Faculty Perception of the Process of Teaching Students**

**Clinical Problem Solving**

<table>
<thead>
<tr>
<th>Approach</th>
<th>Faculty Perception</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Use a problem based curriculum</td>
<td>75%</td>
</tr>
<tr>
<td>2. Teach with strong clinical application</td>
<td>62%</td>
</tr>
<tr>
<td>3. Structures classes as small group tutorials</td>
<td>50%</td>
</tr>
<tr>
<td>4. Structure curriculum to foster self direction</td>
<td>37%</td>
</tr>
</tbody>
</table>

The importance of the group process to education in Physiotherapy is supported by one faculty member who suggested:

> Group learning is not just an opportunity, it is also a responsibility. It involves a responsibility to the group regarding instruction. Group members instruct each other. Sometimes however this process introduces more dynamics into the learning process than the student is used to. (FIR 2)

Another faculty member provided the context of evaluating student behaviour in small group activities.

> When I look at the behavioural elements of these sorts of behaviours, I would look for the students who,
literally within the first one or two tutorials are not functioning in the group. They are either very withdrawn, beyond the point of coming across as unsure of participating, such as a quiet personality or there are those who are fairly disruptive in a group. Often their participation is not focused. Its just a lot of noise. (FIR 2)

Some faculty are aware of student struggle to involve themselves in small group learning. As suggested by one faculty, "Some students resent cooperative learning, that is responsibility for their own learning and the learning of others in their group. They want to be in control of their own learning only" (FIR 2).

**Discrepancy**

In terms of expectation related to group learning there are two discrepancies. The first discrepancy relates to the amount of time in the Physiotherapy program that is devoted to group activity. The second discrepancy relates to the structure of the group process. Student adaptation to the process of group learning is much more difficult than adapting to the frequency. Student involvement in group learning in the Physiotherapy program involves a change of
learning commitment. As suggested by one student:

Learning is no longer linear. You're not just looking after yourself. You feel the peer pressure daily. No it goes beyond pressure there is the sense that you are responsible for their learning. (SIR 9)

**Problem Based Learning**

Adaptation to the problem based form of instruction is another critical area in student development within the Physiotherapy program. Structuring learning behaviours within an environment with new requirements and expectations can be quite a challenge.

**Student Expectation**

Initially students have very great expectations of problem based instruction. On the questionnaire 36 percent of the students identified the problem based instruction as an important element in their selection of the Mohawk program.
Table 14

Factors Influencing Student Choice of a Training Institution

<table>
<thead>
<tr>
<th>Factor</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem based learning approach</td>
<td>36%</td>
</tr>
<tr>
<td>Admission criteria (not just marks)</td>
<td>28%</td>
</tr>
<tr>
<td>Location of school</td>
<td>23%</td>
</tr>
<tr>
<td>Emphasis on clinical</td>
<td>23%</td>
</tr>
<tr>
<td>Accept mature applicants</td>
<td>7%</td>
</tr>
<tr>
<td>Recommended by a Physiotherapist</td>
<td>7%</td>
</tr>
<tr>
<td>Less emphasis on science subjects</td>
<td>5%</td>
</tr>
<tr>
<td>Only place that accepted me</td>
<td>1%</td>
</tr>
</tbody>
</table>

In the interview, students indicated that they expected a much more gradual indoctrination into the problem based learning format.

I think in this program there is a place for problem based learning, but you still have to have some things taught to you. There is a wide scope of things to know. You could get so focused that you miss the big picture. (SIR 7)

They expect us to process information and decide what is applicable and not, but we don't have a background to be able to process that way. We don't know whether
we have taken a topic far enough or not. (SIR 2)

We're not just learning information, we are learning a system to gather information. Which is what they told us we'd be coming into. Some people seem to adjust to this system much easier. (SIR 9)

Faculty Expectation

Faculty place high value on the problem based approach to instruction. Exercise one completed in the faculty workshop asked faculty to identify how they would structure their courses in the development of clinical problem solving in students. The response from faculty included the need for a problem based curriculum.

Table 15

Process Faculty Use to Develop Student Clinical Problem Solving Skills

<table>
<thead>
<tr>
<th>Process</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem Based Learning</td>
<td>60%</td>
</tr>
<tr>
<td>Small Group Tutorials</td>
<td>30%</td>
</tr>
<tr>
<td>Introduction to Cognitive theory</td>
<td></td>
</tr>
<tr>
<td>and Learning Style</td>
<td>20%</td>
</tr>
<tr>
<td>Emphasize formative evaluation</td>
<td>20%</td>
</tr>
<tr>
<td>Evaluate critical thinking</td>
<td>10%</td>
</tr>
</tbody>
</table>
Discrepancy

The discrepancy in expectation of adapting to a problem based focus of instruction involves theoretical misconceptions as well as usual faculty expectations. The Physiotherapy program as well as individual faculty expect students will have a relatively easy transition into this approach to instruction. Theorists supporting the problem based approach present it as a natural choice by students in terms of their learning.

Barrows (1980) states that:

The student is motivated by internal rewards of learning....This produces a different climate in medical school. The students are "turned on" constantly, they assist each other, an informal collaborative relationship with faculty ensues. In addition their learning is motivated by personal satisfaction, which will always be present, even when grades and passing exams are no longer an issue.

(p. 16)

Based on student response on the questionnaires and in the interviews, the transition to problem based learning is not as easy a transition within the Physiotherapy program. Concern with performance within this approach has serious effects on student confidence and effort.
Pace of Instruction

Pace of instruction involves two variable; teaching pace and conceptual pace. Michael Orme (1978) suggests that teaching pace is "the rate at which the teacher uses stimulus variance techniques such as, movement, gesture, rapid shift in focus ..." (p. 21). Conceptual pace on the other hand refers to the "rate at which lesson content is covered" (p. 22).

Student Expectation

Student expectation of conceptual pace of instruction is evident in the questionnaire responses in terms of their accuracy of expectation. Student responses are summarized in Table 8.

As indicated twenty five percent of the students felt their expectation of the pace of instruction was inaccurate.

Some of the student interview comments in terms of pace of instruction by students were as follow.

We are going through anatomy a lot faster than I ever thought possible. (SIR 6)
The introduction to the process is quick, but I guess it's as gradual as it can be under the circumstances. (SIR 9)

Faculty Expectation

Faculty felt that there was insufficient time to adequately cover material. One instructor indicated that "the pace of the program does not allow enough repetition to support student learning. We cover a topic once and then we're on to the next" (FIR 8). Another faculty indicated; "we don't have time to review prerequisite information and also complete the course objectives" (FIR 3).

Discrepancy

The discrepancy of expectation for students involves the anticipated pace of instruction and the students' experiences of how quickly course content is presented.

The discrepancy of expectation for faculty is between the pace of instruction which faculty believe is appropriate to support student learning and the expectation of the amount of course content they are expected to cover.

The time necessary to process the theory and learn the skills of a Physiotherapist is an important concern. The
expectational discrepancy in relation to conceptual pace of instruction is between students, faculty, theoretical ideals and the formal structure of the program. Students expect more time; faculty expect more time; the theoretical basis of problem based learning identifies the need for time. However the program structure does not allow the fulfilment of these expectations. There is pressure to maintain certain clinical standards and a perceived need to ensure a certain skill level prior to entry into the clinical environment.

The learning process though self directed, cannot be self paced because mastery levels are dictated by accreditation, community standards and the profession. We have to ensure a certain level of ability due to our responsibility to the hospitals and clinical settings. (FIR 2)

Feedback and Evaluation

Student Expectation

Student expectation of feedback is tied very much to their expectation of faculty role. Students expect feedback from faculty to be focused, direct and supportive of their learning.
The student's sense of self evaluation of performance is drawn from their experience within the academic environment. Student concerns with evaluation was focused on the lack of clear parameters from faculty for which to prepare for evaluations. As suggested by a student "you never know how far to take a topic or whether you have researched in enough detail, until the exam" (SIR 7).

Faculty Expectation

Faculty focused on issues of feedback and motivation in terms of their perception of student performance. Students who are academically weak perceive the motivation to change as external; an expectation of the teacher. In doing so all attempts at change are often erratic, non-developmental, and don't foster growth in the student. (FIR 2)

Good students are confident enough to risk requesting feedback and are willing to communicate ideas that initially may not be well formulated. (FIR 3)

Strong students take feedback as motivating. Weak students take feedback as evaluative. (FIR 4)
People who do not perceive themselves as being in difficulty are not motivated to change. Feedback from teachers is usually perceived as a threat and as such change is superficial and not internalized. (FIR 8)

Discrepancy

Students would like feedback and evaluation to be instructive, but they perceive it as solely evaluative. Interestingly enough faculty have a similar expectation of feedback. The key to the discrepancy is related to how to ensure feedback is instructive. Students expect faculty to ensure this process through greater direction to students. Faculty however expect students to ensure this process through greater involvement in self directed learning.

Elements of Student Learning

Student Expectations

Student expectation of success in the program is based on the admission process as suggested earlier in the program design section, the academic success that they have experienced in the past, and the anticipation of a positive learning environment. Once students sense the decline
in their academic performance or are provided with feedback from faculty in terms of performance, they realize their expectations may have been inaccurate. This situation was summed up well by one student who stated "for the first time in my life the possibility of failing was real" (SIR 4).

The student's sense of self evaluation of performance is drawn from experience within the academic environment.

The pace of instruction, the indirect role of faculty, the pace of the semestered program and the lack of familiarity of the student with content areas all add to the concern of students in terms of content competence.

**Faculty Expectation**

Faculty expectation of student learning in terms of performance is made clear in the workshop exercise in characterizing good students, weak students and surprising students. Faculty expectations are summarized in Table 16.
Table 15.

**Faculty Characterization of Student Learning**

A. Faculty Characterization of Students they expected to be successful

1. Highly motivated .................. 90%
2. Self directed ........................ 60%
3. Accepts feedback well ............. 50%
4. Well prepared for class .......... 30%
5. Takes appropriate risks .......... 20%

B. Faculty characterization of students they expected to struggle

1. Not prepared for class ............ 60%
2. Unable to problem solve .......... 50%
3. Doesn't participate in class .... 50%
4. Takes feedback defensively ....... 40%
5. Not self directed ................. 30%

(Table continues...
C. Characteristics of students whose performance surprised faculty

Positive performance

1. Adapted well to program expectations . .  70%
2. Responded well to feedback . . . . . . .  40%
3. Confidence level developed with time . .  30%
4. Developed stronger communication 
   skills . . . . . . . . . . . . . . . . . . . .  20%

Negative performance

1. Demonstrated potential but didn't 
   prepare for class . . . . . . . . . . .  50%
2. Problems working in their group . . . .  40%
3. Poor attendance . . . . . . . . . . . . .  20%
4. Refused to change in response to 
   feedback . . . . . . . . . . . . . . . . .  20%

Information from the faculty workshop and individual faculty interviews continued to restate the initial problem focus. The phenomenon of faculty sensitivity to student performance was continually stated. During the faculty
workshop and interviews, I had the opportunity to challenge the faculty to expand on the initial problem focus. Faculty initially identified the problem as a concern for students experiencing academic difficulty. Within the workshop and during the interview, faculty continued to struggle with defining the problem more accurately. "Maybe that's what we're concerned with. Maybe we're trying to take that "hunch" (that a student has problems) and make it more definable" (FWDR 8).

In terms of student performance the initial focus of faculty concern for academic achievement was expanded to include both professional and conceptual concerns. When faculty had the opportunity to examine their expectations more closely performance issues aligned more with professional behaviours and conceptual abilities.

We seem to have a "hunch" about a student who has behaviour patterns that somehow in our "professional wisdom" we identify are not physio behaviours. And then the other context is a cognitive one where you have students that fall into two categories. One is the student who is academically bright but can't reason and the student who appears academically weak and has difficulty reasoning. (FWDR 2)
Faculty also voiced a sense of helplessness within the program design in terms of dealing effectively with the performance of students they felt were in academic difficulty.

Once we have identified a weak student the group tends to isolate that student and reinforce the weak student's withdrawal. Faculty also "carry" weak students in that they tolerate the behaviour having no vehicle in the early part of the program to act on it or their hunch. As such we initially reinforce learned helplessness. (FIR 2)

**Discrepancy**

There is a discrepancy of expectation between student anticipation of performance and their experience of success in the Physiotherapy program.

There is also a discrepancy between faculty expectation of student performance and their perception of student performance.

The combination of student response to admission procedures and attempts to accurately assess their potential ability within the academic environment results in confusion for the student. The students expect rather easy adaptation to the academic environment in that they see it only
moderately different from situations where they have been successful in the past. The academic environment of the Physiotherapy program reflects significantly different expectation than those students are familiar with. Based on the responses of faculty the expectation in terms of student performance are grounded in a professional expectation for problem based self directed learning.

Professional Issues

Expectations of faculty and students in terms of professional issues were focused on two areas: (a) employment and (b) role conflict. Student expectations were directed at areas of employment. The student focus of expectation of the Physiotherapy Profession is directed at their understanding of the environment which they will be working in upon graduation.

Faculty focus of expectation related to Physiotherapy profession is directed at the perception of their role in the professional education process. Faculty were concerned more with the conflict of representing both the learning institution and the physiotherapy profession.
Student Expectation

Student expectation of the Physiotherapy profession was based primarily on the anticipation of employment. This is suggested by responses on the student information questionnaire. Table 5, reflected this situation in the overwhelming focus on employment as the motivating factor for their application to the Physiotherapy Program.

I wanted a career in the medical field where I would be responsible for diagnosing and giving treatment but that didn't involve the extent of commitment as a physician. (SQR 34)

When I broke my leg, I had to go through Physio. It seemed to be a good job which allowed you to help people and you got to make a difference. (SQR 77)

Physiotherapy seemed to be a profession where I could get a job in an area that I was interested in. (SQR 64)
Faculty Expectation

This was not an issue in terms of differences in expectation. Faculty are, however, aware of the unrealistic expectations which students have of future work within the Physiotherapy Profession. One faculty indicated that, "some students have problems in clinical when they are faced with the realities of working in the profession. Their actions have effects on real peoples lives. The awareness of this responsibility is sometimes quite devastating" (FIR 2).

Discrepancy

There is a discrepancy between students' expectations of employment opportunities in the Physiotherapy field and the actual opportunities available to student upon graduation.

The initial application of expectational discrepancy in terms of professional expectation is the incongruity between student expectation of the profession and actual elements of the Physiotherapy profession. Students envision employment in clinic settings working with minor injuries such as sports related conditions. Actual employment opportunities involve positions in chronic care, pre and post operative care as well as care for the terminally ill. This involves
a different working climate and level of responsibility.

**Role Conflict**

**Student Expectation**

Students do not demonstrate any awareness of the conflict of roles within the professional education program.

**Faculty Expectation**

Faculty focus of expectation related to the Physiotherapy profession is directed at the perception of their role in the professional education process.

Faculty expectation is organized around the process of structuring Professional expectation into the educational design. This expectation is primarily concerned with the ethics and responsibilities of being a professional. This process, however, is not very overt. The process of teaching professionalism within an academic environment is also not very easy to accomplish. As suggested by one faculty, "we as faculty recognize a repertoire of behaviours which we feel are foundations to professional performance. Some students just don't fit that mould at first" (FIR 5).
The translation of professional expectation into academic situations is not an easy transformation. "The professional process is sometimes contrary to educational methodology" (FIR 3). "We are often not clear in our attempts to translate professional behaviours into the educational environment" (FIR 7).

**Discrepancy**

The discrepancy of expectation of professional issues related to role conflict involves the faculty's attempt to organize an educational environment based on two sets of criteria. This discrepancy is well stated by one faculty:

I think that one of the things that may be mismatched is that often students come into our educational environment looking for an educational experience, when to some extent what we are is a professional school. So there is a whole acculturation process that goes on which includes the types of things we have been talking about (in the workshop) which are over and above in some ways the knowledge aspect. One of the critical things for P.T. and O.T. is the professionalization process which may sometimes be contrary to educational methodology. What I mean by that is that if you bring people in just for the
educational process your mandate is educational; "Everyone has the right to an education". And yet what we are saying is "no no no no" because you're going to be a health professional we want these additional attributes. (FWR 2)

Summary of Results

Information from the research suggests that there are discrepancies in expectations and experiences of faculty and students. Discrepancies were identified in the following areas.

Program Organization

1. Students and Faculty expect higher student performance based on the student's successful completion of the admission process. Both students and faculty are surprised by student academic difficulties.

2. Students expect to be involved more quickly in direct Physiotherapy courses. However their initial program is made up of 75% service courses.
3. Students expected a small group, teacher directed, problem based learning program, focusing very directly on the practice of physiotherapy. Student experience in the first semester, however, was of a traditional, triune approach to the instruction of medical education with little application.

4. Faculty also value early integration of Physiotherapy theory and practice and are frustrated with the traditional curriculum structure.

5. Students expected for the most part that their instructors would be members of the physiotherapy profession. Student experience however involved the situation where many courses within semester one and two were taught by non physiotherapy instructors who did not link course content to professional training.

Design of Instruction

6. Students expected a very directive, supportive faculty. Their experience however involved a faculty who felt it was their responsibility to maintain an indirect, facilitative role as a way of fostering student learning.
7. Students expected a classroom experience which involved instruction which was slower paced, more directive in nature with emphasis on learning not evaluation. Their experience however was of an environment where they, as students, were in many cases responsible for the direction of their learning, where the pace of instruction left little time for in-depth learning and an environment that seemed always to be evaluating them in some way.

Elements of Student Learning

8. Students anticipated great success in the Physiotherapy program. This expectation is based on prior performance in previous academic environments and the anticipation of instruction that grounds the student in physiotherapy application. Students however experience an environment that initially is not grounded in application and the few applied courses are structured so differently from previous academic settings that the idea of a reduced level of student success becomes a possibility.
9. Students enter the Physiotherapy program with expectations of the profession that are focused on employment responsibilities where they are dealing with high profile but low stress situations primarily in the area of sports medicine. Their experience and feedback from faculty makes it clear that employment is most likely in low profile, high stress situations within hospitals in areas of pre and post operative care or treatment of chronic and terminally ill patients.

10. Faculty expect students to develop academically and professionally within the Physiotherapy program. Faculty experience of students however is that often they do not demonstrate the ability to make professional judgements.
CHAPTER FOUR: DISCUSSION

What happens to student performance, if there is discrepancy between the expectations of teachers and students? What happens if the expectations are covert or implicit? What happens if the structure of the educational environment does not support student or teacher adaptation? The introduction of this paper included a quote from Michael Orme who indicated that "we approach the teaching process with a number of implicit assumptions and expectations about how people learn and how we should teach." (Orme 1978, p.5) It is my opinion that implicit expectations make performance in the academic environment very difficult. It also follows that implicit and discrepant expectation may also be factors in other interactional environments such as employment or interpersonal circumstances. A logical consideration of student learning would be to ensure the explicitness of these expectations.

The framework to discuss discrepancy of expectation in Physiotherapy education will be covered under the following headings; (a) Characteristics of Discrepancy, (b) Source of Discrepancy, (c) Implications to Perception of Performance and (d) Relationship to Literature.
Discrepancies of Program Organization

This discrepancy involved three areas of concern identified by students and faculty. The first relates to the process of selection which students complete in gaining admission to the Physiotherapy Program. The second is the organization of the curriculum. And the third is the process of allocation of faculty to teach within that curriculum.

Entrance and Adaptation

Characterization of Discrepancy

The admission process within the Physiotherapy program is used as a source of information by students and faculty. Faculty and students anticipate performance based on the fact that students have been successful in completing the admission process. Discrepancies related to the anticipation of student performance involve those expectational antecedents which students and faculty draw on to anticipate performance in relation to their actual perception of student performance.

Students anticipate little need for adaptation into the
new academic environment other than in terms of the quantity of work which awaits them. The form of the academic environment however requires considerable change in response to its student centred learning focus.

Faculty anticipate that students will require little assistance in adaptation based on the students previous educational history and the value identified with the problem based curriculum design.

Source of Discrepancy

Students draw from previous academic experience, and successful completion of the admission process to anticipate their potential for success. Academic success in previous educational environments, expectation that the admission process involves valid criteria, and a naive understanding of problem based learning, give students a false sense of confidence in terms of necessary adaptation to the academic environment.

Faculty use their confidence in the admission procedure, experience with previous students and their confidence in the design of instruction to judge student potential achievement.
Impact on Perception of Performance

Student perception of a potential problem in terms of their success and potential success, results from their interaction with an academic environment that is significantly different than the one that they had anticipated. The structure of the program is different. Faculty perceive their role differently. The class environment is more challenging in terms of pace and structure than expected.

Students realize that prior academic experience and successful completion of the selection procedure is not a sufficient basis on which to judge their potential. Students need to adapt their expectation, building on past academic experience but directing their energies at adapting to this new academic environment.

Faculty perceive students struggling with adaptation who have previously had quite successful performances in other disciplines. Student seem to have different expectations of them as faculty. Students also seem to experience difficulty in the classroom environment.
Relationship to Literature

The concept of expectancy is an appropriate construct to consider when viewed in the overall framework of cognitive appraisal of student learning. Student concerns as to whether they will succeed or not, and how much control they have over the outcome are very important.

Literature on admission to physiotherapy and allied health programs repeatedly identifies problems with the structuring of a valid admissions procedure. Without this valid measure students and faculty are provided with inaccurate information related to the potential for student learning. Gartland (1977) suggests that: "The evidence is equivocal and critical appraisals of admissions research express doubt that any single pre-entry measure can alone predict success" (p. 6). Peat, Woodbury and Donner (1982) indicate that:

While it has been shown that a relationship between previous and future academic performance does exist, there is less data to support the argument that a positive relationship exists between academic performance prior to admission and clinical performance within health science programs. (p. 211)
McGinnis (1984) indicates that:

The G.P.A. has obvious relevance as a predictor of academic success because it represents the same sort of behaviour one is trying to forecast. Studies indicate however that there is little correlation of grades to clinical internship or professional performance.

(p. 55)

Research studies indicate a relationship of prior academic performance and academic performance within physiotherapy programs, have been conducted with traditional physiotherapy curriculum. There is no evidence that this relationship will be evident in a problem based environment. If students and faculty had more accurate information on the matching of student ability and program expectation there could be better understanding of the changes necessary to promote student adaptation to the educational environment. Students need accurate information concerning the process and amount of change necessary for adaptation to occur sooner.
Curriculum Structure

Characterization of Discrepancy

The specific issue of student expectation with respect to the structure of the curriculum is the difference between projected information from the College, and student experience once they have become involved in the Physiotherapy program. The projected program information is most often informal or inadvertent. The discrepancy is between the students' expectation of a self directed, problem based approach to the instruction of Physiotherapy and the actual traditional triune approach which was still reflective of the program design.

In most cases, students admitted to the Physiotherapy program, had come from more traditional academic programs at university such as Kinesiology, and Biology, with expectations of involving themselves in a program with greater practical application to employment.

Source of discrepancy

The source of the discrepancy of expectation of program design, is the continual development of instructional
philosophy within the Physiotherapy Program without the simultaneous adaptation of the course curriculum. It would be similar to attempting to installing a new engine in an antique car. The initial design of the car was not such as to support the complexity and potential present in the newer engine.

The traditional triune design of medical education does not support the new ideology of medical instruction. This situation is supported by Schon's perception of the needed change in the university-based school's approach to professional education.

Implication to the Perception of Performance

In terms of student perception of their own performance, the impact of their experience of a program quite different from their expectations affects their confidence in their program choice. Questioning their decision to pursue study in Physiotherapy, their motivation to fulfill academic requirements diminishes. The students question the usefulness of their academic work.

Faculty are aware of the initial struggle of students, but focus on the selection procedure as the key to improving the problem. The faculty see student performance as not
meeting their expectations. The way the curriculum is
designed however delays the opportunity of faculty to act on
their perceptions of student performance until the students
are well into their program. Once the service courses are
finished and students are into largely Physiotherapy courses
the impact on motivation and student skills in the academic
environment is often set.

Behaviours present as a result of this problem range
from acceptance to avoidance. Some of the students are able
to see the reasons for the discrepancy and make necessary
adaptations delaying the focus on professional application
until later in their academic program or seeking the
application of professional ideas through individual
investigation.

The most common response identified by students was to
reexamine their motivation for taking the Physiotherapy
program. Their expectations and the perceived reality of
the situation seemed discrepant. Until this discrepancy is
resolved students tend to be involved in all types of
avoidance behaviours. Procrastination, poor attendance,
poor participation are some of the behaviours representative
of this dilemma. These very behaviours are the ones which
cue faculty to the potential of a student problem.
Relationship to Literature

Understanding expectations within this context involves application of information processing principles. Simply put students are unintentionally provided with inaccurate information. They develop strategies in dealing with the academic environment which are ineffective.

Literature from educational theory supports the movement in the direction of student centred learning. It is important therefore to insure the program design is adjusted to support student learning. To demonstrate the differences in learning approaches, Knowles (1975) suggests:

Real competencies needed by students in teacher centred subject based learning are to listen attentively, take careful notes, read rapidly with comprehension, predict exam questions, and be able to cram..... All that is required of the student is that he learns the material presented to him, and that he is able to reproduce it as accurately as possible on demand. (p. 35)

Barrows and Tamblyn (1980) however suggest that:

One of the most important advantages of student centred learning is that the student is motivated by the internal rewards of learning and not by the artificial
or external rewards of grades. This produces a

different climate in a medical school.... In addition

their learning is motivated by personal satisfaction

which will always be present, even when grades and

passing exams are no longer an issue. (p. 16)

The literature supports student and faculty expectation as

to the importance of establishing a climate conducive to

student learning through the appropriate structuring of the

educational environment.

When students perceive a disturbance in their

expectation of the educational environment to quote

Perls (1973) "they will behave in a disorganized and

ineffective way" (p. 18).

The ideas of William Perry (1970), in terms of

reactions to challenging educational environments are also

relevant. Most prominently the idea of suspending the

process of adaptation through temporization or retreat.

Faculty perception of student behaviours which they

identify as problems of learning are often problems of

student motivation.

So in the first semester student performance is often

not affected by the mismatch of expectation, however effort

most definitely is.
Expectation in Physiotherapy Education

Allocation of Faculty

Characterization of Discrepancy

The third student concern involved the assignment of faculty to teach courses within the first semester of their program. In addition to the expectation that they would be involving themselves in relevant course content, students expect that the individuals responsible for the instruction of that content will be in a position to demonstrate relevant application to their profession.

Since the curriculum is based on a traditional design, the need for application in instruction is not a consideration of the college with regard to the assignment of faculty. This expectation is expanded upon later when considering the discrepancy of expectation of faculty role. It is important, however, to make a distinction between expectation of faculty allocation and expectation of faculty role. The key concern is responsibility. In the situation of faculty allocation it is the responsibility of the Physiotherapy program to ensure that courses are staffed with appropriate faculty. In the situation of faculty role, it is the responsibility of faculty themselves as to how
they structure their role in terms of their interaction with students.

Source of Discrepancy

Traditional medical education did not strive for integration across the curriculum. There was the basic view of three distinct ideological phases in traditional medical education. This is much the same as the current practice in universities of making the first year very general, encouraging students to access various theoretical disciplines. There is no conscious attempt to integrate the program of study into a meaningful experience beyond the specifics of the courses themselves. Physics teachers teach physics, whether the students are from the faculty of physical sciences, behavioural sciences or health sciences.

Implications to Perception of Performance

In terms of effective learning and student motivation it is important that faculty demonstrate relevance of course content or present the content in a way that students see as relevant to their profession and to the style of instruction which they are being trained in. This situation is
supported by Keller's motivational theory. (Keller, 1983)

**Relationship to Literature**

In terms of theoretical perspectives on what the characteristics of faculty should be, some clarity is provided by Barrows and Tamblyn (1980):

> It is far better to have an expert working with the student, one who knows if the students are in a quandary or are going down the wrong track; but who also knows how to get them to discover this for themselves, to learn by making mistakes, and to reason their way to the right conclusions. Such an expert can provide the student with better evaluative feedback about learning relevant to their own objectives....In this learning method the teacher is the guide, the captain of the team and is responsible to the school for ensuring that the students are provided every opportunity to learn. (p. 106)

The key area here is the idea of expert. This does not mean a subject specific expert. No one is questioning the competence of instructors in their specific field of study. The question is the ability of instructors who are not trained in Physiotherapy to demonstrate relevant application
to the Physiotherapy profession and the ability to reinforce the process of problem based learning within that context.

Discrepancies in Design of Instruction

Areas of instructional design are focused on what actually occurs in the classroom. Specific areas of instructional design considered in this research are: (a) Role of Faculty, (b) Small Group Learning, (c) Problem Based Learning and (d) Pace of Instruction, and (e) Feedback and Motivation.

Role of Faculty

Characteristic of Discrepancy

There is a discrepancy between student expectation of faculty role and faculty understanding of the teacher's role, as it relates to instruction.

Initial expectations of students toward the role of faculty are directed at the idea that faculty will be very directive and supportive in structuring the learning environment. Based on student experience of undergraduate instruction, there is the expectation that teaching in the
Physiotherapy program will be more personal and more applicable to professional practice.

Faculty on the other hand see their role as facilitating the development of informed professional practice within their students.

**Source of Discrepancy**

The discrepancy of expectation of faculty role is a very important mismatch in that it reflects student learning needs and also faculty instructional ideas. Student expectations are based on prior experience and the conceptual understanding of what they think is involved in the process of teaching.

Faculty expectation is based on the perception of following the ideology of problem based learning. Faculty characterize their role more as a facilitator to instruction. The idea being to facilitate the students' learning of course material as opposed to directing the student learning.

**Implications to Perception of Performance**

In considering the mismatch of student and faculty
expectation as to an appropriate amount of teacher direction, faculty provide two explanations. The first involves a misunderstanding of the faculty role, the second infers a complex group of avoidance behaviours on the part of weak students.

In terms of misunderstanding faculty role one teacher suggested that, "in seeking direction from faculty they bring experiences from previous educational experiences and may interpret faculty attempts to foster self direction as faculty unresponsiveness or lack of interest" (FIR 1).

The second consideration suggests a defense mechanism where students with academic problems perceive the problem as lack of teacher direction. One faculty suggests; "student struggle involves less risk than teacher interaction which involves some self disclosure" (FIR 8).

Another faculty suggests that "weak students avoid faculty contact for various reasons. They equate it with punishment: 'I see the teacher when there is a problem.' Some perceive it as brown nosing. Others are afraid of exposing their actual skill level. Some perceive the teacher as unapproachable" (FIR 2).

From the student and faculty responses it appears that initially students are faced with the realization that their expectations of the role of faculty were inaccurate.
Faculty perceive their role as much less directive than students expect. Students are then faced with the need to adapt to meet the expectations of faculty. Successful students see the adaptation in terms of a personal responsibility to develop self direction, while weak students either project the problem to faculty expecting greater faculty accommodation or else they avoid faculty contact.

The two implications for a mismatch of expectation in this area involve the necessity for the student to reassess their mode of learning and to consider their attitude toward teachers. The first implication is the most significant because it forces students to reorganize their learning with little direction from faculty. In most cases students have been very accustomed to organizing their learning in response to very specific teacher direction. Developing the ability to learn within a self directed learning environment is often difficult because it requires an alteration of learning focus away from a more directed approach; an approach which students for the most part have found quite successful.

The second implication is the student's attitude toward faculty. Often student difficulty is projected to faculty. Students perceive faculty as being ineffective or not
approachable and involve themselves in a variety of avoidance behaviours to restrict contact with faculty. This interferes with the effective adaptation of the student to the learning process.

Faculty need to realize that the transition to self directed learning is sometimes not a smooth one. Students in some cases require a slower transition to a new learning environment. Student require a non-evaluative faculty resource to help develop the skill and confidence in working within the new academic environment.

Students who perceive faculty as being evaluators and also having an expectation for student self direction often do not see faculty assistance as a positive answer to their academic problems. Greater gains might be achieved by providing students access to resources to help reevaluate their expectations and academic strategies.

Strong students are able to reorganize their approach to learning to effectively utilize faculty direction. Weak students avoid faculty without the corresponding development of personal academic direction. As such weak students tend to avoid faculty contact and situations where they have to interact with faculty. They also involve themselves in superficial academic adaptations such as seeking supports from fellow students. Fellow students will only tolerate
this refocus of responsibility from the teacher to a peer for a limited period. Then students will withdraw assistance and the weak student is left with no resources to draw upon. At this point further withdrawal from the academic environment usually takes place.

Relationship to Research

Research by Rezler and French (1975) and Vittetoe and Hooker (1983) suggest that students in Physiotherapy programs indicated preferences for concrete and teacher centred learning styles. Vittetoe & Hooker (1983) found that "most students had difficulty in conceptualizing, philosophizing, and extrapolating ideas, probably because these forms of learning were alien to their previous learning patterns" (p. 53). The responses of the first year Physiotherapy students seem to support these findings.

Theorists suggest a critical developmental step in the growth of student conceptual ability which is not served well by faculty expectation.

Barrows (1980), in discussing problem based learning suggests:

The teacher needs to be aware of the clinical reasoning process and willing to allow the student
to learn by his own experimentation, inquiry and study... The teacher serves as both a monitor and stimulus to the process by asking leading questions, challenging thinking.... He attempts to help them, help themselves in the educational process....

The skills of the teacher do relate as much to his ability to dispense his knowledge and understanding as an expert... as they do to his ability to help students develop skills in scientific reasoning, self study and self evaluation. (p. 106-108)

These ideas are not easily applied to the Physiotherapy program due to issues of time and the limitation of faculty role as defined administratively by the College. Cheren (1987), supports the issue of student transition, suggesting that:

To facilitate the very considerable self development and skills required (for self directed learning) the last thing needed is to drop all external structure abruptly.... If anything more structure is needed but of a special kind. The new structure can be described as transitional structure. (p. 33)

John Keller (1983) identifies a similar issue in general academic terms.
People need a relatively supportive environment while trying to learn something new; especially if the new skill involves problem solving. When people have become relatively confident with a new skill, then they are ready for competition and more critical tests of their skill. (p. 1-4)

Bruner (1966) provides a somewhat different statement of the same issue.

There is always a special problem of authority involved in the instructional situation. The regulation of this authority relationship affects the nature of the learning that occurs; the degree to which a learner develops an independent skill, the degree to which he is confident of his ability to perform on his own and so on. (p. 42)

All academic environments which require the student to be involved in a substantial change must recognize the impact that it may have on some students. New academic environments may present expectations contrary to the prior experience of students. What supports are present within the academic environment to help students who tend to be environmentally dependent? Vittoe and Hooker (1983) suggest that their studies in learning preference "support Gregorc's findings that individual learning style preferences are
fixed early in life. Therefore allied health instructors must provide alternative teaching learning modes for their students" (p. 54).

Small Group Learning

Characteristics of Discrepancy

There is a discrepancy between what students' expect of instruction within the Physiotherapy program and their actual experience. Accustomed to large university lectures, students applying to the Physiotherapy program look forward to the small class environment associated with the Physiotherapy Program. They anticipate a much more personal climate in the small group setting. They do not however anticipate the intensity of the small group learning experience. In summary, they expect to retain the same level of responsibility as students within a smaller class size. This expectation is quite different from the group focused learning which places a great deal of responsibility on the group and individual group members to structure and organize the learning. Using a group format as part of the academic environment is theoretically very positive in terms of simulating the professional environment in which the
students will be working as a medical practitioner. The format however is not one which is familiar to students whose background is reflected in traditional academic work.

Source of Discrepancy

The expectations of students evolve from two sources. The first is the lack of student experience with small group learning and the second is the expectation that the faculty will direct the learning within the Physiotherapy program.

Implications to Perception of Performance

The personal climate of small group classes can become almost too personal requiring adaptations beyond mere academic organization. Small group classes evoke elements of group dynamics such as interpersonal commitment, responsibility, and interdependence. These elements of learning require some adjustment on the part of the student. It involves the assumption of roles which a student for the most part is not accustomed to.

Student expectation of a more applicable approach to the presentation of course curriculum is correct, however it is the student who is assigned the responsibility of
Expectation in Physiotherapy Education

providing the relevance. This is a difficult role for one who is lacking the conceptual grounding to work with the theoretical information in this way.

Relationship to Literature

The structuring of student learning in a group format is supported by Barrows and Tamblyn (1980), who suggest that:

The group must agree on sharing the responsibilities for the group's success in working with a problem. This requires that they all actively work towards evaluating the problem, identifying self directed issues, learning information that is applicable to the problem and that will be helpful to the rest of the group and evaluating the group's and their own efforts in these endeavors... Each (student) must feel responsible, along with the teacher, if the group process bogs down or becomes nonproductive. (p. 73)

The key issue however is the consideration of the student's transition to this form of learning. Recent research has supported the idea that transition to small group learning may not be an easy adaptation for some students. O'Hanlon et al (1995) suggests that:
While working in groups can provide mutual support and lay foundations for future teamwork, group assessment may be threatening to many high achieving students who would prosper under the traditional system. (p. 198)

Problem Based Learning

Characteristics of Discrepancy

Students anticipate a much more relevant presentation of course information in a problem based structured curriculum. They anticipate that the faculty will adopt a much more directive role in the identification of learning objectives.

Faculty expectation of student adaptation to program instruction is also inaccurate. This is based on theoretical suggestions that the problem based approach is much more appropriate to student learning. The faculty accept the structure of the problem based approach without the appreciation of the process required by students to adapt to this style of learning.
Expectation in Physiotherapy Education

Source of Discrepancy

The expectation of students evolves from their experience of expansive, theoretical information learned in university programs. In most cases this information is difficult to apply and relate to practical life experience. Students equate problem based learning with teacher centred application learning. In short, the student expects the faculty to direct the learning of Physiotherapy theory within the context of practical application. Adding to this the focus of direction toward a professional education program which the students anticipate will lead to the employment of practical professional skills and you have the antecedents of student expectation. Students anticipate that instruction in Physiotherapy allows a more focused academic development than traditional university programs and a more clear match to employable skills and expertise.

Faculty expectation of problem based learning is derived from two areas. The first involves the application of problem based learning within a restrictive academic environment. The program design only supports implementation of certain elements of the problem based learning approach.
The second source of faculty expectation is summarized by Goranson's *hindsight theory*. Goranson (1976), identifies the tendency of teachers to underestimate the amount of student adaptation necessary to respond to the instruction of new material.

**Implication to Perception of Performance**

There is an implicit expectation amongst faculty and administration that students can readily transfer academic skills from the tradition academic settings to student centred/problem based learning. There is, however, a critical period necessary for students to adjust to this style of learning.

Student apprehension and withdrawal in the face of this expectation is identified by faculty as student academic difficulty.

**Relationship to Literature**

Recent literature has supported my findings that adaptation to problem based learning requires greater adjustments for some students. "Students found problem based learning time consuming and felt that there was need for
more guidance and direction" (O'Hanlon et al. 1995).

Transition to a problem based learning approach also requires some adaptation. As suggested by Barrows (1980):

This approach can create insecurity on the part of both students and faculty. In the beginning the student worries about his ability to determine what he needs to know and to what depth.... The student centred approach requires maturity and discipline on the part of the student and a different order of educational skills for the teacher, who must be able to facilitate, guide, and evaluate the student as an individual learner responsible for his own learning. (p. 10)

In terms of addressing student concerns arising from their reaction to the expectations of the instructional form it would be helpful if there was a resource available to these students other than the actual instructors within the program to whom students could turn to for assistance. The role of this resource is to help students in the transition to self-directed learning. Course and clinical instructors are seen as evaluators, and it is often difficult for students to approach teachers for help because it involves some disclosure of learning problems. In this situation it is difficult for instructors to separate their roles as
teacher and evaluator. Or more importantly students may not have confidence that this separation of role can take place. The use of a group structured academic environment requires some time and introduction to allow a positive transition by students. Students need formative feedback in group dynamics and participation before they see the usefulness of this approach and feel comfortable in participation in this form of academic environment.

The transition to a self-directed focus or problem based focused learning requires time and an adequate introduction to allow a natural transition by the student. Faculty must be aware that adaptation to a self directed learning style is not always a natural process for students. As suggested by Barrows (1980):

.....there is a group that will be very uncomfortable and threatened by this approach. Some... are just wary or insecure and may respond readily to an orientation concerning the educational advantages of problem based learning and will work well with a teacher who has confidence and skills. Others resist due to ingrained lifelong habits of wanting to read all about a subject before approaching a problem...Still others resist because they have very inadequate problem solving skills and could not adapt. (p. 184)
The key in introducing group learning and self directed learning is either to involve students in preliminary experiences with both formats or to provide more formative feedback in the initial exposure of students to these learning approaches.

**Pace of Instruction**

**Characterization of Discrepancy**

Faculty and students agree that the pace of the program is quite rapid. The discrepancy for students is between their expectation and their experience. Students experience the rate of content delivery as too quick to effectively learn the material.

Faculty identify the discrepancy as between the pace they see as supportive of student learning and the expectation that all the content be covered.

The idea of the pace of instruction was not directly identified as an issue by either students or teachers in the questionnaires and workshop. In the interviews it was mentioned however by both teachers and students and is discussed in the literature on problem based learning as an important consideration. Students anticipated greater
quantities of work than they had experienced in other academic environments. There is, however, the expectation that increased self determination and a more applicable learning environment would reduce the impact of the workload. The pace of instruction experienced by students is greater than their initial expectation.

Faculty expectation of pace of instruction involves the concern to cover a set amount of theoretical and practical material within the course schedule. Increased content and reduced support to instruction with limited resources and alternative sources of instruction make quality teaching difficult.

**Source of discrepancy**

There is agreement by both faculty and students that the pace of instruction is too accelerated to ensure quality instruction and learning. The source of this discrepancy is the continuous attempt to organize instruction within traditional time lines. Increased course content and the philosophy of self-directed problem-based learning, is not easily structured within a system of traditional semesters and timetable organization.
Impact on the Perception of Performance

Cues to this mismatch of expectation are evident in the timing and quality of assignments completed by the students. It is also evident in the students' sense of workload expectation.

Students, overwhelmed with the pace of academic instruction, find themselves attempting surface adaptation or attempting to avoid the expectations of the academic environment. Students involved in surface adaptation often attempt time management involving the utilization of timetables and charts in an attempt to find sufficient time to complete assignments. Avoidance behaviours involve late assignments or continuous requests for extensions.

The impact of the fast pace of the presentation of instructional material is that there is little time for the student to adapt to the academic environment. For those students who find adaptation difficult, there is little time to develop a self-directed philosophy of learning. There are also few resources available in assisting the student in this transition. For weak students, efforts to adapt are often not successful and feedback from faculty on elements of performance are often perceived as negative.
A secondary issue related to pace of instruction involves the amount of time necessary to reinforce concepts presented in instruction. Students need sufficient time to work with information to adequately develop useful conceptual contexts.

Relationship to literature

The literature suggests the need for sufficient time in learning to allow for individual differences. According to Barrows (1980):

To establish a problem based learning curriculum there must be copious amounts of time. This allows time to be budgeted by each individual student or student group to meet their particular study plans, priorities, and approaches. To be individualized and student centred it has to be free and unstructured so the individual can structure it appropriately. This underlines the responsibility given to the student for his education. (p. 185)

and

Since all students have different backgrounds, different knowledge and experience bases, as well as
different styles and abilities in learning, the speed and depth of study is very individual.... The constraint of time should be dropped from the learning process. (p. 101)

Teachers are aware of time constraints and the effect on learning but indicate other issues which determine learning pace. As suggested by one faculty. "The pace of the program does not allow enough time for repetition to support student learning. We cover a topic once and then we're on to the next" (FIR 8).

Addressing the problem of instructional pace would involve the development of sufficient resources to allow student adaptation early in the semester before time becomes a significant issue.

Much of the problem of pace of instruction involves the assumption that individuals learn at a similar rate. The self directed problem based approach claims to deal effectively with the issue of individual learning rates. The application of this approach is greatly constrained when put under the time restraints of academic semesters and academic programs measured in years.
Feedback and Motivation

Characterization of Discrepancy

The idea of evaluation has two applications based on the student responses from all sources. Initially evaluation refers to the actual testing or formal assessment situations within the Physiotherapy Program. The second concern of students involves the feeling of continually being evaluated by faculty and peers. This involved informal judgements which one students described as "being in a fishbowl" (SIR 4).

In terms of formal academic assessment, one problem involves the use of a traditional evaluation process within a novel academic design. Much thought and energy has been taken in designing different methods of evaluation, (Neufield 1985), the emphasis however remains on a graded, teacher evaluated, process. The problem is not so much the inappropriateness of the evaluation process but more importantly the difficulty the student has in accessing quality non evaluative resources to provide feedback in terms of the student's attempts at adaptation.
**Source of Discrepancy**

The source of discrepancy in terms of evaluation and feedback centres around faculty and student perceptions of who is responsible for initiating direction of instruction. This initiation of direction influences the way feedback is structured and provided. Students expect faculty to direct learning and as such expect feedback and evaluations to be directly supportive to their learning. Faculty expect students to be responsible for their own learning and provide feedback indirectly.

Faculty in terms of their role also have an evaluative responsibility. Since students do not appreciate the indirect approach by faculty they perceive most feedback and evaluation as negative.

**Implication to Perception of Performance**

In terms of evaluation, concerns of students are reflected in terms of their sense of potential for success. The issues of evaluation are in actuality extensions of the two previous issues of faculty role and instructional form. So behavioural evaluation issues are presented in terms of student confidence and attitudes toward evaluation. Due to
the presented role of faculty and lack of formative feedback, students seldom have had the opportunity for accurate self evaluation and have not developed confidence in terms of their ability.

Unfortunately most feedback to students is either obviously evaluative or at least perceived that way by the students. Students are placed in a double bind in that if they are having difficulty they have to approach an instructor for assistance and in doing so reveal their inability to process the information in a self directed manner. The result is identified as a student problem not as a program problem. It is very difficult for a student to disclose this problem to a teacher and also more difficult for teachers to deal with the problem and not let it influence their role as evaluator.

Concerns with formal evaluation situations involve a continuation of concern for the group and problem based approach. Students indicated difficulty in assessing accurately how well they were prepared for an evaluation.

We would feel more positive if we entered an evaluation knowing that we had the opportunity to cover the content and had adequate feedback from faculty to know we had covered the material in enough depth. (SIR 3) Students who perceive this continuous evaluation often avoid
contact with the source of evaluation namely the teacher. Avoidance in this matter is successful in relieving the stress of evaluation but also separates the student from the solution to the situation as well. Since the key issue in this mismatch of expectation is the timing of feedback, the best remediation would involve the opportunity for feedback earlier in the semester. There needs to be the opportunity for students to receive accurate, formative feedback concerning their expectation and performance.

Once the realization of the need for adaptation occurs some students may attempt to force the environment to change by trying to make it similar to academic environments that they are familiar with. Others may withdraw realizing the ineffectiveness of their approaches to the academic environment. Some may attempt to reassess the academic expectations and adapt their approach.

Theoretically this problem deals with the students' ability to interpret feedback. Since, because of the curriculum design, formal feedback from faculty does not occur until after first semester, it is important for students to be able to self evaluate accurately and process subtle environmental cues. Since the academic environment is not what students are familiar with, the development of
this ability in students may take some time to occur.

In most professional programs, time poses a significant element in the educational process. Most academic programs are designed to be completed in a certain time period, with similar expectations placed on the various components of the program. It is essential that students have adequate feedback concerning their performance within the academic environment in sufficient time to attempt change.

Relationship to Literature

In terms of my research it could be suggested that lack of interim feedback to the students by faculty does not support the students' movement to becoming self evaluative. Self evaluation is a characteristic of students which faculty value. Keller (1983), provides a useful distinction in suggesting that a teacher should "use corrective feedback when the student's performance does not meet the standard and motivational feedback when it does. Do not mix them" (p. 5).

Based on the role which faculty identify Bruner (1966), actually presents an antithesis of the issue at hand.
Instruction is a provisional state that has as its objective to make the learner a self-sufficient problem solver. Any regimen of correction carries the danger that the learner may become permanently dependent upon the tutor's correction. The tutor must correct the learner in a fashion that eventually makes it possible for the learner to take over the corrective function himself. Otherwise the results of the instruction is to create a form of mastery that is contingent upon the perpetual presence of a teacher. (p. 53)

Discrepancies in Perception of Student Learning

**Characteristic of Discrepancy**

The discrepancy here is between student expectation of performance and their experience of success in the program. There is also a discrepancy between faculty expectation of student performance and their perception of student performance.

Student expectation in terms of conceptual ability results from self-evaluation based on previous academic experiences. The new academic environment into which the student enters seems similar to previous academic programs
in which they have been involved. Most students anticipate an even easier environment to work within due to their misunderstanding of clinical group learning. Most students interpret clinical group learning as small group teacher directed learning. When they realize in the first year of the program that small group learning really doesn't occur until the second year there is pause for re-evaluation. Then in second year when the expectation of small group teacher directed learning is really small group self directed learning there is an even more difficult situation requiring adaptation. Student feedback suggests that this is the most significant mismatch in expectation because it requires students to adapt their approach to learning.

Once students receive information from the new academic environment that some of the expectations which formed the basis of their academic confidence are inaccurate, there is cause for concern. As stated by one student "for the first time in my life the possibility of failing was real" (SIR 4).

There is also a discrepancy in terms of faculty expectation of student learning. This concern for student learning formed the initial basis of this research.
Implications to Perception of Performance

Clues to the concern of students for academic success are two fold. Initially there is the reassessment of career goals. Students may reconsider their choice of programs as well as other options for educational training. Students who either are unable to reassess career goals or who tie their goals to the one program usually demonstrate some withdrawal behaviours.

Secondly, there is the self assessment of performance within the Physiotherapy academic environment. Students ask themselves; How difficult is the work? Can I keep up with the pace? Do I feel confident to be evaluated? Answers to these questions provide the student with a sense of potential achievement.

The most significant impact on student performance and effort is that students may not realize the need for change until late in the semester. As such in terms of performance there is little time to effect the necessary change.

Depending on the student's anticipation of success in adaptation there is a significant impact on effort. Anticipating success students direct their effort at adaptation. Anticipating difficulty in adapting, students direct their efforts at avoidance.
Student self evaluation has a significant impact on their effort and subsequent performance. Motivation is the big victim of negative self evaluation. Students, doubting their ability or the potential for success, find it difficult to involve themselves in the effort necessary to be successful. Students display avoidance behaviours, being unsure of the appropriate effort or attempting to avert negative feedback. This is supported by Coobs and Soper (1957) who suggest that "Students avoid experiences which might change their self concept. External evaluation by teachers and fellow pupils and their own observations reinforce self concept and gradually those students will withdraw" (p. 13).

**Relationship to Literature**

The theoretical ideas related to expectancy have great application here. Bandura's (1982) concept of efficacy has application in terms of the students' judgement of potential for success. Rotter's (1966) concept of locus of control has application in terms of the students' evaluation of how much control they have in terms of bringing about change. Attribution theory has application in terms of the source to which students ascribe the reason for their success or
failure.

In considering the behaviours of students resulting from the negative evaluation of the educational environment the ideas of Perls (1973) and Perry (1980) have application in terms of the tendency of the student to withdraw. Accurate self assessment occurs as the result of accurate information. This relates to both factual and conceptual information. The greater the number of tacit, covert or unrealistic expectations which are present in the academic environment the greater the likelihood of inaccurate self evaluation.

Discrepancies Related to Professional Issues

Characteristics of Discrepancy

There are two discrepancies of expectation related to the profession of physiotherapy. The first involves expectations of the students in terms of future employment within the physiotherapy profession. The second involves the attempt by faculty to include professional expectations within the academic environment.

The idea of expectation of professional ability in the academic environment was not an issue identified by
students. Their concerns overall were focused on academic issues. Faculty, however, continually identified expectations of professional behaviour in both the workshop and in individual interviews.

Since faculty professional expectation is not explicitly communicated to students, the acquisition of appropriate professional behaviours is somewhat vicarious. Course objectives are identified in academic terms, however, the professional expectations are still prevalent.

Discrepancy in professional expectation within the Physiotherapy faculty is illustrated in terms of the conflict of academic expectations and professional expectations. Participants in the workshop identified difficulties in communicating to the students accurate expectations for some issues where the academic and professional expectations seemed to be in opposition. For example the conflict between college promotion policy and professional performance expectations was identified. Also issues such as attendance in class, class participation seemed at odds with professional practice. These variances seemed to present themselves in the situation of explicit academic expectations with implicit professional expectations. As mentioned at length by faculty this area seemed to require the attention of the department in terms
of accurate feedback to students.

Another discrepancy in conceptual expectation involves the student's understanding of the various vocational elements of the Physiotherapy profession. Information from the research has established the fact that the overall source of student motivation is tied to the career of Physiotherapy. Seventy percent of the students in the research identified sources of motivation which reflected elements of the Physiotherapy profession. (Table 6)

Source of Discrepancy

There are three critical periods within the Physiotherapy program where the student's expectation as related to career orientation are challenged. The first is upon entry to the program. Consider the impact on motivation if students enter the program with aspirations tied to the professional practice of Physiotherapy only to be placed in a traditional medical curriculum which initially focuses on general science knowledge. This is by far the most common criticism of the program by students. Returning to the ideas presented in program design, most students have had relevant post secondary experience and are placed into a program where the first year was designed to
respond to the needs of high school graduates. How does the student generate incentives to do the academic work when the content is repetitive, and not directly related to the practice of physiotherapy?

The second critical motivational phase occurs when students are faced with employment possibilities. The background of most students lies in the area of Physical Education and Kinesiology. So building on to their initial motivation of professional occupation as physiotherapists many are very much focused on applying their training to the area of sports medicine. This is very evident in the selection interviews for the program. When asked why they chose physiotherapy as a career many focus on their personal experiences as athletes. When faced with the reality of employment in hospitals, working with people who are ill or recovering from surgery, they must rethink their commitment to their academic goal.

The third critical expectation affecting motivation toward career occupations occurs when students realize the impact that they as professional physiotherapists have in their dealings with chronic and terminal patients. Their initial consideration of the professional practice again is most often drawn from areas relating to sports medicine where intervention and treatment has high potential
for success. So again the primary motivational element is drawn into question.

**Impact on Perception of Performance**

The primary issue with professional expectation is that in the academic setting there is little behavioural presentation of professional behaviour by faculty. Elements of these expectations will occur when students go on their clinical experiences. Placed within actual clinical setting the variance of the academic setting and the professional setting become evident. It appears however that faculty expect this understanding from the initial phases of the program.

I think the key answer to this mismatch of expectation was summed up by one of the faculty within the research. One of the things we should be doing in our program, something that we as faculty talk about time and time again, is declaring up front to students what professional behaviour is made up of. For example, one of our conflicts is that with the education system we have a statement that says "it's up to you if you come to class or not" essentially "you make the decision you are an adult" And yet part of the professionalization
process is that you don't decide whether you are going to treat a patient or not. So there is a dual statement; a real ambivalence to the student. So what we have to do, because we're not clear in translating our professional process right through the academic process, is right up front saying to the students that to be successful in this program, not only do you have to do these sorts of things (academic) but you are going to come out looking like a physiotherapist.

(FWR 2)

Within the academic environment students demonstrate some delay or avoidance behaviours (Perry, 1980), as the result of uncertain career goals. Students may begin to question occupational ideals. As such involvement in the academic environment is effected.

**Relationship to Literature**

Performance and effort can be effected by the inability to conceptually process information within a occupational focus as much as an academic focus. Keller (1983) integrates the two ideas of relevance and expectancy in terms of understanding the impact on student motivation. As such the clarity of occupational goals and the assessment of
realistically reaching these goals have a significant impact on student performance and effort.

Initially it is important to see the impact on student effort. Until career aspirations are solidified, students are often ineffective in dealing with the academic environment. This struggle is often characterized by delay and avoidance behaviours. The longer this situation of career uncertainty persists the greater effect there will be on actual academic performance.

Addressing this discrepancy of expectation calls for accurate information and formative feedback to the student.

Since Singer (1982) and other theorists identify this professionalization process in other disciplines, I would suggest that a similar approach to remediation may be in order.

It is important for students to deal with these career ideas early within their academic program. In the present situation, the addressing of career concerns seems to wait until the students suddenly realize their inaccurate expectation concerning the profession. If dealt with early in the academic program there would be less impact on performance and effort, waiting for the students to resolve their career goals.
Students need a non-evaluative source of information to allow for the adaptation to the reality of the professional environment as much as the academic environment. Implicit and discrepant expectations therefore are important factors when considering student learning and the organization of instruction.
CHAPTER FIVE: IMPLICATIONS FOR PRACTICE

Physiotherapy Education

The issues identified in this research are not about student success in terms of the final goal of graduation, for, indeed, there is a very low attrition rate in the Physiotherapy Program; however, program adaptation may reduce attrition as well. The primary issue is the quality of instruction and the need for enhanced communication of expectation within the academic environment. To quote a faculty member, "we are successful at graduating qualified students. We'd would like to do it better" (FIR 4).

In terms of informational expectation there needs to be improved communication to the student concerning the realities of the academic environment. Historically there has been little progress in establishing a predictive selection procedure. The emphasis of improving student performance would seem to be to utilize the most valid admission procedure possible for selection of students but realize further program and instructional adaptation will be necessary due to the variance of applicant abilities. As suggested by Patricia Cross (1990):
The problem is not in identifying winners; it is in making winners out of ordinary people. That after all is the overwhelming purpose of education. Yet historically in most of the periods emphasizing excellence, education has reverted to attempting to select winners rather than creating them. (p. 1)

Conceptually the various expectational mismatches within the academic environment make student adaptation difficult. Students demonstrate this struggle through various avoidance behaviours that withdraw them from positive interaction with the academic environment.

Inaccurate information and expectation makes self assessment difficult. As such students have difficulty judging their ability and potential for success.

Students who are able to effectively reappraise expectation involving these key variables in the professional education environment adapt well to the expectations of the program and are able to demonstrate their professional potential. On the other hand, students who have difficulty in reappraising expectation in one or more of the critical areas, exhibit behaviours which are identified by faculty as inappropriate. This identification may involve suggestions of lack of direction, lack of responsibility, lack of commitment to the profession, and
poor clinical reasoning.

It is my belief that student performance could be enhanced through improved communication of expectation and formative feedback. These improvements would allow accurate information to be communicated and processed earlier by the student. This in turn allows for a much accelerated process of student adaptation. Students would attempt change sooner, be provided with feedback sooner and in the final analysis feel more confident in their academic abilities and professional goals. Idahlynn Karre (1995) suggests:

Communicating openly and explicitly with students establishes interpersonal trust, security in structure, and professional clarity regarding classroom theory and practice. Communicating about the process of classroom communication helps students to understand and appreciate the professional decisions we make about teaching and learning. Open communication about the way we work together in our college classrooms is critical if students are to be knowledgeable, active participants in the teaching and learning process. (p.26)

My research suggests that there is an implicit expectation of students in terms of conceptual development. Literature in medical practice and education suggest that the
discrepancy between student learning and medical education is expanding. This will mean that student adaptation to instruction will become even more difficult. Patrick C. Pietroni (1991) envisions an ever greater crises in medical education:

The intellectual framework underpinning the curricula of most Western medical schools has not incorporated the developing world of ideas and feelings into their structure. The world has moved on and medicine is in danger of being left behind. Medical students are still taught that medicine is, by and large, about the body and its functions; that the body is made up of bits and pieces that are studied as separate and distinct entities. They are still taught about the mind as a separate entity from the body. They are still taught that treatment comes either in the form of prescription or a surgical operation. They receive little or no training in communication skills and leave medical school with an understanding of disease but no knowledge of health. (p. 1f)

To be successful in their goal of enhancing the development of professional clinical competence in the student, greater attention could be directed at facilitating the students' accurate reappraisal of program expectation, professional expectation, as well as expectation of their personal
ability. To do this the academic environment should be adapted to minimize inaccurate expectation. The key to effective student adaptation is accurate communication of expectation and greater opportunity for formative non evaluative feedback between student and faculty.

Professional Development

The implications of implicit and discrepant expectations have two applications to professional development. The first application is for professionals; be they teachers, social workers or nurses to appreciate the existence of student or client expectations in the delivery of their service. In most cases professionals are looking to assist their clients with the process of change, be it academic, health or adjustment. Considering the expectations of others helps to develop trust and communication within the interaction. It also provides the professional with a measure of student or client entry level abilities and attitudes.

In my work in the College system I try to make faculty aware of discrepant expectation in terms of curriculum design especially in the areas of assessment, instruction and initiatives for independent learning. The primary question is how to structure the experience to support
student transition into the learning environment. In most cases this involves the idea of "hindsight effect" as described by Goranson (1976). Do independent study modules include concepts and vocabulary that are unfamiliar to students? Do the modules include unrealistic time frames for completion? Do the exam questions ask students to provide complex answers beyond the level addressed in the instruction? Do exam questions include terminology, though related to the concept being tested, is beyond the understanding of the student? The keys is to get the professional to appreciate what it is like for their student or client to be in this interaction.

The second application is related to the process in which professional development is organized. When I am asked to be involved in professional development situations, I have to consider the expectations of the participants. What is their level of interest? What is their level of understanding? Can I structure the information so it is relevant to their teaching situations?

So in summary my research has make me more appreciative of my work with faculty in terms of what I say and how I say it. Professional development should be instructive and motivative, and the role of explicating expectations in the professional development process is key to these goals.
Consideration of implicit and discrepant expectation has application to student development as well. As a College Counsellor I attempt to help students be successful academically. In most cases this involves teaching the student to anticipate expectations of the learning environment. I try to make students aware of their responsibility to ensure communication within the learning environment. This involves skills of active involvement in class, contact with faculty, discussion with other students, anticipating instruction, and anticipating evaluation. Many students take a passive approach to their learning which does not involve interactions with faculty that potentially would reduce discrepant expectations. Much like the Physiotherapy students within this research they hope the instruction will be structured to their learning level and when experiencing difficulties actually involve themselves in avoidance behaviours.

General Application

In general all professional educational programs would benefit from consideration of implicit and discrepant expectation. Most programs expect the development of
expertise beyond what D. Schon describes as technical rationality. This is especially true of professions which involve people services. Teachers, social workers, lawyers, nurses etc. require training to meet professional expectation for practice. Most of these training programs involve a "trial by fire" element in their instruction. The purpose being to develop self directed, competent professionals. Such expectation I feel can be more positively accomplished with a more gradual transition to professional competence through explicit communication of expectation and the opportunity for formative, non evaluative feedback in instruction.

Personal Development

Appreciation of the ideas of implicit and discrepant expectations has had a personal influence as well. It has influenced the manner in which I consider my learning, the way I look at my involvement with clients and also the manner in which I look at my interactions with people in general.

I have become more aware of my responsibility to clarify expectation, and to anticipate expectation to reduce discrepancy.
In the final analysis, teaching is a type of interpersonal communication. Our successes in the area of interpersonal communication whether it be applied to teaching, counselling, or our personal interaction with others would be greatly enhanced with the consideration of implicit and discrepant expectations.
ABBREVIATIONS


Appendix A

Mool's Environmental and Personal Variables
In Student Stability and Change

Figure 1. A Model of the Relationship Between Environmental and Personal Variables
and Student Stability and Change

R. H. Moos (1979)
Appendix B
Student Information Questionnaire

STUDENT INFORMATION QUESTIONNAIRE

1. NAME

2. HIGHEST GRADE COMPLETED (check)
   GR. 9   GR. 10   GR. 11   GR. 12   GR. 13

3. HAVE YOU ATTENDED COLLEGE OR UNIVERSITY? YES___ NO ___
   IF YES

   NAME OF SCHOOL    PROGRAM    NUMBER OF YEARS
   __________________    __________________    ___
   __________________    __________________    ___
   __________________    __________________    ___

4. DEGREES / DIPLOMAS COMPLETED

   AREA OR MAJOR

   B.A. ___
   __________________

   B.Sc. ___
   __________________

   DIPLOMA ___
   __________________

5. WHAT DO YOU THINK WERE THE MAJOR FACTORS WHICH MOTIVATED YOU TO CHOOSE PHYSIOTHERAPY AS A CAREER?
6. WHAT FACTORS MOTIVATED YOU TO CHOOSE THE MOHAWK/MCMASTER PROGRAM?

7. LIST YOUR EXPECTATIONS OF THE PROGRAM PRIOR TO SEPTEMBER.
8. BASED ON YOUR FIRST FEW WEEKS IN THE PROGRAM; HOW ACCURATE WERE YOUR EXPECTATIONS?

9. IN TERMS OF YOUR PROFESSIONAL TRAINING WHAT DO YOU SEE IS THE ROLE OF THE FACULTY
10. IN TERMS OF PROFESSIONAL TRAINING WHAT IS THE ROLE OF THE STUDENT.

11. IN TERMS OF PROFESSIONAL TRAINING WHAT IS THE ROLE OF THE CLINICAL SUPERVISOR?
12. WHAT FACTORS DO YOU THINK WILL CONTRIBUTE TO YOUR SUCCESS IN THE PROGRAM?
Appendix C
Physiotherapy Faculty Workshop

EXPLICATING FACULTY EXPECTATION
IN RELATION TO PROFESSIONAL
EDUCATION IN PHYSIOTHERAPY

Jim Telfer
Whenever faculty work with students individually or in small groups whether it is in early years or the clinical years, they develop distinct "gut" reactions after a short contact with students. They can sense those students they feel are "good", "sharp" or "in no trouble" from those students they feel are "in difficulty", "have problems " or are "inadequate". These reactions are not unlike the first hypothesis generated by the clinician in his contact with the patient. They are based on their past experiences with students, their awareness of what the students' behaviour represents and their particular knowledge of the field of study in which students are involved.

Exercise #1

TO:
Faculty

Dear Colleagues.

We at the University of Waterloo have been charged with the responsibility of developing an undergraduate Physiotherapy program. Since Waterloo has not had a history of programs in medical education we are relying on established schools to assist us in establishing the philosophy and direction of our program.

Since you are faculty within the Physiotherapy program we would welcome your input. Could you please respond to the following:

A. How do you as an instructor invision the process whereby students develop the skills of a professional physiotherapist?

   ie. The traditional medical approach is more effective in that a strong knowledge base must be present before clinical instruction can be useful.
   or

   The most important phase of the education is the clinical setting. What happens prior to this is primarily theoretical and in essence only measures student potential.

B. Since the your program is patterned on an educational philosophy of problem based learning, can you describe

   a. how students are introduced to this educational approach.

   b. how you as an instructor structure your course to develop clinical problem solving skills in students.

Thank you for your assistance.
Exercise #2 IDENTIFYING STUDENT CHARACTERISTICS
Based on your first involvement with 3rd year students, identify two students that you felt confident (prior to any formal evaluations) would be excellent physiotherapists. What characteristics of the student prompted this judgement.

1) __________________________ CHARACTERISTICS__________________________
   (NAME 3A)
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________

2) __________________________ CHARACTERISTICS__________________________
   (NAME 3B)
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________

In terms of the same group identify two students that you felt were in difficulty. What characteristics prompted this judgement.

1) __________________________ CHARACTERISTICS__________________________
   (NAME 3C)
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________

2) __________________________ CHARACTERISTICS__________________________
   (NAME 3D)
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
After course completion identify two students who are "surprises" in terms of performance. To what do you contribute the change.

1) ____________________________ REASON FOR CHANGE__________________________
   (NAME 3E)
   ____________________________________________
   ____________________________________________

2) ____________________________ REASON FOR CHANGE__________________________
   (NAME 3F)
   ____________________________________________
   ____________________________________________
Exercise #2 IDENTIFYING STUDENT CHARACTERISTICS
Based on your first involvement with 2nd year students, identify two students that you felt confident (prior to any formal evaluations) would be excellent physiotherapists. What characteristics of the student prompted this judgement.

1) ___________________________ CHARACTERISTICS__________________________
   (NAME 2A)
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________

2) ___________________________ CHARACTERISTICS__________________________
   (NAME 2B)
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________

In terms of the same group identify two students that you felt were in difficulty. What characteristics prompted this judgement.

1) ___________________________ CHARACTERISTICS__________________________
   (NAME 2C)
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________

2) ___________________________ CHARACTERISTICS__________________________
   (NAME 2D)
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________
After course completion identify two students who are "surprises" in terms of performance. To what do you contribute the change.

1) ___________  REASON FOR CHANGE ________________
   (NAME 2B)

2) ___________  REASON FOR CHANGE ________________
   (NAME 2F)
Exercise #2 IDENTIFYING STUDENT CHARACTERISTICS
Based on your first involvement with First year students, identify two students that you felt confident (prior to any formal evaluations) would be excellent physiotherapists. What characteristics of the student prompted this judgement.

1) __________________________ CHARACTERISTICS __________________________

(NAME 1A)

________________________________________________________________________

________________________________________________________________________

2) __________________________ CHARACTERISTICS __________________________

(NAME 1B)

________________________________________________________________________

________________________________________________________________________

In terms of the same group identify two students that you felt were in difficulty. What characteristics prompted this judgement.

1) __________________________ CHARACTERISTICS __________________________

(NAME 1C)

________________________________________________________________________

________________________________________________________________________

2) __________________________ CHARACTERISTICS __________________________

(NAME 1D)

________________________________________________________________________

________________________________________________________________________
After course completion identify two students who are "surprises" in terms of performance. To what do you contribute the change.

1) _______________________ REASON FOR CHANGE _______________________
   (NAME 1E)

                                     ____________________________
                                     ____________________________

2) _______________________ REASON FOR CHANGE _______________________
   (NAME 1F)

                                     ____________________________
                                     ____________________________

LIST OF STUDENTS

3A ____________________________ 3B ____________________________
3C ____________________________ 3D ____________________________
3E ____________________________ 3F ____________________________
2A ____________________________ 2B ____________________________
2C ____________________________ 2D ____________________________
2E ____________________________ 2F ____________________________
1A ____________________________ 1B ____________________________
1C ____________________________ 1D ____________________________
1E ____________________________ 1F ____________________________
### APPENDIX C.

#### STUDENT COMPARISON

<table>
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<th>(circle 2)</th>
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<tr>
<td>3. 3A 1B 2B</td>
<td>______________________</td>
</tr>
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<td>4. 3B 2B 1B</td>
<td>______________________</td>
</tr>
<tr>
<td>5. 1A 1B 3B</td>
<td>______________________</td>
</tr>
</tbody>
</table>
APPENDIX C.

STUDENT COMPARISON

COMMON CHARACTERISTICS

(circle 2)

1. 3C  3D  2C

2. 2C  2D  1D

3. 3C  2D  1C

4. 3D  2D  1D

5. 3D  1D  1C
Appendix D
Transcript of a Portion of a Faculty Interview

Interviewer - the focus of the interview is to consider academic performance and the "gut" feelings of faculty that student may be in academic difficulty. You commented in the faculty workshop that there were two considerations of this gut reaction one displayed in the student's behaviour the other in their conceptual ability. Could you comment further on this idea.

Faculty - I guess for me the most concern are kids who fall into the second group (unable to reason well) who maybe not immediately, but with some time start to demonstrate some of the behavioural changes as well. Problems from the point of view that 1. they become more anxious in small group performance for example. When I look at the behavioural elements of the sort of behaviours I would look for the students who, literally within the first one or two tutorials are not functional in a group. They are either very withdrawn, beyond the point of coming across
as unsure of participation such as a quiet personality or there are those who are fairly disruptive in a group. Often their participation is not focused its just alot of noise.

There are also those kids you could decribe as behavioural problems the ones who don't complete work on time, show up late for classes or don't show up at all. Sort of avoidance issues involved in this type of behaviour.

**Int. -**

Are there some students who do not demonstrate these avoidance behaviours who still are unable to comprehend the work?

**Fac. -**

The ones who are harder to tag, because they come to class, and they participate and when you listen to them its like their running a conversation just slightly off tangent or is a conversation within a conversation. The frustration for them is that they put effort into the tutorial group and they think their putting out content but its not synchronised
with what is going on in the group; not at
the same level as the other members of the
group. Or the content is not focused at the
solution of a particular academic type of
question.
The response of the other group members to
this person is that they acknowledge that
they have spoken but they don't reinforce
anything that has been said because the
material of the input is not picked up or
dealt with. The frustration they to that
student is that they are putting out but
they're never two sure whether the
information they are putting out is
appropriate or not. The only way they will
find out is through direct redirection of a
tutor who actually says "you're off base with
this answer" or when they write a paper and
their ideas don't flow together. They don't
have the appropriate connecting and
sequencing of ideas.

Int - Do you see this problem as developmental?
Yes. The thing that is curious to me is that some students come to me and we spend time on how change might occur and with this feedback the student is able to redirect their learning and become very successful. There are other students where the necessary changes never occur. So my personal curiosity is what it is about one student the internalizes itself so that they are able to make the necessary changes in their learning. They are able to operationalize what they understand conceptually and adapt to our expectations and perform exceptually well. There are other students who are self directed in that they sought assistance, but the feedback has made no change to how they perform academically. There is also another group of students who aren't able to self identify so I identify them as having difficulties. There are not as self aware or self evaluative or self critical so that's why I am identifying them so I'm not surprised that they don't change or if they do it's as a response to an external pressure. When their
academic life is threatened they are able to put out something that is responsive to the environmental expectation so they make the next hurdle. They tend to be very passive generally in terms of how they perform through the program. It's that first category of kids who are really a curiosity. I'm not sure whether the difference in fact is not so much their ability to actually understand what the system demands but that that they have an innate learning mode and their levels of anxiety are such that they can adapt to the external environment.

Int. - The difference between the two groups. The ones who self identify and seek help and change versus the ones who self identify and seek help but don't change. Can you sense that they have the same environment to adapt to?

Fac. - Both groups self identify that something is not quite right. The kids in both the groups
will sit down with me and explore what I think are similar areas. I respond to both groups in terms of why I feel they are having difficulty. So that essentially all those elements are the same. The sort of remediation suggestions that we put into place are essentially the same for both groups. I don't see glaring differences in writing ability, there may be some stylistic differences in terms of how they use language.

One areas of difference is that the successful group are able to understand and effectively use feedback from instructors. I don't know what that's a function of because I don't put it down to natural intellect. It is the ability to take information and make the appropriate adaptive changes.

Int. - Are there expectations the program has of these two groups that would exaggerate the differences.

Fac. - In our program with our emphasis on problem based learning; but we're really not a
problem based curriculum, we put so much store in our students defining the problem when essentially we should be looking at the processes the students use in problem identification. The students who don't survive or stay low functioning are those who never quite figure out what the problem is. This continues to be an area of weakness right up till they graduate. In diagnosis they would lack that ultimate level of refinement that we look for in our program. So often these individuals would survive quite nicely in other programs.

Int. - The manner in which you talk about students is very individualized. You seem able to isolate individuals even though they operate in clinical groups.

Fac. - I do individualize it because if I look at my career with this program and I think about the permutations of the groups we have, and I look at the students who have gotten into difficulty; it doesn't seem to matter what
mix of group we put them into, the problems that we sense about their ability function in one group continue to transfer as long as the expectations of each group is problem based.
Appendix E

Transcript of a Portion of a Student Interview

Interviewer - What I would like you to do is to think back before you started the Physiotherapy program. What were some of the things that you expected coming into the program.

Student - Before I came here I spent two years of general sciences at U. of T. and one year of nursing at Ryerson. At U of T. I was in huge classes. Twelve hundred in first year Psychology. At Ryerson my class was sixty students. So when I heard that the Physiotherapy program was only twenty six or twenty seven students. I thought I would be coming into a small class, and I'd be getting a lot of individual attention. And I thought that because the competition was so stiff to get in and that they had done a lot of screening before hand that since I had been accepted that there would be no problem completing the program. I thought that students who were not successful must run into a lot of problems. Problems that would
have to be beyond normal circumstance. I had the preconceived idea that I would be guided through the classes; there would be that one on one attention, a lot of skills would be taught in a small class setting. It would be a real opportunity to get that hands on feeling. At U of T you would have to make appointments with people and they would only have one hour a week per class to see students. I thought "wow" this is going to be different. The teachers will know the students they will know who I am. I really wasn't worried at all about finishing because my main concern at the time was getting in. When I think of what I have to do now to succeed it scares me to think that people have been kicked out of the program for reasons which you would not call extraordinary. I feel there is a lot of stress to perform. You do get individual attention however I don't always feel that its welcome. You can ask questions but you are always afraid of sounding dumb. I find in
class if you ask the teachers to slow down
they don't apologize for going too fast. They
slow down a bit but it doesn't seem to hit
home. It's like a fishbowl affect here where
you are almost afraid to speak out because
you don't want to be labelled or branded. You
hear about the people who have been kicked
out in the past as the people who caused a
lot of trouble or were the ones who stood out
from the crowd.

Int - Do you feel that had you been aware of these
things that you may have prepared differently
to come into the program.

Student - Mentally it might not have been as
disappointing. Because I feel that lots of
times I do have questions and I don't feel
that there is that open door policy as it
should be. Sure the door is open a crack, for
a limited time. But you aren't able to ask as
many questions as you may like.
Int. - Or they better be good questions

Student. - Yea when you come you better have done your research already. I don't think that's the best atmosphere to learn. Students won't say anything to teachers either. Or if someone does call a teacher on something they get five thank yous from the other students.

Int. - Do you find the faculty are responsive to the feedback they do get from students?

Student - They show limited responsiveness. Its easy to change the small things like time limits and deadlines but its harder to change teacher's attitudes. I think teachers send a mixed message. They say they are there to help but if you do come you better have explored every other avenue before you bother them.

Int. - This is quite a different situation than what you described earlier in your comparison to U. of T.
Student - There still is the individual attention. I mean the teachers are still available but you really have to stick your neck out. At U of T you were a number and the door was open for that one hour a week and if you were there you got the attention. Here you have to make two or three appointments before you get ten or fifteen minutes.

Int. - What sort of things have you done to adapt to this situation?

Student - You have to get feedback from other students to see if they have the same questions or whether they have figured it out. You have to really research a question. If worst comes to worse despite their clearing their throats and looking at their watches you still struggle on with what you need to know. I tell myself this is my tuition, this is my education and I have to learn.
Do you feel that this approach by faculty is educational, by that I mean an attempt to foster self directed learning in students?

I think in this program there is a place for self directed learning but you still need to have some things taught to you. There is such a wide scope of things to know. You could get so focused that you miss the big picture. I now that in the anatomy course when I think of what they assumed that we should know. If we had been steered in a different direction it would have saved so much time and aggravation. In terms of manual skills and techniques it is hard to be self directed. There comes a point where you need some direction some feedback without feeling that if I was a good student I would have learned this myself.

Teachers expect a lot from students. In terms of self directed learning they give you tid bits and expect you to fill in the gaps yourself. This is not my experience learning in high school or even university. I think
they are expecting you to process information, that its up to you to decide what is applicable and not. You get inhibited by asking too many questions. Its such a vicious circle. I picture it like being outside a candy store, you have never seen candy before; you don't know what it is and someone is asking you what you want. The teachers ask questions like "what do you want to get out of this class?" -- I want to learn something. It seems like a waste of time and effort trying to learn without direction. We have course outlines but they are so vague and general its hard to go by those.
Appendix F
Data Category System

The research for this thesis was directed at identifying student and faculty formulation of academic and professional expectation, there for pre-determined categories were not established prior to at the administration of the research instruments. The topical areas identified in the Methodology section provided the context within which the data was organized.

Responses from the research instruments were organized under the following five areas.

1. Information about student academic history
2. Expectations involving program organization
3. Expectations involving the design of instruction
4. Expectations related to the perception of student learning
5. Expectations related to the Physiotherapy Profession

Information about student academic history

Topic Area

Information was gathered in terms of the formal academic achievement of the students within the research.
The intent was to explore the possibility that students with extensive educational backgrounds in relevant academic programs would have more accurate expectations of the Physiotherapy program.

**Categories**

The categories identified reflected amount and relevance of educational experience. The categories are as follows:

1. Graduated from a post secondary programs
2. Graduated from a relevant post secondary program
3. Had some post secondary experience
4. High School graduate
5. Mature applicant (Applicants lacking formal secondary school academic courses)

<table>
<thead>
<tr>
<th>Educational History</th>
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<tr>
<td>Graduated from a post secondary program</td>
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<tr>
<td>Graduated from a relevant post secondary program</td>
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</tr>
<tr>
<td>Some post secondary experience</td>
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</tr>
<tr>
<td>High school graduate</td>
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</tr>
<tr>
<td>Mature applicant</td>
<td>2</td>
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</table>
Reference in Thesis

Information concerning student academic history is presented in Table 5.

Expectations involving program organization

Topic Area

This area relates to the expectations of faculty and students in terms of the manner in which the academic program is organized. These variables in program structure are primarily controlled by college administration. Examples of program organization elements are

1. curriculum design
2. teacher allocation
3. class sizes
4. program philosophy of instruction
5. semester length

It is important to distinguish the program organization elements from those identified in the next section titled; design of instruction. Although it is impossible to separate the two elements totally, design of instruction elements refer to expectations primarily within the student/teacher interaction.
Categories

The main areas of expectation in terms of program organization were, curriculum design, faculty allocation and admission criteria.

Information concerning expectations of students and faculty in terms of program organization was provided in the questionnaire (questions 6, 7, 8), classroom interviews, faculty exercise 1A as well as student and faculty interviews.

Frequency of data

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Accuracy or inaccuracy of Expectation

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</table>

Faculty allocation

The manner in which teachers were assigned to courses was an issue in the classroom discussion as well as student interviews (6/10)

Admission criteria

The reliability of the admission process identified as an expectation in the student interviews (4/10)
Reference in thesis

Curriculum design is identified in Tables 7, 8, and 14.

Expectations Involving Elements of Instructional Design

Topic area

Expectations related to design of instruction reflected student and faculty concerns in terms of the elements of instruction within the classroom.

Categories

The main areas of concern included;

1. Role of faculty
2. Small group learning
3. Problem based learning
4. Pace of instruction
5. Feedback and evaluation
Role of Faculty

Information concerning expectations of faculty role was identified in the questionnaire (question 9), the faculty workshop (exercise 1B) as well as the student and faculty interviews.

Small Group Learning and Problem Based Learning

Information concerning small group learning and problem based learning was identified in the questionnaire (question 8), the faculty workshop (1B) as well as student and faculty interviews.

Pace of instruction

Information concerning pace of instruction was identified in the questionnaire (question 8), as well as student and faculty interviews.

Feedback and evaluation

Information concerning feedback and evaluation of students was identified in student and faculty interviews.
## Frequency of data

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### Pace of Instruction

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### Feedback and evaluation

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### Reference in thesis

The information concerning the expectations in terms of the role of faculty is presented in Tables 11 and 12.
Information concerning small group learning, problem based learning, pace of instruction and type of evaluation and feedback is presented in Tables 8, 13 and 15.

Information about Expectations Related to the Perception of Student Learning

Topic Area

This information pertains to student and faculty perception of student performance. The emphasis is not on measurement of achievement but in identifying how students and faculty perceive student performance.

Categories

The most significant categories of expectation are provided by faculty from exercise 2 of the Faculty Workshop (see Appendix C). Faculty were asked to identify characteristics of students who were successful, who they expected to struggle and those who had surprised them in terms of their performance.
## Frequency of Data

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<tr>
<th>Successful students</th>
<th>Faculty Workshop (n=60)^2</th>
<th>Faculty Interview (n=8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly motivated</td>
<td>54</td>
<td>2</td>
</tr>
<tr>
<td>Self directed</td>
<td>36</td>
<td>5</td>
</tr>
<tr>
<td>Accepts feedback well</td>
<td>30</td>
<td>6</td>
</tr>
<tr>
<td>Well prepared for class</td>
<td>18</td>
<td>4</td>
</tr>
<tr>
<td>Takes appropriate risks</td>
<td>12</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Students expected to struggle</th>
<th>Faculty Workshop (n=60)</th>
<th>Faculty Interview (n=8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not prepared for class</td>
<td>36</td>
<td>1</td>
</tr>
<tr>
<td>Unable to problem solve</td>
<td>30</td>
<td>2</td>
</tr>
<tr>
<td>Doesn't participate in class</td>
<td>30</td>
<td>4</td>
</tr>
<tr>
<td>Takes feedback defensively</td>
<td>24</td>
<td>2</td>
</tr>
<tr>
<td>Not self directed</td>
<td>18</td>
<td>5</td>
</tr>
</tbody>
</table>

^2 Though there were 10 faculty in the workshop, they were asked to identify characteristics for 6 students in each major category.
<table>
<thead>
<tr>
<th>Students who's performance surprised faculty</th>
<th>Faculty Workshop n=60</th>
<th>Faculty Interview n=8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adapted well to program expectations</td>
<td>21</td>
<td>2</td>
</tr>
<tr>
<td>Responds well to feedback</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>Confidence level developed with time</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>Developed stronger communication skills</td>
<td>6</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Students who's performance surprised faculty</th>
<th>Faculty Workshop n=60</th>
<th>Faculty Interview n=8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Didn't prepare for class</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>Problems working in clinical group</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>Poor attendance</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Refused to change in response to feedback</td>
<td>6</td>
<td>2</td>
</tr>
</tbody>
</table>

Reference in thesis

Information in terms of perception of student performance is presented in Table 16.

---

The sixty students characterized by faculty may have surprised faculty in a positive or negative manner.
Information about Expectations Related to the Physiotherapy Profession

Topic area

It is interesting that students and faculty have very different expectational formulations in terms of the Physiotherapy profession. Student expectations related to the potential for employment, as well as qualities of the employment environment. Faculty on the other hand focused on the impact of professional expectation on their role as teachers.

Information concerning expectation of the Physiotherapy profession was identified in the questionnaire (question 6 and 11) as well as the faculty interviews.

Reference in Thesis

Information concerning professional expectation is provided in table 6.