Perceptions of Preservice Education: A Study of Specialists in Adapted Physical Education

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ABSTRACT

The purpose of this study was to investigate the link between university preservice education in adapted physical education and job requirements when teaching in special schools. The relationship was tested through the use of a questionnaire. This instrument recorded the degree to which teachers felt specific teaching competencies were important in their teaching and also the degree to which competencies were perceived to have been covered, during university preservice education.

The results indicated that teachers in special schools perceived competencies within the questionnaire to be generally important, but to have been only adequately covered at best and not covered at all in many instances. Significant differences were noted between the perceived degree of importance and coverage of competencies, as a function of the number of courses taken in adapted physical education and special education, the number of years since preservice education and the age of respondents.

RÉSUME

L'objet de cette étude est d'enquêter le lieu entre la formation universitaire obtenue dans le domaine de l'éducation physique spécialisée, et les exigences de travail dans les écoles spécialisées. Un questionnaire fût utilisé pour examiner cette relation. Le questionnaire a mesuré le niveau d'importance que les professeurs ont attribué à certaines compétences d'enseignement, ainsi que leur perception de l'emphase que chaque compétence a reçu à l'université.

Les résultats indiquent en général que les professeurs des écoles spécialisées ont perçu les compétences comprises dans le questionnaire comme étant importantes, mais que dans leur formation universitaire le traitement des compétences avait été à peine adéquat et dans plusieurs instances absent. Aucune relation significative n'a été observé entre la perception des professeurs sur l'emphase que chaque compétence a reçu à l'université et le niveau d'importance que les professeurs ont attribué aux compétences. Des différences significatives ont été notées entre la perception du niveau d'importance des compétences et le traitement des compétences à l'université, en fonction du nombre de cours suivis en éducation physique spécialisée et éducation spécialisée, ainsi que la laps de temps depuis la formation universitaire, et l'âge des professeurs.

Des déductions ont été faites quant à le futur sujets de recherche dans ce domaine, ainsi que des suggestions d'amélioration le programme de formation d'éducateurs physiques spécialisé.

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CHAPTER 1

INTRODUCTION

Students who pursue a professional university education hope that it will adequately equip them for their future careers. In attending such preservice courses, students want to obtain the basic knowledge and experience associated with their chosen profession. This connection between preservice and job requirements is a basic tenet of professional development and is the focus of this study.

Critics claim that preservice in education fails to adequately prepare those embarking upon a teaching career (Bloom, 1987; Damerell, 1985; Sykes, 1988). They suggest that teachers are unprepared for the range of duties they are required to perform when actually teaching. Damerell (1985) blames the educational institutions and professors who teach courses within them for the inadequacies of preservice. Damerrell (1985) also claims teachers are aware of their lack of preparation and are critical of their preservice.

These educational concerns are echoed and even magnified when associated with teaching young people who have disabilities. A report by Akasmit (1990) suggested that education students receive little contact with disabled pupils and report receiving inadequate training in education plans, classroom management and adapting curricula. Also, there is limited research supporting the effectiveness of special education courses for preservice teachers (Blankenship & Johnson, 1983; Leyser & Bursuck, 1986). Finally,

Akasmit and Alcorn (1988) found that 273 student teachers completing a programme related to children with disabilities reported both course content and their knowledge as inadequate.

Physical education teachers also perceive inadequacy and lack of preparation for teaching children with disabilities (Aufsesser, 1981; Goodwin, 1986; McClenaghan, 1981; Post & Roy 1985). Teachers are concerned about the nature of the handicapping condition, restrictions to participation, expectations on performance, benefits of involvement, preparation time, equipment needs and other curriculum and support services (Goodwin, 1987). Children should be able to benefit from a modified programme of inclusion within a regular physical education programme, but often the anxiety perceived by teachers is restricting (Goodwin, 1987).

Bird and Gausneder (1979) found that 79% of physical education teachers had no practicum experience during their undergraduate education related to children with disabilities. Also, nearly all teachers (96%) reported no direct experiences with disabled students during graduate work in physical education (as cited by Minner, Prater & Beane, 1984).

Much has been written about the competencies, skills, knowledge, and roles for teachers of adapted physical education. These will be discussed in detail in chapter two. However the responsibilities of the adapted physical educator are perceived, the need for professional preparation of a number of competencies is evident.

French, Jansma and Winnick (1978) have suggested that those competencies that relate to direct benefits for pupils are the most crucial to develop. This need was addressed by the publication of competencies as guidelines for training adapted physical educators (American Association for Health, Physical Education, Recreation and Dance 1973; Hurley, 1981). The 1981 competencies fall under the following headings: Biological foundations; Sociological foundations; Psychological foundations; Historical-Philosophical foundations; Assessment and Evaluation; and Curriculum Planning, Organization, and Implementation. In addition, a number of competencies have been identified under different headings by Goodwin (1987), Sherrill (1988), and Watkinson (1985). These include: programme planning, individual instruction, environmental assessment, leadership, personal communications, and administration.

An aim of this study was to determine which competencies adapted physical education teachers felt were important from a practical perspective. Akasmit (1990) suggested that practising teachers have faced the reality of the school setting and are better able to identify knowledges and skills needed to teach and consequently know what was lacking in their preservice programme.

1.2 SIGNIFICANCE OF THE STUDY

The link between preservice education and job requirements is the focus of this study. Education in general has been criticized as failing to prepare teachers for their professional roles (Damerell, 1985). Adapted physical education in particular has been highlighted as an area demanding a host of teacher competencies (Goodwin, 1987; Watkinson, 1985). Clearly there is a need for improved teacher preparation in adapted physical education. This might be aided by asking adapted physical education teachers to evaluate the content and relevance of their preservice education (Evans, 1986).

A major contribution of identifying the major competencies recommended for teaching adapted physical education has been outlined for the United States by Hurley (1981) and by Watkinson (1985) for Canada. The degree to which these competencies and others are perceived as important by practising teachers, specializing in adapted physical education, will be an important aspect to this study. In addition, the level to which these topics were covered at preservice will provide further information pertinent to adapted physical education.

1.3 STATEMENT OF THE PROBLEM

The purpose of this study was to determine the skills and knowledges that adapted physical education teachers use in teaching and the degree to which these were taught at the preservice (i.e. university) level.

1.4 HYPOTHESIS

It was hypothesized that a significant relationship would exist between the degree to which teachers felt competencies were covered in their preservice education and the degree of perceived relevance of these competences in their teaching of adapted physical education.

1.5 DELIMITATIONS

Inferences must be confined to the representative population. Specifically this study has the following delimitations:

1. Only English speaking subjects across Canada were contacted.

2. Only special education schools were sampled.

3. Only specialists in adapted physical education were targeted as respondents to the questionnaire.

1.6 LIMITATIONS

This study has the following limitations:

1. Limiting questionnaires is a problem. To include all aspects of teaching would make a questionnaire too long and complex. However, by restricting the teacher competencies, as was done in the questionnaire used in the study, some aspects of the job may have been overlooked. The dilemma was addressed by including an open-ended section intended to identify any themes teachers believed were missed by the questionnaire.

2. Using a questionnaire as a research instrument is also a limitation. Observing adapted physical educators teaching, or even interviewing them would have more accurately determined the competencies actually employed by teachers. It is possible that the actual behaviour of teachers may differ from their responses on a questionnaire. Moreover, a questionnaire is dependent upon teachers perceptions of themselves and their preservice. Thus, the questionnaire reflects the bias associated with this research technique.

3. This study has been limited to those physical educators teaching in special schools. This means that a range of respondents with many different perspectives, education, experience, and background were operationally defined as adapted physical education specialists.

4. The questionnaire requested that respondents comment on preservice education, which was operationally defined as university education, for example bachelors or masters programmes in physical education. Job experience or courses taken after university were not asked to be considered when responding to the questionnaire. Teachers could respond without making a distinction between preservice or inservice and this then became a limitation of the study. However an extra reminder was included in the questionnaire in order to help respondents make the desired distinction between preservice and inservice (see Appendix B).

1.7 DEFINITIONS

Teaching Experience: The number of years of full-time teaching.

Segregated or Special School: A school primarily designed for children who have disabilities.

Integrated Special School: A school that has a mixture of non-disabled and disabled children.

Preservice or Teacher Education: The instruction received at a university or normal school prior to a teaching post.

Inservice Training: The courses taken whilst in full-time teaching.

General Physical Educator: One who is qualified to work in a mainstreamed setting and spends the majority of time teaching within this environment.

Adapted Physical Education Specialist: One who is teaching children with disabilities for the majority of the school day.

CHAPTER 2

REVIEW OF LITERATURE

2.1 INTRODUCTION

Adapted physical education has many facets and often conflicting definitions. It has been referred to as corrective, remedial, rehabilitative, therapeutic, developmental, and special. According to Sherrill (1988) it is the ideal of quality physical education for all children and youth. In practice it ought to be for students who, for whatever the reason, perform significantly below average in physical education activities. It has been suggested that teachers who opt for teaching in this area require specific competencies (Churton, 1986; Goodwin, 1987; Sherrill, 1989; Simard & Wall, 1980; Watkinson, 1985; Winnick 1986). It becomes the role of the university to equip the potential teachers of children with disabilities with the appropriate skills and knowledge they require to do the job successfully.

A review of the specific competencies suggested for adapted physical education, and an appreciation of how these issues were covered will form the major themes for this chapter. Literature relevant to this study will be examined in the following sections: (2.2) An Historical Perspective; (2.3) Issues in Teacher Preparation; (2.4) The Role of the Adapted Physical Educator; (2.5) Theoretical Basis for Teacher Competencies; (2.6) Teacher Competencies in Adapted Physical Education; (2.7) Summary.

2.2 AN HISTORICAL PERSPECTIVE

The requirements for preparation in teaching adapted physical education needs to be placed in an historical perspective. According to Winnick (1986) medically orientated gymnastics and drill began in the latter part of the 19th century. This was the forerunner of modern adapted physical education. Sherrill (1986) states that physical education prior to 1900 was medically oriented and preventive, developmental, or corrective in nature. According to Sherrill programmes began to shift, toward the end of 19th century and into the 1930's, from medically oriented physical training to sports centred physical education and concern for the whole child. However, Sherrill notes that physical education programmes between the 1930's and the 1950's consisted of regular or corrective classes for children who today would be considered without a disability. Also, persons preparing to be physical education teachers generally completed, at best, one university course in corrective physical education, that is physical training that focused on postural abnormalities and therapeutic exercise for those children with disabilities. During the 1950's and 1960's a more humanistic outlook toward children with disabilities developed. As more and more of these children were being served in public schools a greater diversity of programmes were evoked to meet their needs (Winnock, 1986). In 1952, the American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD) formed a

committee on Adapted Physical Education to define the subdiscipline and give direction and guidance to professionals.

According to Sherrill (1988) the status of public school physical education affects university teacher education and vice versa. As Flint, (1967) reported, approximately 50% of the colleges and universities in the United States that prepared teachers required a course in adapted physical education. Legislation was also implemented at this time which had a tremendous influence on educational programmes for teachers of adapted physical education and students with disabilities.

PL 90-170 in the United States supported by Senator Ted Kennedy in 1967, gave federal funds for various projects in adapted physical education and therapeutic recreation. Since 1969, colleges and universities in many states have received federal funds for professional preparation, research, and other projects to enhance physical education and recreation programmes for people with handicapping conditions (Winnick, 1986). As a consequence physical educators have gained a great deal from that support.

A major influence upon teacher education in adapted physical education was PL 94-142, the Education for All Handicapped Children Act, United States 1975. The effect is best summarized by Hillman (1981) (as cited by Sherrill, 1988, p. 46)

> In 1969 the total funding for both areas (physical education and recreation) was $300,000. Sixteen programmes supported, emphasis was on planning and development. In 1980 total funding of approximately 3.89 million dollars, 91 programmes funded ... approximately 1.5 million dollars has been targeted for pre- and inservice activities in physical education.

This legislation specifies that special education, including physical education, must be made available and that it must include physical education specially designed, if required, to meet unique needs (Winnick, 1986). For the first time children with disabilities were assured physical education instruction. Education in every aspect had to respond accordingly. It has encouraged educators to focus on the educational needs of the student instead of clinical or diagnostic labels (Sherrill, 1988).

Another legislative milestone was Section 504 of the Rehabilitation Act of 1973, PL 93-112. As identified by Winnick, Anxter, Jansma, Sculli, Stein and Weiss (1980) it ensured that children with disabilities receive intended benefits of all educational programmes and extracurricular activities (as cited by Winnick, 1986). The 1970's was an era of disseminating information about legislation and advocating its implementation (Sherrill, 1988). Thus the US federal government played a major role in adapted physical education teachers' education during this period.

According to Sherrill (1988) the emphasis in teacher education has switched during the 1980's from inservice back to preservice. Yet Sherrill points out that many universities continue to work with public schools and parent organizations to ensure optimal understanding of PL 94-142 in the U.S.. Thus, through an historical progression, gradually there has evolved an awareness that there are individuals with unique needs related to physical education and sport, needs that require special provisions or adaptations for completion. The consideration of how teachers may best fulfill these needs and what provisions or adaptations are viable for individual children with disabilities becomes the next focus for development.

2.3 ISSUES IN TEACHER PREPARATION

Teachers need to be prepared to teach children with disabilities (Akasmit, 1990; French, Jansma & Winnick, 1978; Goodwin, 1987; Hurley, 1981; Sherrill, 1988; Watkinson, 1985). However, a number of issues surround the concept of this preparation. These concerns include the form preparation should take; the timing and depth of courses; who should be included in preservice preparation; whether programmes are certified; and the way in which course content is organised. These issues will serve to illustrate much of the debate surrounding teacher preparation.

Approaches for teachers preparation, although sharing a common goal, often vary considerably. Some approaches suggest that undergraduates should receive separate courses taught by an adapted physical education specialist. Others follow the idea of informal infusion of content into regular physical education courses or inclusion of specific units on adapted physical education in several required courses. Finally, a combination of the above was advocated by Sherrill (1988). Each possible option has its supporters and critics. Lord (1980) suggested that specialized professional preparation, based on the physical activity needs of children with specific disabilities, was inappropriate. He argued that disability should not be the main factor in programme development. Rather, undergraduates should be required to have a broad education and experience with children of all ages and abilities.

Yet, through the method of content infusion, a child with unique needs is not the primary focus and perhaps that might be required for optimal child development. There is a danger that failure to specifically earmark courses in adapted physical education may severely hamper the field because, too often, professors who are insensitive to adapted physical education will be teaching the courses (Winnick, 1986).

In an attempt to overcome the problem associated with the preparation of faculty professors, in dealing with material concerning adapted physical education, the United States led

the way. Several special projects have been funded by the U.S. federal government to change attitudes and upgrade competencies of university teachers. One such scheme was project INFUSE, which was an attempt to include knowledge about children with disabilities into all university courses. According to Hall and Stiehl (1978), it was "an attempt to improve the preservice training of all physical educators by introducing into physical education preparation courses concepts related to the handicapped." The concept was that infusion can best be facilitated by upgrading existing university faculties regarding education of disabled students and subsequently infuse such knowledge into present courses. Project Infuse remains a resource for methods and approaches to infusion for university faculties. Its influence, however, is only now being felt as more and more leaders understand and advocate infusion. Although attempts were being made to improve the teaching of teacher preparation courses for many years, there were no set criteria to which professors must adhere (Sherrill, 1988). In the early stages of the development of adapted physical education there were no guidelines for professional preparation. Therefore the American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD) and the Bureau of Education for the Handicapped (BEH) in the United States sponsored several regional institutes to bring adapted physical educators together. According to Sherrill (1988) these institutes helped university professors to organize their

curriculum planning in relation to the roles expected of adapted physical education specialists. Institute participants were also taught the competency approach and helped to determine learning experiences that might develop specific competencies. The advancement of the concept that teacher education should be non-categorical (generic) was also promoted. This meant that the emphasis was moving away from education in specific disciplines, for example working with the hearing impaired, to general education, directed toward the competencies needed to perform such functions as assessment, programme design and implementation, and interpersonal cooperation.

As previously identified, the development of adapted physical education as a profession and an academic discipline, has been significantly influenced by federal U.S. legislation and funding (Hillman, 1986). PL 94-142 in the United States (1975) led to a total revision of course content in the United States. Its enactment, with the mandate that all children with disabilities shall have physical education, also contributed to the trend toward teacher training programmes requiring a course in adapted physical education and for infusing information about children with disabilities into all major courses. As related to personnel preparation, infusion refers to the inclusion of knowledge and skills pertaining to handicapped students in all courses within the regular physical education curriculum. Stein (1969) is acknowledged as the innovator of

this concept and remains its strongest advocate (French & Jansma, 1982; Kalakian & Eichstaedt, 1982). Whereas Stein saw infusion as replacing separate courses in adapted physical education for the nonspecialist, Sherrill (1988) believed the combination of infusion with a separate course was the ideal approach. The following studies offer insight into the effectiveness of infusion courses and the apparent need for improved teacher preparation.

There is limited research supporting the effectiveness of special education courses for preservice teachers (Blankenship & Johnson, 1983; Heyser & Bursuck, 1986) and even less is known about the effectiveness of models that infuse knowledge about children with disabilities into existing courses. One study by Chance, Campbell and Waldvop (1982) found significant changes in knowledge and attitude among 302 teachers in preservice training exposed to a mainstream curriculum infusion model. However a study by Aksamit and Alcorn (1988) found that 273 student teachers completing a programme using a curriculum infusion model reported both content coverage in courses and their own knowledge as inadequate.

Some research has been reported on mainstream physical educators who teach students with disabilities, but little about the full-time specialist in adapted physical education. In one of the first studies in this area, Heilbuth (1983 as cited by Sherrill, 1988) reported that only 20.6% of the full-time adapted physical educators in Texas had earned a degree

specific to their job functions. More than 43% reported that their educational training did not prepare them adequately to perform job functions.

The need to evaluate teacher preparation in adapted physical education is apparent. Guidelines for those in adapted physical education, as suggested by Hurley (1981), offers some direction. Yet, all the areas identified cannot occur in one introductory survey course. Infusion into other undergraduate and graduate physical education courses is recommended as a possible alternative.

It is not possible to equip the graduate in physical education with all the specialist skills necessary to work in the adapted environment, nor would it be necessary. However, many graduates leave preservice education and find themselves either working in special schools or teaching children with disabilities in their classes. It has been identified that many teachers feel unequipped for this challenge (Goodwin, 1986). The role of preservice education has to include the key concerns of teachers in relation to adapted physical education

> Sympathy can be felt for teachers for the way they are treated by the layer on layer of "experts" above them, for being on the receiving end of innumerable policies, directives and programmes that they have no hand in making. They also receive most of the blame for what is wrong with public schools. Nevertheless, teachers are the products of their educational schools, and have all the weaknesses of them. (Damerell, 1985, p. 274).

Specialists in adapted physical education have a duty to themselves and to their students to identify what is important and relevant to their teaching. Professors have an obligation to reanalyse their course content in the light of teacher experience to ensure the most poignant concerns are addressed in their courses. By surveying the specialist in adapted physical education, the present study sought to highlight the most powerful competencies for dealing with children who have disabilities. The response to the knowledge obtained will be beneficial to all who have an interest in adapted physical education.

So far, the concept of different approaches to preparation, issues associated with course content infusion and the expectation of University professors, have been discussed in relation to preparation for working in adapted physical education. Another issue is the appropriate level for course content (ie. graduate or undergraduate). This overlaps with the concept of whether one is aiming to prepare the specialist in adapted physical education or the trained generalist in adapted physical education.

In the late 1960's and early 1970's, there was a debate concerning the appropriate level of preparation in adapted physical education, that is, graduate versus undergraduate. The issue was whether undergraduate students should receive specialist education for working with children who have disabilities, or whether this specialist should be restricted

to the graduate level. In the early 1970's no U.S. federal monies were available for the funding of undergraduate physical education programmes. Also, there was a belief that adapted physical educators should have a strong liberal arts background and in-depth preparation in regular physical education before undertaking studies involving diagnosis, prescription, and remedy of motor problems (Sherrill, 1988). Graduate level preparation predominated. However, today there is some renewed interest in undergraduate preparation. The reason for this progression is related to the changing school climate of integrating children with disabilities.

The integration of children with disabilities into the mainstream school environment "is an educational placement philosophy based on the belief that a handicapped student should be educated in the least restrictive environment in which his or her needs can be met" (Sherrill,1986, p. 44). For some children this integration is complete, for others it may be partial integration or segregation. Thus, with the notion of integration came the concept of preparation at the undergraduate level for teachers who would have to implement this policy. Therefore, an early federal granting programme in the United States (1975-1983) awarded funds for colleges and universities for the purpose of promoting the development and implementation of preservice education, at the undergraduate level, that would better prepare teachers to teach children with disabilities (Grosenick & Reynolds, 1978; Morsink, 1982;

Whitmore, 1979). Thus, teachers should be prepared after undergraduate courses to teach children with disabilities since integration is so common. Yet, the type, level and timing of preservice education is still dependent upon how the position of the practising teacher is perceived. It is arguable that prospective teachers at the undergraduate level should not receive preparation in adapted courses as much of this information may not be required. This is dependent upon the role teachers are given after they graduate.

According to Watkinson (1985) the "general" physical educator is one whose primary role is in regular or mainstream community programmes, which focus on culturally normal activities. A responsibility might be to integrate children with a mild disability into the mainstream programme. On the other hand, the "specialist" adapted physical educator may also strive to teach culturally normative activities but is assumed to have considerable expertise in broader aspects of the field. That is, a physical educator who can teach in a segregated programme, who can design and implement developmental or training programmes for the child with a disability, and who has the knowledge required to disseminate information about special populations to fellow colleagues, parents and the community.

Watkinson (1985) conceded that it would be difficult for one individual to have the expertise required to fulfil all of these functions, especially with respect to a broad range of

activities or special populations. Some specialists obtain expertise in one activity (for example, aquatics). Others may have expertise in teaching one particular group (for example, children with hearing impairments), and have the competencies required to deal with that group in a wide variety of activity programmes.

Simard and Wall (1980) recommended that all activity specialists in adapted physical education receive a sound basic professional preparation in their degree programmes. Specialization would then follow. In responses by Lord and also Evans (1980), specialization was not recommended, and a variety of experiences advocated. Thus, there are many difficult policy decisions associated with such a new and changing discipline such as adapted physical education. What ought to be contained in a programme of preparation and the extent of specialization has been a question many experts in adapted physical education have debated (Simard & Wall, 1980; Evans, 1980; Lord, 1980; Hurley, 1981).

As more students with disabilities are included in the regular physical education programmes, the need for a trained generalist in physical education with some background knowledge in adapted physical education increases (DePauw, 1986; Evans, 1986). In response to the challenges of educating the child with a disability a number of authors have recognized the need for this type of professional preparation of teachers. These specialists are referred to as adapted physical educators

(Churton, 1986; Goodwin, 1987; Sherrill, 1989; Simard & Wall, 1980; Watkinson, 1985; Winnick, 1986).

To summarize, there has been a movement of adapted physical education preparation from a rather specialized aspect of teacher education to a general or endorsed requirement of many courses. The future directions for preparation suggested by Sherrill (1988) are that adapted physical education theory courses with practicum experiences should be required of all physical education generalists, of all special educators, and of all elementary education majors. In addition adapted physical education theory should be infused into all aspects of the undergraduate physical education curriculum.

With the demand for preparation in the form expressed by Sherrill (1988), comes an issue of quality control of preparation in adapted physical education. Johnson (1975) was the first to undertake research into the quality of education programmes. Oakley (1984, as cited by Sherrill, 1988) developed guidelines for evaluating undergraduate adapted physical education training. In the United States, approved certification, endorsement or credentials from the state is being worked towards by 11 states (Cowden & Tymeson, 1983). However, the field of adapted physical education is far from solid in it's commitment to an organized body of accreditation for teacher preparation. Indeed, in such a changing and dynamic discipline there are not many issues associated with teacher preparation with universal approval. The final issue

in teacher preparation reflects the changing and forward thinking perspective of Kalakian and Eichstaedt (1982) regarding the organization and content of teachers preparation in adapted physical education.

> Adapted physical education is experiencing a state of transition and change never witnessed before. This profession's major responsibility is one of active participation in the change process. Any dynamic, viable profession must accept responsibility for initiating trends, not mearly following them.
> (Kalakian & Eichstaedt, 1982, P. 451)

There has been a shift in emphasis within university preparation, from purely academic theory-based component, to the inclusion of practicum experiences with children who have disabilities (Akasmit, 1990). As a primary source of preparation, Akasmit (1990), suggests practicum instruction is the most beneficial to teachers in education. According to Roswall (1985) the practicum is also a beneficial component to the adapted physical education preservice programme. Roswall suggests that it provides students with meaningful experiences that assist in reinforcing classroom theory and shaping attitudes toward disabled individuals. This avenue of instruction has also been illustrated by Churton (1986) who states "future programmes in adapted physical education will need to become more field-based and address functional competencies that will prepare students to meet the psychomotor needs of handicapped children effectively" (p. 118). This leads one to consider not only how, and in what form

specialists in adapted physical education receive their instruction, but also for what role is their preparation guided.

2.4 THE ROLE OF THE ADAPTED PHYSICAL EDUCATOR

To understand what must be contained in the preparation of an adapted physical educator one must appreciate the role this particular individual must fulfil. "Today's specialists in adapted physical education are employed to perform a wide variety of job functions, only one of which is teaching" (Sherrill, 1988, p. 19). The work of Simard and Wall (1980) and Hutchinson and Lord (1979) in Canada has contributed a great deal to the understanding of the roles of the physical educator in adapted physical activity. An examination of their work and that of others (Aufsesser, 1981; Bird & Gansneder, 1979; Hurley, 1981) suggest that there are basically four types of functions covered in the field. These functions are (1) mainstream teaching (2) special teaching (3) programme design and (4) information dissemination.

Watkinson (1985) argued that the role of the mainstream teacher is to facilitate the involvement and participation of special populations in mainstream programmes of physical education. Special teaching provides developmental and training programmes in education, recreation and sport for those individuals who are not involved in the mainstream of physical activity programmes.

Programme design involves developing new programmes of physical activity for those special individuals inside and outside the mainstream. Additional roles perceived for the specialist in adapted physical education are information dissemination about special populations to professionals, volunteers, guardians and professional organizations as well as the public. According to Sherrill (1988) adapted physical education specialists are employed in an increasing number of personal roles. These roles include direct service delivery, administration, supervision and consultation, and finally preservice and inservice training.

Direct service delivery involves multiple job functions, thus Sherrill (1988) refers to the multidisciplinary role of adapted physical educators. She suggests that adapted physical educators are expected to deliver many nonteaching direct services such as assessment, educational diagnosis, multidisciplinary planning, parent conferences, home visitations, one-on-one counselling and problem solving, and writing individualized education programmes (IEP's). With each of these delivery services comes an expectation of presevice preparation which has repercussions for those involved with the organization of preservice courses.

Administrative roles which befall the adapted physical education person may include all aspects of management, supervision and consulting. In addition, preservice, inservice

and parent education refer to the role of teaching others how to deliver services to disabled individuals.

Goodwin (1987) defines the role of the specialist in adapted physical education under three slightly different headings; (1) Adapted physical education teachers, school based; (2) Itinerant teachers for adapted physical education, shared across schools and (3) Adapted physical education consultant, available for assessment, consultation and inservice to schools across the district. Goodwin suggests the adapted physical education teacher is, in part, an instructor of adapted physical education classes, and may be found in a school where there are classes for students with special needs. The teacher's role is to provide a programme for students who are not yet ready for a mainstreamed programme or who have a need for a specialized programme, due to the nature of their disability. Other responsibilities would include the collection of assessment information, planning, implementing and evaluating of the programme, liaising with the classroom teacher, establishing and writing goals for the individual education plan and communicating with parents and community agencies. The adapted physical education teacher would also assist in the placing of students in the regular physical education programme. He or she would then consult with the teacher over the course of the year (Friend, 1985).

According to Goodwin (1987) the itinerant teacher works very much as the adapted physical education teacher, but across several schools. Services in this capacity would be offered to schools which cannot independently allocate resources, yet require, an adapted physical educator. A person in this itinerant capacity would have all the aforementioned responsibilities of a physical educator as well as offering inservice training to teachers as the need is identified (Dummer & Windham, 1982; Watkinson, 1985). They would require advanced training over that of the specialists in adapted physical education teachers in order to meet the diverse needs that would exist across schools (Goodwin, 1985).

The itinerant teacher has a specific role to play in the provision of physical education to children with severe disabilities. Training with the special education teacher and physiotherapist is essential to the provision of a programme that expands and extends the benefits of medically advised exercises (Simard & Wall, 1980; Winnick, 1986).

Goodwin (1987) states that the adapted physical education consultant has a very dynamic role. The client position shifts from that of the student to that of a teacher and/or administrator. The consultant acts as an information expert. He or she would assess student ability for placement and/or instructional programming. The consultant role is also one of an ambassador for the field of adapted eduction.

Acknowledging the expanding role of the specialist in adapted physical education it is possible to appreciate the complex range of skills and knowledge required to fulfill many of these functions. However many of the roles identified earlier, are not mutually exclusive and may overlap. The key for future teacher preparation will be to identify the common themes for effective teacher performance across a diversity of roles and concentrate preservice education in these areas.

2.5 THEORETICAL BASIS FOR TEACHER COMPETENCIES

Competencies in adapted physical education have been suggested by numerous authors (Churton, 1986; Goodwin, 1987; Sherrill, 1989; Simard & Wall, 1980; Watkinson, 1985; Winnick, 1986). The development of competencies for use in instruction has been described as a methodology that enables teachers to achieve goals that correspond to instruction and student progress on curriculum related tasks (Fuchs, Fuchs & Stecker, 1989). The theory involves behavioural principles in order to eradicate instructional mismatch between the student ability and instructional demands.

Maher and Forman (1987) have noted that the contemporary behavioural approach to education encompasses a wide range of procedures derived from the principles of a) operant conditioning, b) classical conditioning, c) social learning interventions and d) cognitive behaviour modification.

As described by Maher and Forman (1987), operant conditioning principles (developed from Skinner's operant conditioning theory) assume that an individual's behaviours operate on the environment in order to produce certain consequences. These consequences lead to an increase or decrease of the behaviours. In order to change the behaviour of an individual one has to maintain or change the relationship between specific overt behaviours and their consequences. Some of the intervention strategies that have been used to achieve this goal involve using continuous or intermittent reinforcement and shaping.

Classical conditioning principles (developed from Pavlov's classical conditioning theory) involve pairing a neutral stimuli (conditioned stimuli) in the environment with the targeted stimuli elicited by the individual so that a conditioned response occurs. Examples of intervention techniques that employ these principles include backward chaining, forward chaining, prompting and provision of incentives when correct behaviours are elicited.

The social learning interventions (developed from Bandura's social learning theory) assume that an individual can acquire desired behaviours by observing a model performing the desired behaviour. The behaviour modeled is then symbolically coded and then reproduced by the learner. Some of the strategies that have been used to help students imitate desired behaviours include modelling and generalized imitation.

Cognitive behaviour modification techniques assume that restructuring of an individual's cognitive process would lead to behaviour change. Most notable interventions include response prompting and problem solving strategies.

Another key competency which has been recommended for teachers to develop is assessment. Assessment plays a major role in identifying the student's initial abilities, determining suitable objectives for each student, charting student progress in the set objectives, and identifying the extent to which the entire programme developed has been attained. Assessment at the initial level serves as a screening procedure that enables the teacher to design instructional objectives that could be achieved by the student. Two major assessment methods include norm-referenced measurement and criterion-referenced measurements.

Norm-referenced measurements are tests that examine a student's performance in relation to a representative group (Werder & Kalakian, 1985). The test scores obtained from norm-referenced tests are useful in the screening process of the student since they indicate how far along the normal developmental continuum a student stands in relation to his/her peers. These tests are also useful in generating ideas about those attributes of the learner which need improvement (Eaves & McLaughlin, 1977). Some of the norm-referenced tests that have been used in the area of physical education to measure motor-performance of students include the Bruininks-Oseretsky Test of

Motor Proficiency (Bruininks, 1978); and Test of Motor Impairment Revision (Henderson, 1985).

Criterion-referenced tests describe a student's motor performance based on predetermined criterion, rather than on the performance of a norm group. The performance of each student is judged on an individual basis against an established criterion of either a mature pattern of performance or a developmental sequence (Davis, 1984). This view contrasts with the norm-referenced tests which use performance scores of peers of the same chronological age-criterion as the basis for judging performance. Examples of criterion -referenced tests include Ulrich's test of motor development (Ulrich, 1985); the I CAN Programme (Wessel, 1976); the PREP programme (Watkinson & Wall 1982); and the Data based gymnasium programme (Dunn, Moorehouse & Fredericks, 1986).

The information gathered through these assessment methods, provides a basis for designing an appropriate individualized educational programme (IEP). Assessment data collected about a student's strengths and weaknesses in motor performance is useful for physical education teachers to select appropriate instructional strategies for each student. The IEP developed for the student depends on such factors as the student's needs, desires of parents, and the environment in which the student is expected to practice the skills learned. The student's performance on the IEP is evaluated from time to time to reveal what skills within the curriculum have or have not been learned

as well as to provide an index of student progress (Jenkins & Pany, 1978). Once the skills identified in the IEP have been attained at the criterion level, they are maintained through reinforcement strategies, and generalized to other situations within the learner's environment.

The performance of the student on the IEP determines whether the programme has to be modified or maintained. Modification of the programme may involve such strategies as breaking down the initial objectives into small steps (task analysis) to enable the student to reach desired levels of motor performance.

A number of advantages have been cited in the literature to support the development and use of competencies such as those outlined earlier. For example, Salvia and Ysseldyke (1985) have noted that competencies such as these provide a means by which teachers may structure their teaching strategies in order to provide enhanced feedback from learners. Teacher are able to monitor the performance of each student on a continuous basis thus ensuring that targeted skills are mastered.

Fuchs and Fuchs (1986) have observed that the use of strategies on the development of competencies enables teachers to monitor student performance more systemically, objectively and frequently. Learning is structured at a pace that enables each student to progress through the instructional sequences without much difficulty.

The use of the theoretical principles and instructional techniques outlined in this section offers a wide variety of instructional strategies to meet the needs of all learners. This explains the reasoning behind the inclusion of so many of these competencies within teacher preparation programmes for adapted physical education (Watkinson 1985). It has also been suggested that the perceived competence of teachers for teaching students with disabilities is strongly related to attitudes (Rizzo & Vispoel, 1991). The more competent teachers feel, the more favourable are their attitudes. (Rizzo & Wright, 1988). Thus it would appear to be important to equip teachers in preservice education with a range of competencies which ought to enable them to think more positively about their students. It is important to examine in depth the role of these competencies in relation to the practising teacher of adapted physical education.

2.6 TEACHER COMPETENCIES IN ADAPTED PHYSICAL EDUCATION

> Just as leaders in general physical education have attempted to identify the body of knowledge unique to that discipline, so must leaders in adapted physical education clarify the content of the subdiscipline. (Seaman & Depauw, 1986, p. 6).

The prospect of providing an encompassing body of knowledge with which prospective teachers of adapted physical education ought to be familiar is a complex one. Some authors have criticized the education system for not identifying and conveying a body of knowledge to teachers in preservice.

> There are two million teachers, most of whom have negative things to say about whether the education they got was helpful. A doctor might criticize medical education, but he would not say he would be better off without his professional training, as a teacher would. (Shanker, 1984, as cited by Damerell, 1985, p. 254).

The assumption behind professional preservice education is that one will acquire the knowledge and skills to perform one's job. Education is criticized in general for not performing this role. As noted previously, the teacher of adapted physical education is assumed to possess a multitude of teaching competencies. The process by which one is to obtain these skills has also been identified to be multifaceted.

A review of these educational competencies has been condensed into the content of the survey used in this study. A brief overview of the theoretical foundation of each section will identify its relationship to the literature.

2.6.1 Programme Planning

The ability to plan a programme of activities for children is fundamental to the role of teaching (Gallagher et al., 1976). In adapted physical education, a system such as I CAN

provides information on short and long term programme planning in physical education using task analysis, operant conditioning strategies, and the ongoing documentation of student performance (Wessell, 1976).

Bird and Gausneder (1979) focused their research on one state (Virginia), and assessed the degree of preparation of physical education teachers to meet PL 94-142 requirements. A random sample of 912 public school physical educators were surveyed with a 40% return. Of the respondents, 65% rated their education in adapted physical education as poor. When asked to assess their competencies in planning, implementating and evaluating physical education programmes for handicapped students, 24 to 48% indicated little or no ability to perform a task. On self-ratings of knowledge about 26 common disabling conditions, over 50% had little or no knowledge of nine conditions, and over 30% had little or no knowledge of 23 disabling conditions.

One important aspect of programme planning is assessment. Stamm (1980) noted that teachers have not been prepared to conduct assessment for the purpose of determining the student's learning strengths and weaknesses. Therefore, they use inappropriate knowledge and skills that result in failure of children to acquire necessary skills. This view finds support from Ysseldyke (1983) who suggested that special education teachers rarely used assessment data to make decisions on the instructional process. Melograno and Loovis (1991) state that

teachers indicated a general need for assistance in motor behaviour assessments. Therefore, it becomes necessary to determine how important planning a programme is for teachers and to what extent the methods they may use were covered at preservice.

2.6.2 Individual Instruction

The theory of individual instruction implies that it is a way to provide education for students with varying abilities. Although the importance of individualizing physical education instruction has long been recognized, it was the enactment of PL 94-142 in the United States that made individualized educational programming a legal requirement in the education of children with disabilities (Sherrill, 1988). The formation and application of an Individual Educational Plan (IEP) requires that teachers be well equipped. Also, before individualized instruction can become a reality, teachers in preservice must receive practicum experiences.

> It is not sufficient to tell preservice teachers in the foundation course that, as a result of PL 94-142, every handicapped child must have an IEP. Nor is it sufficient to describe in the learning theory course what must be included in the IEP and who is responsible for developing it. Simulated in-class experiences with IEP's as they relate to children with particular handicapping conditions also must be provided, and all students should be required to participate in the development of IEP's during student teaching or other practicum experience. (Aksamit, 1990, p. 26).

Previous studies which have examined the efficacy of using IEP strategies show that these strategies are as effective and in some cases more effective than the traditional modes of instruction (Annavino, 1976; Cobbe, 1974; Melville, 1972; Stinson, 1978; Young, 1975).

It has been suggested that the most positive outcome of IEP development is the ease with which the teacher is able to effectively plan for his or her students on a short or long term basis (Goldstein, Strickland, Turnbull & Curry, 1980). Yet, according to Ysseldyke (1988) teachers do not always use individualized instructional strategies when faced with students of differing abilities.

Brophy and Evertson (1977) implied that teacher commitment and attitude are critical to the success of IEP's. Teacher approach can influence student learning (Gibson & Dembo, 1984). Although it has been noted that teachers do not always put into practice those skills that they learn in teacher preparation programmes, it is not clear whether this has any relationship with the quality of education received.

Aksamit (1990) examined the effects of federal funds, available to colleges of education to help prepare teachers to teach mainstreamed children with disabilities. This study provides follow-up data from practising teachers who completed a curriculum infusion model at one large mid-western teachers college. Participants were graduates who responded to a questionnaire sent to a random sample of 250 teachers who

graduated between 1983 and 1986. The responses of 80 (42 elementary and 38 secondary) teachers were usable (32%). All 80 participants had been exposed to the entire four year infused curriculum; none had taken an elective special education course; and all had taught from between one and four years.

The results of this study indicated that 77% of the 80 teachers had children with learning disablities in their classes. Also, 23 secondary teachers (60.5%) and 28 elementary teachers (66%) identified knowledge and skills needed to teach mainstreamed students that, in their opinion, were not acquired in their preservice programme. The areas that were lacking included, knowledge of IEP's and how to be effectively involved in their development and implementation.

2.6.3 Group Leadership

The approach one takes to organizing a lesson may be as important as the content. Learning can best take place if the child is taught within a psychologically safe environment. The setting must ensure that the child is focused on the task and is performing at an appropriate level of difficulty. The teacher, through his/her leadership style is responsible for creating such an atmosphere of learning.

Research studies have repeatedly substantiated that an effective teacher is first an effective class manager. Luke (1987) defined class management as the ability of the teacher

to organize the elements of the learning environment and to maintain appropriate behaviour of pupils. It has also been observed that the amount of time students spend actively engaged in learning tasks is related to the level of student achievement (Grant, Ballard & Glynn, 1989; Stainback & Froyen, 1987). Conversely, poor class management has been shown to be detrimental to learning time (Siedentop, 1983).

2.6.4 Administration

According to Watkinson (1985), the administrative duties associated with the role of the adapted physical educator are extensive. Administration will differ among schools, yet the degree to which these duties impinge upon the teachers time is often an important issue. From writing students reports to discussion with parents and the community, each aspect of administration ought to be considered for its effect on teaching and learning.

One important facet of administration for the teacher of adapted physical education is the involvement and cooperation with a team approach to achieve goals and objectives for all students. Fenton, Yoshida, Maxwell and Kaufman (1979), have noted that team members often experience difficulty stating goals and have ambiguous expectations for their function. Time required to identify student requirements imposes constraints on consultants (Feld, Bergan & Stone, 1987). Thus, for an administrative team to be effective, each team member must

possess skills that will help him/her to focus on important and relevant aspects of interest to the team. Therefore, there is a need to see how far physical educators feel their role in administration of this kind is important and whether they were adequately prepared from their preservice to make full use of the administrative aspect of their role.

2.6.5 Personal Communication

Personal communication involves knowledge to establish a support system (e.g. referral to professionals and significant others) and make use of it. Arguments for a multi-disciplinary consulting team have been based on assumptions that such an approach would result in decision processes being orderly, efficient, and relatively fast paced, since goals will be clear for all involved with student learning (Fenton et al., 1979). These advantages have been further supported in the literature (Maher & Yoshida, 1985; Morgan, 1982; Turnball, Turnball & Wheat, 1982). It has been noted that communications with parents and educators, school administrators and policy makers has been more influential in developing educational programmes and legislation than research evidence (Ballard-Campbell & Semmel, 1981).

2.6.6 Specialized Teacher Competencies

It is obvious that teachers specializing with children who have disabilities of a specific nature (for example, a sensory disability) will find certain competencies, such as sign language, crucial to their job. It would be impractical to suggest that all the specialized knowledge and skills needed to teach in an adapted setting could be taught at the preservice level. However, a review of selected competencies, based on what teachers might expect to find in the majority of adapted settings might prove beneficial.

It is logical to assume that a physical education teacher who is comfortable with wheelchair design and use will have less difficulty assimilating the child in a chair into various physical activities. The simple attachment of a hockey stick on the front of an electric wheelchair can transform the inactive unmotivated child into "an enthusiastic participant." Using this example one might appreciate how a basic knowledge and understanding related to children with various types of disabilities can make a significant difference to the involvement of specific children within a physical education lesson.

2.6.7 Awareness of Health Issues

Issues such as Acquired Immune Deficiency Syndrome (AIDS), child abuse and emergency procedures are ever changing. New policies are often recommended. The serious nature of each

aspect of the health section is well documented in the literature, (Surburg, 1988) but the degree to which it impinges upon the teachers' role has not yet been covered in previous research in adapted physical education.

2.6.8 Integration

It would appear that most teachers of physical education would agree in principle with the integration of children with disabilities into the least restrictive environment (Goodwin, 1987; Marston & Leslie, 1983; Minner & Kunston, 1982; Watkinson & Bentz, 1985). Moreover, many concerns are raised by teachers that suggest the need for specialist education for all teachers (Goodwin, 1987).

As previously identified, many teachers feel anxiety and frustration when they are asked to integrate children (Aufsesser, 1981; Goodwin, 1987; McClenaghan, 1981; Post & Roy, 1985). The research indicates that practising teachers generally do not feel adequately prepared to implement a mainstreamed physical education programme (Bird & Gansneder, 1979; Marston & Leslie, 1983; Minner & Knuston, 1982; Watkinson & Bentz, 1985). Teachers are said to raise questions regarding the nature of the handicapping condition, restrictions on participation, expectations of performance, benefits of involvement, preparation time, equipment needs, curriculum resources and available support services.

2.7 SUMMARY

In an attempt to review the specific competencies suggested for teaching adapted physical education a number of important issues have been addressed. Adapted physical education and the preparation for working in this sphere was first placed in its historical perspective. Issues related to preparation and the role of the physical educator were addressed. Finally the theoretical basis for teacher competencies in general and the specific teacher competencies outlined within this study were reviewed. The final assessment of teachers perceptions of their preservice preparation is best illustrated through Aksamit's study (1990). Twenty-four (60%) of the secondary and 20 (41%) of the elementary teachers assessed the strengths of their preservice. Eight of the 44 respondents reported that they could think of no strengths in their programme. Of the remaining 36, the majority said that factual information about special education laws and the requirement to serve students in the least restrictive environments was most adequately covered. A few reported that having had student teaching or other practicum or volunteer experiences with disabled children was the best preparation they had. The recommendations for preservice improvement from the respondents in Aksamit's study were a demand for more special education classes and a suggestion that mainstream practicum experiences be provided throughout the programme. A

few people recommended improved and expanded infusion in existing courses.

Much has been reviewed about what is recommended for preservice teacher education in adapted physical education, but it remains to be assessed as to how effective these courses are for preparing, practising teachers.

> "What we know about teaching and learning means that we are capable of designing and delivering much more sophisticated and effective teacher preparation experiences. When the specific requirements of such programmes are examined, however, it becomes clear that the institutional resources available for teaching preparation in America are too thinly distributed and improperly structured to carry out the type of professional training that ought to exist"
> (Gideonse, 1986. P. 69)

It was the intention of this study to assess any disparities which existed between the ideals for preservice preparation contained in the literature and the practical experience of the teacher in adapted physical education.

CHAPTER 3

METHODOLOGY

The purpose of this study was to assess the skills and knowledge teachers presently use in teaching adapted physical education and the level to which these competencies were covered at the preservice level.

This chapter is subdivided into the following sections: (3.1) Subjects; (3.2) Instrumentation; (3.3) Content Validity and Questionnaire Development; (3.4) Open ended Section; (3.5) Procedures; and (3.6) Treatment of the Data.

3.1 SUBJECTS

A questionnaire was distributed to all 418 special schools listed in The Directory of Canadian Schools (Jacobs, 1988). Since the study emphasized the perceptions of adapted physical educators, only special schools were selected. The reasoning behind the selection of special schools was due to the nature of the study. The aim of the survey was to assess perceptions of preservice education in adapted physical education. Those teachers without preparation for dealing with children who have disabilities would be unable to comment. Thus, it was felt that teachers in special schools would have had the most exposure in their preservice regarding adapted physical education and therefore would best be able to comment on its degree of importance and coverage.

In addition, university departments with special programmes in adapted physical education were contacted by phone and then sent questionnaires for distribution amongst graduates working in the field. These universities included: McGill, Regina, Winnipeg, Alberta, and Saskatchewan. In this way a personal contact was employed in an attempt to reduce the low response rate of questionnaires of an anonymous nature (eg. Bukhala, 1990; O'Neill, 1984).

3.2 INSTRUMENTATION

A questionnaire was chosen as the research instrument for this study due to the impracticality of teacher interviews or observations which would have involved too much time and expenditure (Appendix B). The advantages and disadvantages of questionnaire use have been outlined (Berdie & Anderson, 1974; Kidder, 1981). A summary of questionnaire advantages include:

1) The large amount of information yielded at little financial cost.

2) The convenience of completing the questionnaire at one's leisure.

3) The questionnaire approach facilitates the gathering of information from a large population in a brief time span.

4) Large geographic regions may be sampled through the ease of questionnaire distribution.

5) The capacity to remain anonymous makes individuals more likely to respond to a questionnaire.

6) Interviewer bias is avoided through the standard questionnaire format.

The limitations associated with questionnaires:

1) Reduced responses tend to occur.

2) The standardized format of questions obtains only the information requested, thus the ability to get full detailed answers through clarification and prompting is limited.

3) The frequency of questionnaire requests means people are reluctant to respond.

By including an open ended section, this particular survey was designed to overcome some of the limitations associated with a standardized format.

3.3 CONTENT VALIDITY AND QUESTIONNAIRE DEVELOPMENT

In accordance with the concept of content validity described by Safrit (1986), the items on a test ought to adequately represent all important areas of content. Safrit suggested one way of ensuring content validity was to develop a Table of Item Specification. This is a compilation of all the issues identified within a universe or context area. In this case the universe or context was adapted physical education and the issue was teacher competencies. The Table of Item Specification was therefore developed from a summary of the current literature regarding adapted physical education, and note was made in table form of references to teacher competencies. This process resulted in 14 lists that researchers and professional groups have suggested as important for the preparation of teachers in adapted physical education (see Table of Item Specification in Appendix A).

Sources of the literature reviewed (1980-1990) included, Educational Resource Information Clearinghouse (ERIC), and the Current Index to Journals in Education (CIJE), using the following descriptors: disabled-physical education, physical education teacher training, adapted physical education, preservice teacher training.

The lists which received the most attention in the literature, as seen from Appendix A from the literature, were included within the questionnaire under the following headings; programme planning, individual instruction, group leadership, administration, personal communication, specific teacher competencies, awareness of health issues, integration and general background issues. Within each of

these headings questions were devised with the aid of an outline of key competencies suggested by Watkinson (1985). Since the develpmental process followed the procedures outlined by Safrit (1986) content validity is claimed for the questionnaire.

In the next stage of the questionnaire development the information gathered was refined with insight gathered from the personal experience of teachers in adapted physical education (one a professor at McGill and another a practitioner of twelve years experience). The first draft of the questionnaire was then distributed to four professors in the physical education department at McGill University. In addition four graduate students were consulted for their opinions to test the clarity of the instrument. This process led to the final version of the questionnaire (see Appendix B). The questionnaire was entitled "Survey of Teacher Experience and Preservice Education in Adapted Physical Education."

The questionnaire has three major sections. The first section contains teacher information of a personal nature; for example, years of teaching experience, courses taken in adapted physical education and special education. Other details included the type of school in which teachers were working, i.e. what age range and type of disabilities were being taught. Finally, the gender, age and province in which they were presently teaching concluded the section on teacher information. The second section contains the questions related to competencies and includes their perceptions of what is relevant in teaching adapted physical education and the degree of coverage at the preservice level. The third and final section offers

teachers an opportunity to address other areas of importance within an open ended framework.

The design for the section of competency questions within the questionnaire was based on a format illustrated by Sherrill (1988). There were eight categories in the competency section, each with a variable number of questions. The eight categories were programme planning, individual instruction, group leadership, administration, personal communication, specific teacher competencies, awareness of health issues, integration, and general background issues. Each question within these categories had two scales. One scale recorded the degree of perceived relevance or importance of each competency for teaching adapted physical education; the other scale recorded the degree of perceived coverage at preservice. Each scale ranged in degree from 1 to 5. On the scale related to importance or relevance, the responses were as follows: 1 = irrelevant; 2 = mostly irrelevant; 3 = useful; 4 = important; and 5 = very important. The scale related to coverage ranged from 1 = not covered, 2 = partially covered, 3 = adequately covered, 4 = covered well, to 5 = covered very well. Both scales were to be completed for each question by each respondent.

3.4 OPEN ENDED SECTION

The aim of an open ended section was to offer teachers the possibility of including any important concerns they felt were omitted from the questionnaire. Space was provided at the end of the questionnaire for written responses to this section.

In the study by Aksamit (1990), teachers emerging from preservice identified a number of important themes which they perceived required more emphasis in their preservice, when dealing with children who have disabilities. Thus, it was important that the present study contain such a section so that the views of specialists in adapted physical education could be obtained. By including this open-ended section an attempt was made to bridge any gaps between contemporary theory and teachers' actual experiences.

3.5 PROCEDURE

Two copies of the questionnaire, in case there were two members of the physical education department, went to school principals with a letter of request (see Appendix D) to distribute the questionnaire to the appropriate persons.

A self-addressed stamped envelope was enclosed for ease of response. Every effort was made to ensure the questionnaire was self-explanatory and easy to complete in order to encourage a prompt response. If no reply was received after two weeks a reminder letter was sent.

3.6 TREATMENT OF THE DATA

The reliability for each section of the questionnaire was determined statistically by Cronbach's alpha. Descriptive statistics were used to interpret much of the results from the questionnaire. For example, the mean for each question was compared for the degree of importance in teaching versus the coverage at preservice. Also a

mean for each section, for example group leadership was also compared in the same descriptive manner. A number of correlations were carried out to establish the degree of association between preservice and teaching. Multivariate analyses of variance and a multivariate t tests was also used to determine the difference among the independent variables (personal profile characteristics) with regard to dependent variables (i.e. the nine categories of competencies).

CHAPTER IV

RESULTS AND DISCUSSION

The intention of this study is to examine the relationship between two variables. First, the degree to which adapted physical education teachers perceived competencies were important to their teaching was assessed. Secondly, the degree to which these same competencies were covered at preservice was examined. The relationship between perceived importance and coverage then became the focus of the study.

This chapter is divided into a number of sections. The first section (4.1) deals with the personal profile of subjects. These include: years of teaching, education, age range of students taught, type of school, nature of disability in school, gender and age. The second section (4.2) reports a breakdown of questionnaire distribution including the percentage of returns. Section 4.3 illustrates the reliability of the sections within the questionnaire. The fourth section (4.4) reports the relationship between personal profile variables and the degree of perceived importance and coverage of competencies. The fifth section (4.5) deals with the relationship between perceived importance and coverage of competencies using a Pearson product-moment correlations. In 4.6 the relationship of perceived importance and coverage of competencies is explored using a comparison of means. Finally (4.7) a review of the questionnaire's open-ended section was included.

4.1 PERSONAL PROFILE OF SUBJECTS

4.1.1 Teaching Experience

The first aspect surveyed was years of teaching adapted physical education. Many teachers (43.3%) had three or less years of experience, as observed from Table 1 (see Appendix C for this and all subsequent references to tables).

4.1.2 Education

The information related to education level is displayed in Table 2. The results indicated that 67.3% of respondents had obtained a Bachelors degree in physical education or higher. These results are concurrent with a cross-Canada survey by Watkinson and Bentz (1986) which reporded that half of the 1,107 physical education teachers surveyed, had obtained at least a degree in physical education. However, as observed from Table 3, 71.6% of the respondents had received few courses (two or less) in adapted physical education. The same trend was noticeable in relation to courses in special education (see Table 4) with 51.9% of respondents saying they had one course or less. Thus there appears to be a tendency for teachers to have left their preservice education with a limited amount of formal preservice qualifications in adapted physical education. This is consistent with the findings of Evan (1988), who suggested there were few programmes offered in physical education in universities across Canada and a limited number of students specialized in adapted physical education. The number of

years since preservice education are depicted in Table 5. Almost 35% of respondents were within two years of their preservice education, yet there is still a wide range of years since preservice. This range should therefore allow an insight into a preservice over a large time span.

4.1.3 Age Range Taught

Most teachers (57.9%) taught a combination of age ranges (see Table 6). This may be due to the residential nature of many special schools and institutions.

4.1.4 Type of School

Table 7 illustrates the frequency and percentage of teachers according to the type of schools in which they teach. Most (43.6%) taught in segregated schools, as one might expect when distributing the questionnaire to only registered special schools. Many respondents identified a trend toward teaching in partially integrated or other types of school settings. This response is interesting since the questionnaire was specifically sent to only special schools. Thus some schools must be following a policy of reverse integration whereby "normal" children attend special schools. The purpose is to make the school more "realistic" to the special child and to familiarize special and "normal" children with one another, for the benefits of mutual understanding and tolerance.

4.1.5 Nature of Disability in School

The vast majority of schools (59.1%) had a range of disabilities within them. In addition, a number (20.9%) specialize in certain types of disability (see Table 8). This may be due to the combined nature of many disabling conditions within individual children, and/or the mix of specific disabilities contained within special schools. In either event the requirement to prepare teachers of adapted physical education with very specific disciplines in order to teach individual conditions, such as the sensory disabled, appears limited. The need for a range of competencies which will help cover a combination of disabilities would seem to be evident.

4.1.6 Gender

The questionnaires received from 110 subjects consisted of 52 (47.3%) males and 58 (52.7%) females.

4.1.7 Teacher Ages

The range of teachers ages was from 23 years to 62 years and was evenly distributed (see Table 9). The average age was 37.1.

4.2 QUESTIONNAIRE DISTRIBUTION

A total of 228 questionnaires were returned from teachers of adapted physical education. One hundred and eighteen of the questionnaires returned were not filled out since the schools did not have physical education staff, or the schools had been closed. One hundred and ten (110) of the questionnaires received from respondents

were used in the final analysis. The breakdown of the respondents by province is shown in Table 10.

The total response rate of 28.3% (110/418) was adequate for the purpose of the study and is above the rate of 21% for a similar study (i.e., Bukhala, 1990). It is possible however that more responses were not received due to the timing of the questionnaire distribution. The questionnaires were sent out in May, a busy time for most teachers. Some teachers may have been reluctant to fill out the questionnaire. The most recent directory of Canadian schools was 1988 and thus some questionnaires may not have reached the intended schools due to changes in address; in fact, many questionnaires (24%) were returned for this reason. However, the percentage of returns, 28.3% is in accordance with the expected rate of return of surveys carried out by mail (Kidder, 1981, p. 150).

4.3 RELIABILITY OF THE QUESTIONNAIRE

Before any relationships could be explored from the results, each section of the questionnaire was checked for reliability. Using Cronback's alpha a very high reliability for the questionnaire was illustrated (see Table 10).

4.4 THE RELATIONSHIP BETWEEN PERSONAL PROFILE VARIABLES AND THE DEGREE OF PERCEIVED IMPORTANCE OF COVERAGE OF COMPETENCIES IN ADAPTED PHYSICAL EDUCATION

Many personal aspects of information were gathered related to the respondents, teachers education and experience; type of school; nature of children's disability; gender; age and province in which presently teaching (see Tables 1-10). Those pieces of information that had more than two categories for a response, for example formal education, age range, type of school, nature of disability and province (see Appendix B for front page of questionnaire) were first analysed by use of multivariate analysis of variance (MANOVA).

Continuous variables, such as years of teaching, courses in adapted physical education and age were dealt with using the following process. A division was made which gave groups with approximately equal numbers. For example, since 43% of teachers had three or less years teaching experience in adapted physical education (Table 1), a division was made at this point. Thus low teaching experience was operationally defined as less or equal to three years and high teaching experience as four years or greater (53.8%). Statistical analysis in the form of Manovas could then be used on these continuous variables, once they had been categorized in the manner described. Thus one could appreciate any between subject differences on the degree of perceived importance or coverage of competencies. Finally the one variable that was discrete and had only two categories, i.e. male or female, was analyed by using Hotelling's t test.

Since the above procedures found no differences between many of the personal profile variables and the degree of perceived importance or coverage of competencies the non-significant tables for these are detailed in the final section of Appendix C for this study. The rest of this section will highlight those personal profile variables that made a significant difference between teachers' responses, in relation to perceived importance and coverage of competencies. These variables were the number of courses in adapted physical education and special education, age and years since preservice education.

The first indication of the significant differences of the nature described were from the multivariate analysis of variance (MANOVA). A significant difference $F\ (78,3) = 6.76$ $P < 0.000$ was noted for perceived coverage of competencies in adapted physical education as a function of courses taken in adapted physical education (Table 12). A significant difference, $F\ (76,4) = 4.39$, $P < 0.003$, was noted for perceived coverage of competencies in adapted physical education as a function of courses taken in special education. A significant difference, $F\ (62,2) = 3.37$, $P < 0.041$, was noted for perceived coverage of competencies in adapted physical education as a function of years since preservice. Finally a significant difference, $F\ (80,1) = 4.88$, $P < 0.03$, was noted for perceived coverage of competencies in adapted physical education as a function of the age of respondents. Only as a function of the number of courses in special education were perceptions of importance significantly different, $F\ (81,4) = 2.94$ $P < .025$ in relation to competencies in adapted physical education.

Univariate statistics, in the form of oneway analysis of variance was then carried out for the areas identified as significant in Table 11. This process allowed an examination of the specific competency areas in order to appreciate exactly where differences between respondents were present. The sections which proved to have groups which were significantly different at .05 level may be seen in Tables 12 to 14.

A Newman-Keuls post hoc analysis was used to identify where respondents differed, within those competency areas outlined in Tables 13 to 16, as a function of the personal profile variables illustrated in Table 12. Tables 17 to 20 display the findings of this Newman-Keuls analysis.

A review of the means for specific section revealed the precise nature of these differences (see Tables 17-20). As illustrated in Table 17, one or more courses in adapted physical education are related to a change in perception of program planning coverage from 1.5 to 2.4. This indicates that the number of courses one has taken in this area directly effects perceived coverage in a positive manner (i.e. shifting perceptions from not covered to partially covered)

Respondents who had taken two or more courses in adapted physical education perceived competencies in individual instruction to have been adequately covered. This was significantly different from those who had taken less than two courses since their responses suggested this one had only been partially covered. In the area of specific teacher competencies respondents who had three or more courses in adpated physical education perceived that competencies had

been partially covered. This result differed significantly from those who had one or less courses, they perceived courses had not been covered at all in preservice education. Respondents who had taken three or more courses in adapted physical education perceived that competencies in relation to the subject of integration were covered well. Those who had taken two or less courses ranged from perceiving courses to have been partially covered to not covered at all. Finally in the area of general background issues those teachers who had two or more courses in adapted physical education perceived that course coverage had been adequately covered, whereas those with fewer courses perceived that coverage had been partial in this area.

In relation to courses followed in special education from preservice, similar tendencies may be identified in the area of perceived coverage of competencies. In addition, discrepancy was noted in perceived importance, as a function of the number of courses in special educaiton. There was a significant difference between those teachers who had taken four or more courses compared to those who had no courses or very few (two or less courses in some cases), in the following areas: programme planning, general background issues, personal communication, integration and specific teacher competencies.

Teachers who have taken more courses in adapted physical education do not perceive the importance of competencies to be different from those teachers who had fewer courses. Teachers with more courses in this area however differ in terms of the degree of perceived coverage of these competencies. This would seem a logical

assumption. One would hope to gain more coverage from having taken more courses in an area. In addition an assumption may be drawn in relation to the quality of courses in adapted physical education. It appears that respondents are receiving at least an adequate coverage in areas that are perceived to be important, when they take more preservice courses. Thus, what is contained in preservice courses in adapted physical education is relevant to practising teachers, but more than one course is required for this knowledge to be perceived as being covered to an adequate degree.

Additionally teachers who have taken more courses in special education have illustrated the same trend that has been previously discussed. In addition those teachers in this area, who have taken more courses, perceive the relevance of certain competencies as being more important than those who have fewer courses. This may be because teachers can perceive the value of certain competencies once they have been given additional knowledge and understanding in relation to them.

Significant differences were noted for perceived coverage, and importance, as a function of both age and years since preservice education. As one can see from Table 20 none of these results illustrate a perceptible difference from any of the scores previously examined (i.e. relevance was perceived as importance and coverage partial). At no occasion does perceived importance drop below a level associated with indicating importance i.e. approximately 4. Also, perceived coverage at no point is raised to a level beyond 3.6 which indicates generally adequate coverage. One may conclude from

this summary of differences, as a function of personal profile variables, that specific subgroups within respondents do not detract from the overall trend of competencies perceived as important but not adequately covered. The larger implications of this issue and other conclusions will summarize this section.

Younger respondents perceived coverage as partial to adequate whereas older respondents perceived coverage as partial to not covered. This may be interpreted as a sign that preservice is improving over time in relation to adapted physical education and this good for those involved in recent improvements in preservice for adapted physical education (Churton, 1986; Goodwin, 1987; Sherrill, 1989; Simard & Wall, 1980; Watkinson, 1985 and Winnick, 1986). However the influence of age may not entirely be due to improvements in preservice education, but rather that physical education teachers do not always put into use the skills and knowledge they have acquired during preservice education (Lawson 1983; Placek 1983 and Templin 1979). Thus older teachers having abandoned many of the competencies, with which they had been prepared, perceive that some issues had not been covered in their preservice. Older teachers thought the general background issue of the history of adapted physical education was less important than younger teachers, but felt competencies in the area of integration were less important than younger teachers. So although perhaps being insightful enough to perceive a lack of relevance in one competency area, older teachers

may not be as receptive to the concept of integration as those who have grown up in a changing philosophy associated with the least restrictive environment.

Alternatively courses in adapted physical education are a relatively recent innovation (Sherrill, 1988). It may well be that teachers who had preservice education some time ago may not have had access to coverage of many of the competencies illustrated within the survey.

A note of caution is recommended for the interpretation of the results which showed that years since preservice had a large effect on perceptions of coverage.

There is no logical reason why group 2 (i.e. greater than 2 years since preservice but less than 11) ought to differ so considerably from the other results as a function of years since preservice (Table 20). Perhaps these differences may been partly due to chance or at least they ought to be interpreted with an element of caution.

To conclude, the relationship between personal profile variables and the degree of perceived importance or coverage of competencies in adapted physical education has been examined. The majority of the findings suggest there is minimal relationship between differences in personal profile variables, with regard to perceived importance or coverage of competencies and thus the respondents, in general, may be assumed to be relatively homogenous. The exceptions to this overall trend were those teachers who had taken additional courses in adapted physical education and special education. Teachers who had more courses in adapted physical education perceived that their coverage was better than those who had less courses. In addition teachers who

had taken more courses in special education perceived the importance and coverage of specific competencies to be higher than those with fewer courses. Also respondents differing in age and years since preservice education were identified as having a significant effect upon the results. The younger teachers were, the better they perceived the importance and coverage of certain competencies. Finally the greater the number of years since preservice the less important and less coverage one perceived competencies to have (apart from a mid-section of years since preservice, i.e. 2 to 11 years whose results were not consistent with the general trend).

4.5 THE RELATIONSHIP BETWEEN PERCEIVED IMPORTANCE AND COVERAGE OF COMPETENCIES: PEARSON PRODUCT-MOMENT CORRELATIONS

It was hypothesized that a significant relationship would exist between the degree to which teachers felt competencies were covered in their preservice education and the degree of importance in teaching adapted physical education. A Pearson product-moment correlation was computed to assist the testing of the relationship. As illustrated in Table 21 a significant positive correlation between the amount of perceived importance of individual instruction and the amount of perceived coverage was noted ($4 = .4225$, $p < .01$). Additionally, a significant positive correlation between the amount of perceived importance of group leadership and the amount of perceived coverage was noted ($r = .4437$, $p < .01$). The two other areas - administration and general background issues ere significant but at a low level ($r = .2173$ and $r = .2706$, $p < .05$ respectively). The rest of the sections illustrated nonsignificant relationships.

Individual instruction and group leadership were the two areas illustrating the highest correlation. This suggestion that those respondents who perceived importance to be quite high also perceived coverage to be quite high. Although this observation is of interest, the relationship between perceived importance and coverage is not clarified without consideration of the means for these sections.

Simply to conclude, there is neither a consistent nor a strong relationship between coverage and importance when assessed by correlation techniques. As noted however, another method of assessing the relationship is by the analysis of the means of each question and section. This will be done in next section of this chapter.

4.6 THE RELATIONSHIP OF PERCEIVED IMPORTANCE AND COVERAGE OF COMPETENCIES: A COMPARISION OF MEANS

Table 22 illustrates the means for each section within the questionnaire. There is a disparity between the degree of importance and coverage of competencies. This disparity may be seen between question means as well as section means.

In general teachers identified competencies throughout the questionnaire as ranging from useful to important to their teaching but as only adequately covered to not covered. For example, the means for personal communication is 3.96 in terms of relevance or importance (where 4 indicates important and 3 indicates useful). Yet, the mean for the same question in relation to the degree of coverage is 1.81 (where a 1 indicates not covered and 2 indicates partially covered). Thus whilst the usefulness and importance of teacher competencies was being affirmed on one side of the questionnaire, the

other recorded that the areas had only been adequately covered, partially covered, or even not covered at all.

The section means for the categories with more than one question also reflected the same trend as that of the individual questions. In some cases, for example, health issues, the difference between the means are greater than two-fold between importance (4.1) and coverage (2.0). Many suggestions could be made to account for such differences. Perhaps teachers currently perceive the importance of health related competencies, due to awareness of issues such as AIDS (Surburg, 1988), therefore respond with a high score for importance on the survey. However when preservice was given to many teachers issues such as health were not perceived as so important and thus respondents gave coverage in this area a low score. The explanation for this isolated case does not of course explain the general trend previously described. The major conclusion remains however that teachers believe the competencies identified within the questionnaire are important, but are not accordingly covered in preservice.

Some areas, such as group leadership, arguably defy the trend described toward a lack of coverage. The average means for this section is 2.7 which translates as adequately covered. Adequate coverage may be interpreted as acceptable and therefore respondents may be happy with their preservice education in adapted physical education. However the overall trend is towards a lack of preservice coverage for these competencies. These results are consistent with the literature outlined in Chapters 1 and 2. Authors including Churton (1986), Goodwin (1987), Sherrill (1989), Simard and Wall (1980), Watkinson (1985), Winnick (1986) have all stressed the importance of specific teacher competencies for the teaching of

adapted physical education. Respondents within this survey have testified to the importance of these competencies through their positive response. In addition researchers such as Aksamit (199), Aufsesser (1981), Goodwin (1987), McClenaghan (1981), Post and Roy (1985) have suggested teachers are unsatisfied with their preservice in adapted physical education.

4.7 SUMMARY OF OPEN ENDED SECTION TO THE QUESTIONNAIRE

Teachers were very positive in their approach to the open ended section. Many praised the questionnaire for its comprehensiveness and requested copies of the results. Some of the major comments will be the focus of this section.

One of the main themes identified by numerous respondents was a request for a more practical approach to preservice preparation. This took many forms including "practical learning experience and skills on how to analyze a disability", and specific practice working with a variety of disabled groups. Another important issue was the training and use of volunteers. Teachers in preservice education perceived a lack of practical insight in dealing with volunteers. Tyerman (1979) observed that teachers who do not use parents in their class management may be uncomfortable dealing with other people in planning for class lessons. As one respondents commented, more practical coverage is required to understand the role of the teaching assistant.

Integration of students with disabilities appeared to be a topical issue with many teachers. Some teachers felt they required more information on how to truly integrate the child with

disabilities, requesting adaptations so that those children who were most disabled could participate, instead of simply leaving them "at one side." As one teacher suggested "we need to know the skills which would help assess whether an individual is ready or able to be integrated". These assessment techniques for integration were also, once again, requested in the form of a practical experience.

A request was made in the area of programme planning by many teachers. Common concerns were the development of IEP's for children with disabilities and "establishing performance expectations". More knowledge and skills to "create curriculum and programme content that is relevant to the need of the target group" was also suggested.

Another theme reflected in the open ended section was awareness of medications. "Their effectiveness, dangers, adjustment periods, etc. . . should all be included in a repertoire of teaching skills to better prepare the future teacher for what is to come". This teacher goes on to say "If one is aware of the side effects, dangers, etc. . ., then that teacher will come to see the child for the entirety of his/her therapeutic intervention. It would add a sympathetic and knowledgeable approach to the repertoire." Finally, in the area of health concerns, is a request for a "knowledge of psychological concerns related to living with a disability" as a preservice requirement.

One important theme to be mentioned was the philosophy behind the competencies. "Personal skills of dealing with all people as a professional, with patience, caring and a sense of humor" was seen to be important to learn for the teaching of adapted physical education. It appears difficult to instill the personal characteristics necessary for involvement in adapted physical education through a

preservice educational course. However, as pointed out, the questionnaire should have recognized teachers personal motivations for going into the field of adapted physical education. What should have been considered was "a professional's personal values, beliefs and philosophy (of the adapted physical education area) their motives, goals and their mission". Perhaps a philosophical aspect to preservice would allow teachers to review introspectively the role they are asked to fulfill. If teachers can recognize at preservice that they are doing the right course for the correct reasons, then perhaps they will have a more happy and fulfilling career.

The mere fact that teachers had concerns over and above the listed competencies contained within the questionnaire is consistent with the literature outlined by Bloom (1987), Damerell (1985), Shanker (1984) and Sykes (1988). These researchers suggested that teachers are unprepared for the range of duties they are required to perform when actually teaching. The number of concerns teachers identified in this open-ended section illustrates some of the areas in which teachers would like to be prepared. According to Shanker (1984), "Teachers learn to teach by teaching and there is no substitute for it", as cited by Damerell (1985, p. 282). Thus the request for more practical experiences, by respondents, for dealing with children who have disabilities has implications for the design of preservice courses in this area. The reason teachers identify that issues require more coverage may be because of the weaknesses described within the educational institutions responsible for preservice.

> That teacher preparation should be improved is said in the abstract without specific reference to schools of education. No criticisms of them are acknowledged and no defences made. They (educationalists) are as silent on where teachers came from as proper Victorians were about where babies came from. (Damerell, 1985, p. 246)

Perhaps those issues teachers identify as important in surveys such as this one and that of Aksamit (1990), have to be given additional priority in preservice education courses on adapted physical education. In addition the faculty teaching staff of such institutions may need to adapt programmes due to insight obtained from the practical concerns of teachers working in the area.

A programme devised by Sherrill (1988) was termed project GRAPES and was an approach to upgrade the education of university professors assigned to teach preservice adapted physical education courses even though they had no background in education of children with disabilities. It was based on the philosophy that university teachers without formal training need to be taught to identify and use local and state resources to assist in instruction. A major emphasis within GRAPES was the involvement of children with disabilities in adapted physical education teacher education. Courses such as these and others have aided university teachers without specialized training to teach adapted physical education courses on their campuses. However the education of teachers in adapted physical education is a complex one and the most appropriate method needs to be resolved.

Two issues thus account for some of the comments from the open-ended section: (1) the quality and content of tuition given at university preservice; (2) the disparity apparent between theory based preservice instruction and the practical employment of this knowledge and skills by practicing teachers. The fact that none of the competencies listed in the questionnaire was felt to be unimportant makes the issue of prioritizing and restructuring courses debateable. Perhaps those involved in passing on preservice education have to make a decision to concentrate on those recurring themes identified as worthy of extra emphasis, for example the issues shown in the open-ended section of this study. A concentration of preservice on specific topics might increase perceived coverage to higher levels. However the cost of such an emphasis may be to not diminish coverage in some areas. Thus, an educational dilemma is posed, and it may take further indepth studies of this nature to be resolved.

CHAPTER V

SUMMARY AND CONCLUSIONS

The purpose of this study was to investigate the perceived degree of importance and coverage of teacher competencies in adapted physical education. As a consequence of this research some insight and recommendations are suggested toward future requirements for preservice education in adapted physical education. This chapter outlines the summary and conclusions of the research and is divided into the following sections: (5.1) Summary of the Methodology; (5.2) Summary of Findings; (5.3) Conclusions; (5.4) Implications and, (5.5) Recommendations for Further Study.

5.1 SUMMARY OF THE METHODOLOGY

One hundred and ten teachers currently teaching adapted physical education in special education schools answered a questionnaire designed to determine the degree to which they perceived teaching competencies were important in their teaching and the degree to which these competencies were covered in their preservice education. The survey was developed in accordance with the rules associated with content validity, as outlined by Safrit (1986), through the creation of a Table of Item Specification (Appendix A). The questionnaire was then compiled, guided by reference to the table of item specification and a review of key competencies outlined by Watkinson (1985). In addition questions within each section of the questionnaire were refined by consultation with professionals in the field of adapted physical education.

Nine sections were created within the questionnaire encompassing the competencies from the Table of Item Specification. These sections were programme planning, individual instruction, group leadership, administration, personal communication, specific teacher competencies, awareness of health issues, integration and general background issues. Competency statements were developed for each section of the questionnaire. Teachers were asked to respond on two five-point Likert type scales. The respondents recorded the extent to which they perceived competencies were important and covered at preservice.

Two other sections to the questionnaire recorded the personal profile of respondents and additional comments regarding the nature of the study. The personal profile contained information such as: years of teaching adapted physical education; education, age range of students being taught, type of school, nature of disability respondents were teaching, gender, age and province. Within the open-ended section respondents were asked to list all knowledge and skills they felt were important but omitted from the questionnaire.

A number of methods were employed to analyze the responses to various aspects of the questionnaire. On a descriptive level a comparison of means for importance and coverage was carried out both for specific competency questions and for the nine groups of competencies. Also a descriptive approach was used to record the results from the open-ended section of the questionnaire. Cronbach's alpha was employed to test the reliability of the questionnaire. Pearson product-movement correlations were used to compare the

perceived importance of teacher competencies with the perceived degree of coverage during preservice education. Frequency distributions, multivariate analyses of variance and multivariate t-tests were also employed to study the relationship between responses to the questionnaire and the many person profile variables. Some personal profile variables proved to have a significant effect upon teacher perceptions of importance and coverage of competencies in adapted physical education. These personal profile variables were the number of courses in adapted physical education and special education, age and years since preservice education, age and years since preservice education. Univariate statistics and post hoc analysis were carried out to identify which specific competency areas were influenced by these personal profile variables.

5.2 SUMMARY OF THE FINDINGS

The respondents were quite variable regarding years of teaching adapted physical education. Many (45.3%) had three years or less working in the field whilst four teachers had 20 or more years to their credit. Many respondents (28.2%) had what might be considered limited educational qualifications from preservice (no degree or some courses, in physical education). In addition, 71.8% had a bachelor's degree in physical education or higher. It was found that 71.6% of respondents had three or less courses in adapted physical education and 75% had three or less courses in special education; 34.8% were within two years of receiving their preservice education and 29.2% were eleven or more years from this experience. Other information

showed that 56.4% of respondents were teaching a mixed age range in schools and these schools were divided up in the following manner: 44.4% were segregated, 25.5% were partially integrated and 29.6% were organized in some other fashion. Many respondents (49.1%) indicated they were teaching in schools where no one specific disability was identifiable i.e. there was a range of disabilities or some children had more than one disability. Teachers were relatively evenly split between males (47.3%) and females (58%).

The high reliability rating, gained from using Cronbach's alpha allowed the rest of the findings to be viewed with the security of knowing that the study was reliable. After using multivariate analysis of variance, multivariate t tests, univariate and post hoc statistics as well as a comparison of means the general conclusion drawn, with regard to personal profile variables, was that respondents would be considered as a homogenous body of people.

The comparison of means and the Pearson product-moment correlations supported the notion that a difference exists between the degree of importance teachers place on competencies and the degree to which they perceive it was covered at preservice. In general teachers felt competencies are useful to important but were not covered or only adequately covered at preservice. The open-ended section demonstrated that respondents once again felt areas such as programme planning and individual instruction were very important to their teaching. Also competencies of a practical nature in terms of integration and the use of volunteers, for example, were emphasized.

5.3 CONCLUSIONS

Based on the findings of this research the following conclusion was made regarding the major hypothesis.

> A significant relationship did not exist between the degree to which teachers' perceived competencies were covered in their preservice education and the degree of perceived relevance in their teaching of adapted physical education.

In addition the following comments seem warranted.

1. The majority of personal profile variables did not affect the degree to which teachers perceived competencies were covered in their preservice education, nor did they influence their degree of perceived importance of these competencies for teaching adapted physical education. Those aspects of the personal profiles that did have a significant effect were the number of courses taken in adapted physical education and special education, the age of respondents and the amount of time since preservice education.

2. Teachers are capable from their teaching experience, of identifying gaps and inadequacies, in terms of teaching competencies, from their preservice education in adapted physical education. Teachers were able to make recommendations, based on their perception of a lack of preservice education, as to how this experience might be improved.

5.4 IMPLICATIONS

The trends identified within this study towards coverage and importance of competencies have significant implications. One such implication is that practicing teachers identify many competencies as being useful or important to their teaching. Thus, most of these competencies highlighted in the study should be part of the preservice education of teachers of adapted physical education.

The design of future courses, in preservice education for adapted physical education, ought to encompass the type of areas identified as important to teachers. All the competencies within the questionnaire were said to be important and in addition some extra areas, such as practical experiences and training on the use of volunteers. This demand for increased preservice invites an education debate. It would be difficult to cover all the competencies teachers perceive are important in preservice education, nor would it be practical since many teachers in preservice may not end up teaching adapted physical education. Perhaps additional courses specializing in the issues relevant to adapted physical

educators is a logical implication. It has been shown that those teachers who had extra courses perceived their coverage to be significantly higher than those teachers who had very few or no courses. Perhaps specialization of the nature described by Simard and Wall (1980) is the key to future preservice education. Yet in this age of integration and considering the cry for a broad base of coverage at preservice level from authors such as Lord (1980) there is a case for preservice to have a general coverage in the area of adapted physical education. Even within this general level course there is a debate as to whether to cover most of areas required adequately or try to cover a few major themes very well. It will require a more indepth study than this one to resolve these types of issues.

It has been noted at various points throughout the study that those involved in teaching preservice education may be responsible for the perceived lack of coverage displayed by teachers. Authors such as Bloom (1987); Damerell (1985); Shanker (1984) and Sykes (1988) have highlighted the dissatisfaction teachers feel about their preservice. Aksamit (1990) links the issue of dissatisfaction with preservice to the field of physical education. Projects to improve preservice tuition have been discussed by Sherrill (1988). More work is necessary in this area if adapted physical education is to be taught well, especially in an infusion model where professors teaching specific preservice courses will be responsible for integrating their knowledge with an appreciation for teaching the children with disabilities.

In summary, whatever the reasoning behind the perception of a lack of preservice coverage in adapted physical education, every effort must be made to ensure the next generation of adapted physical educators are better prepared in their preservice education. One can learn a great deal from the experience and insight of practicing teachers. In this survey adapted physical educators have highlighted areas which they feel are important and worthy of coverage. The implication for future programmes in this sphere is to concentrate on the competencies identified and attempt to give teachers in preservice a working knowledge of them.

Preservice education in adapted physical education can never hope to teach specific teacher competencies at the level one might expect to find within inservice. For example it would not be practical to teach American Sign Language (ASL) to all students in preservice. The percentage of teachers working in sensory impaired schools from this study was only 1% (Table 7) whereas nearly 60% were teaching in schools where a mixture of children with different disorders were present. Thus teachers can specialize later for very precise roles, but preparation needs to be broad for the majority of teachers of the preservice level. This tuition must be given by professors aware of the practical concerns of practicing teachers and sensitive to the needs of children with disabilities. Universities have to be aware of the changing aspects of adapted physical education and attempt to prepare teachers to meet a multitude of different requirements.

5.5 RECOMMENDATIONS FOR FURTHER STUDY

Based on the findings the following are recommended as further avenues of study.

1. The present study was a preliminary survey of the extent to which teachers perceive the importance and coverage of certain teaching competencies in adapted physical education. The way in which the study was conducted presents certain limitations. The questionnaire allowed teachers a certain amount of social desirability to enter into their thinking. It cost nothing to identify areas as important on one side of competency and was too easy to feel preservice was inadequate on the other. A thoughtful discussion with respondents in which they were asked to give examples from their teaching of these important competencies, for example the "history of adapted physical education" which received a mean implying importance (4.06), might evoke different responses. In similar fashion a test of teachers knowledge related to each competency may have revealed that they know more from their preservice than initially indicated.

2. Additional studies are required regarding the assessment of the optimal ways to cover competencies so that they are useful to practicing teachers. Respondents, within the open-ended section of the questionnaire, identified competencies in which they required help in order to implement, i.e. assessment, integration and programme planning. Perhaps a study which examined the benefits of:

practical experiences for those in preservice for adapted physical education, a theory only approach to preservice in adapted physical education and finally a combination of these approaches would provide some direction for the appropriate emphasis in relation to preservice in this area.

3. Account needs to be taken of the changing outlook in schools today. Increasingly children are no longer being restricted by virtue of their disabilities and a broader more diverse population of children are finding their way into classes of adapted physical education. Preservice education has to prepare teachers to be accommodating toward a changing clientele and promote competencies by which teachers can incorporate many of these children into their programmes. An approach which is less specific to categories of disabilities and more generally applicable to children as a whole may be required. Further study will be needed in order to project the demands of the adapted physical educator into the future. An appreciation of present trends should give direction to these efforts.

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APPENDIX A

Table of Item Specification

TABLE OF ITEM SPECIFICATION

SECTION AUTHOR	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1) Akasmit (1990)		*	*		*	*		*	*	*		*	*	*
2) Arnheim & Sinclair (1985)	*	*	*	*	*	*	*	*	*	*	*	*	*	*
3) Auxter & Pyfer (1989)	*	*	*		*	*	*	*	*					*
4) Churton (1986)		*	*		*	*	*	*	*	*			*	*
5) Cratty (1989)	*	*	*	*	*	*	*	*	*	*		*	*	*
6) Dummer & Windheim (1982)		*				*	*			*				
7) Eason, Smith & Caron (1981)			*	*	*			*	*					
8) Eichstead & Kalakin (1982)	*	*	*	*				*	*	*		*		
9) Evans (1986)		*	*	*	*	*		*	*	*			*	*
10) Fait & Dunn (1984)	*		*	*	*	*		*	*	*		*	*	
11) French & Jansma (1982)	*		*	*	*	*	*			*	*	*	*	
12) Goodwin (1987)		*	*	*	*		*	*	*	*			*	*
13) Kennedy, Smith & Austin (1990)		*	*	*	*		*			*		*	*	
14) Lavay & Depaepe (1987)		*	*		*	*		*					*	*
15) Minner, Praeter & Beane (1984)		*		*	*			*	*			*		*
16) Mori & Lange (1983)			*	*		*	*	*		*		*	*	*
17) Seaman & DePauw (1988)														
18) Sherrill (1988)	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19) Simard & Wall (1980)		*	*		*	*		*	*	*			*	*
20) Watkinson (1985)		*	*	*	*	*	*	*	*		*	*	*	*
21) Winnick (1986)	*	*	*	*	*	*	*	*	*	*		*	*	
22) Wiseman (1982)			*	*	*	*	*	*	*	*	*	*	*	*

Section Headings: 1) History of APE, 2) Integration, 3) Program Planning, 4) Child's Condition, 5) Leadership Training, 6) Administration, 7) Multi-Disciplinary, 8) Specialized Competencies, 9) Individual Instruction, 10) Assessment, 11) Accountability, 12) Legislation, 13) Future Directions, 14) Personal.

APPENDIX B

Questionnaire

Survey of Teacher Experience and Preservice Education in Adapted Physical Education

This is a survey related to your skills in teaching Adapted Physical Education. Also we offer you the opportunity to identify which aspects of your teacher education were useful and how such preservice can be improved

In essence, we wish to know which skills and knowledge you presently use and which skill and knowledge were included in your preservice education.

Please note that your contribution will be dealt with in complete confidentiality.

TEACHER INFORMATION

1. Years of teaching children with specific difficulties in physical education (Adapted Physical Education) _____.

   Total years of teaching, if different from above _____.

2. Formal education -
   - No degree in Physical Education [ ]
   - Some courses in Physical Education [ ]
   - Diploma in Physical Education [ ]
   - Bachelors in Physical Education [ ]
   - Masters in Physical Education [ ]
   - Doctorate in Physical Education [ ]

3. (a) How many courses have you taken in Adapted Physical Education:

_____

   (b) How many courses have you taken regarding special populations in the classroom (Special Education)

_____

4. If you answered 1 or more to question 3. How many years since your last formal course in Adapted Physical Education.

_____

5. Age range taught of students presently teaching:

   - Elementary [ ]
   - Junior high [ ]
   - Senior high [ ]

6a. Type of school and Adapted Physical Education:

A school where only special populations are taught (Segregated Special School) [ ]

A school where some mainstream children are mixed into the special population for Physical Education (Partially Integrated School) [ ]

Other [ ]

Please specify:

_____

6b. Nature of disability in your school is primarily (check as many as are relevant)

- Developmental Disability [ ]
- Behaviourial Disability [ ]
- Sensory Disability [ ]
- Physical Disability [ ]
- Other [ ]

Please specify:

_____

7. Your Gender: _____

8. Your Age: _____

9. Province in which you are presently teaching:

_____

Thank you. Please complete the main survey as directed.

SURVEY OF TEACHER EXPERIENCE AND PRESERVICE EDUCATION
IN ADAPTED PHYSICAL EDUCATION (SPETE)

Please circle in the lefthand column the number that best represents the IMPORTANCE/ RELEVANCE to your teaching. Circle in the righthand column the number that best represents whether this issue was ADEQUATELY COVERED in your preservice or teacher education. CIRCLE A NUMBER ON BOTH SIDES FOR EACH ITEM.

Degree of relevance or importance for your teaching in Adapted Physical Education

*Degree of coverage in your preservice or teacher education

*Remember this section only applies to knowledge gained at the preservice (ie. Bachelors or Masters programs in physical education). Job experience or courses taken after university should not be included

1 = Irrelevant 2 = Mostly Irrelevant 3 = Useful 4 = Important 5 = Very Important		1 = Not covered 2 = Partially covered 3 = Adequately covered 4 = Covered well 5 = Covered very well
A. PROGRAMME PLANNING		
1 2 3 4 5	1. Knowledge about disabilities (eg, cause, prevalence, preclusion from certain activities and medication)	1 2 3 4 5
1 2 3 4 5	2. Knowledge about existing physical activity programs for persons with a disability (eg., Red Cross, Special Olympics, PREP, I CAN, etc.)	1 2 3 4 5
1 2 3 4 5	3. Knowledge of support organizations for special populations (eg., delivery services for recreation and education, parent and professional association.	1 2 3 4 5
1 2 3 4 5	4. Knowledge of the roles of other professionals who work with students (eg., occupational therapists, physical therapists, etc...)	1 2 3 4 5
1 2 3 4 5	5. Knowledge of organization and administration: equipment time and scheduling, pupil/teacher ratio, provisions for parents, transportation, assignment of staff responsibilities.	1 2 3 4 5
1 2 3 4 5	6. Knowledge of pertinent legislation concerning disabilities or persons with a disability.	1 2 3 4 5
1 2 3 4 5	7. Importance of programs (eg., Red Cross, etc.) to population needs.	1 2 3 4 5
1 2 3 4 5	8. Knowledge of trends towards community leisure programs for those with disabilities.	1 2 3 4 5

Degree of relevance or importance for your teaching in Adapted Physical Education[1]		Degree of coverage in your preservice or teacher education[2]
1 2 3 4 5	9. Importance of the selection and purchase of appropriate equipment for Adapted Physical Education.	1 2 3 4 5
1 2 3 4 5	10. Importance of assessing indoor and outdoor facilities used by disabled groups (eg., accessibility, safety, appropriateness for age, size and disability)	1 2 3 4 5
	B. INDIVIDUAL INSTRUCTION	
1 2 3 4 5	11. Importance of assessment techniques (eg., norm-referenced and criterion-referenced)	1 2 3 4 5
1 2 3 4 5	12. Selection of activities according to the needs, interests and potential of the individual.	1 2 3 4 5
1 2 3 4 5	13. Importance of task analysis of pertinent skills (eg., breaking down specific skills into parts in order to teach)	1 2 3 4 5
1 2 3 4 5	14. Importance of teaching styles (e.g. direct and indirect instructional techniques such as direct or problem solving approaches).	1 2 3 4 5
1 2 3 4 5	15. Knowledge of behaviour management techniques (eg., ideas on how to control or stop inappropriate behaviour amongst students)	1 2 3 4 5
1 2 3 4 5	16. Importance of appropriate prompting techniques to enhance performance (e.g. visual, verbal, and physical feedback)	1 2 3 4 5
1 2 3 4 5	17. Knowledge of record keeping for evaluation purposes.	1 2 3 4 5
	C. GROUP LEADERSHIP	
1 2 3 4 5	18. Importance of group organization in order to implement activities.	1 2 3 4 5
1 2 3 4 5	19. Importance of a repertoire of group activities suitable for the class.	1 2 3 4 5
1 2 3 4 5	20. Importance of flexibility in leadership style (e.g., autocratic to laissez faire), according to class needs.	1 2 3 4 5
	D. ADMINISTRATION	
1 2 3 4 5	21. Preparation of budgets for department.	1 2 3 4 5
1 2 3 4 5	22. Preparation of reports for parents, individual education programme (IEP) supervisors, committees.	1 2 3 4 5

[1] Codes: 1 = Irrelevant; 2 = Mostly irrelevant; 3 = Useful; 4 = Important; 5 = Very important

[2] 1 = Not covered; 2 = Partially covered; 3 = Adequately covered; 4 = Covered well; 5 = Covered very well

Degree of relevance or importance for your teaching in Adapted Physical Education[1]						Degree of coverage in your preservice or teacher education[2]					
1	2	3	4	5	23.	Preparation of proposals for new programs and provisions for appropriate advertising.	1	2	3	4	5
1	2	3	4	5	24.	Importance of conducting meetings.	1	2	3	4	5
1	2	3	4	5	25.	Importance of recruitment and training of volunteers.	1	2	3	4	5
1	2	3	4	5	26.	Importance of open communication with parents, volunteers, other professionals and participants.	1	2	3	4	5
						E. PERSONAL COMMUNICATION					
1	2	3	4	5	27.	Knowledge of how to set up a support system (e.g. referral to professionals and significant others) and make use of it.	1	2	3	4	5
						F. SPECIFIC TEACHER COMPETENCIES					
1	2	3	4	5	28.	Importance of basic sign language for the hearing impaired.	1	2	3	4	5
1	2	3	4	5	29.	Importance of lifting techniques for those with a physical disability.	1	2	3	4	5
1	2	3	4	5	30.	Knowledge of wheelchair design and adjustments.	1	2	3	4	5
1	2	3	4	5	31.	Knowledge of therapeutic exercises (e.g. rehabilitative mobility exercises)	1	2	3	4	5
						G. AWARENESS OF HEALTH ISSUES					
1	2	3	4	5	32.	Importance of medical services or appropriate emergency procedures.	1	2	3	4	5
1	2	3	4	5	33.	Importance of health concerns i.e. knowledge of correct procedures to ensure your safety and that of your clientele in dealing with blood and other bodily fluids.	1	2	3	4	5
1	2	3	4	5	34.	Importance of procedures related to various aspects of child abuse.	1	2	3	4	5
						H. INTEGRATION					
1	2	3	4	5	35.	Knowledge of the concept of educating children in the least restrictive environment.	1	2	3	4	5
1	2	3	4	5	36.	Knowledge of and the arguments for and against integration of children into Adapted Physical Education (eg, children with disabilities and mainstream children in the same class).	1	2	3	4	5
1	2	3	4	5	37.	Importance of the philosophy of integration.	1	2	3	4	5
						I. GENERAL BACKGROUND ISSUES					
1	2	3	4	5	38.	A knowledge of the history of Adapted Physical Education.	1	2	3	4	5

[1] Codes: 1 = Irrelevant; 2 = Mostly irrelevant; 3 = Useful; 4 = Important; 5 = Very important

[2] 1 = Not covered; 2 = Partially covered; 3 = Adequately covered; 4 = Covered well; 5 = Covered very well

J. OPEN ENDED SECTION FOR COMMENTS

39. Please list all knowledge of skills which you feel have been omitted from the questionnaire yet are important to teaching and therefore ought to be part of preservice in Adapted Physical Education.

_____

_____

_____

_____

_____

_____

Thank you once again for your time and cooperation.
Please return the survey to:

John Madden
Department of Physical Education
McGill University
475 Pine West
Montreal, Quebec
H2W 1S4

APPENDIX C

Tables

TABLE 1

Frequency of Respondents According to Years Teaching Adapted Physical Education (APE)

Yrs teaching A P E	Frequency (n = 106)	Percent	Cumulative Percent
0	12	10.9	11.3
1	9	8.2	19.8
2	12	10.9	31.1
3	15	13.6	43.3
4	9	8.2	53.8
5	5	4.5	58.5
6	5	4.5	63.2
7	1	0.9	64.2
8	5	4.5	68.9
9	4	3.6	72.6
10	6	5.5	78.3
11	2	1.8	80.2
12	1	0.9	81.1
14	1	0.9	82.1
15	5	4.5	86.8
16	1	0.9	87.7
17	1	0.9	88.7
18	2	1.8	90.6
20	4	3.6	94.3
22	4	3.6	98.1
25	1	0.9	99.1
26	1	0.9	100.0
TOTAL	106	100.0	100.0

Frequency missing = 4

TABLE 2

Frequency of Respondents According to Level of Education

Level of Education	Respondents
No degree in Physical Education	11.8 (13)*
Some Courses in Physical Education	16.4 (18)
Diploma in Physical Education	4.5 (5)
Bachelor Physical Education Education Degree	58.2 (64)
Masters Degree	9.1 (10)
TOTAL	100.0 (110)

( )* denotes frequency

TABLE 3

Frequency of Courses Taken in Adapted Physical Education

Number of Courses	Frequency (n = 108)	Percent	Cumulative Percent
0	31	28.2	28.4
1	33	30.0	58.7
2	14	12.7	71.6
3	11	10.0	81.7
4	7	6.4	88.1
5	3	2.7	90.8
6	1	0.9	91.7
7	1	0.9	92.7
8	2	1.8	94.5
9	2	1.8	96.3
10	2	1.8	98.2
12	1	1.8	100.0
TOTAL	108	100.0	100.0

Frequency missing = 2

TABLE 4

Frequency of Courses Taken in Special Education

Number of Courses	Frequency (n = 110)	Percentage	Cumulative Percentage
0	34	30.9	31.5
1	22	20.0	51.9
2	15	13.9	65.7
3	10	9.1	75.0
4	8	7.3	82.4
5	4	3.6	86.1
6	1	0.9	87.0
7	1	0.9	88.0
8	2	1.8	89.8
9	1	0.9	90.7
10	4	3.6	94.4
11	2	1.8	96.3
12	1	0.9	97.2
14	1	0.9	99.1
18	2	1.8	100.0
TOTAL 110	100.00		

TABLE 5

Frequency of respondents according to years since preservice education

Number of Years	Frequency (n = 89)	Percent	Cumulative Percent
0	17	15.5	19.1
1	8	7.3	28.1
2	6	5.5	34.8
3	5	4.5	40.4
4	5	4.5	46.1
5	1	.9	47.2
6	5	4.5	52.8
7	2	1.8	55.1
8	2	1.8	57.3
10	10	9.1	68.5
11	2	1.8	70.8
12	3	2.7	74.2
13	7	6.4	82.0
14	1	.9	83.1
15	2	1.8	85.4
16	1	.9	86.5
17	1	.9	87.6
18	3	2.7	91.0
19	1	.9	92.1
20	2	1.8	94.4
21	2	1.8	96.6
22	1	.9	97.8
24	1	.9	98.9
30	1	.9	100.0
Total	89	100.0	100.0

Frequency missing = 21

TABLE 6

Freqency of respondents according to age range of students taught

Age Range Taught	Frequency	Percent	Cumulative Percentage
Elementary	28	25.5	26.2
Junior	5	4.5	30.8
Senior	11	10.0	41.1
Combination	62	56.4	99.1
Other	3	3.6	100.0
TOTAL	109	100.0	100.0

Frequency missing = 1

TABLE 7

Freqency of Respondents According to School Setting

Type of School	Frequency	Percent	Cumulative Percentage
Segregated	48	43.6	44.7
Partial Integrated	28	25.5	70.4
Other	29	26.4	97.2
None School Setting	5	4.5	100.0
TOTAL	110	100.0	100.00

TABLE 8

Frequency of Respondents According to Type of Children with Disabilities

Type of Disability	Frequency (n = 87)	Percent	Cumulative Percentage
Development Disability	8	7.3	9.2
Behavioural Disability	8	7.3	18.4
Sensory Disability	1	0.9	19.5
Physical Disability	5	4.5	25.3
Combination	65	59.1	100.0
TOTAL	87	79.1	
Frequency missing	23	20.9	

TABLE 9

Frequency and Percentage of Respondents According to Age

Age	Frequency (n = 109)	Percent
23	1	0.9
26	11	10.0
27	5	4.5
28	4	3.6
30	3	2.7
31	2	1.8
32	1	0.9
33	4	3.6
34	5	4.5
35	10	9.1
36	7	6.4
37	1	0.9
38	4	3.6
39	7	6.4
40	9	8.2
41	2	1.8
42	2	1.8
43	4	3.6
44	4	3.6
45	6	5.5
46	3	2.7
47	5	4.5
48	2	1.8
49	2	1.8
50	1	0.9
51	1	0.9
53	1	0.9
54	1	0.9
55	1	0.9
62	1	0.9
TOTAL	109	100.0

Frequency missing = 1

TABLE 10

Frequency of Respondents by Province

Province	Sample Surveyed From Directory	Number of Responses
Alberta	62	8
British Columbia	84	20
Manitoba	14	4
New Brunswick	6	4
Newfoundland	6	0
Nova Scotia	9	6
Ontario	142	30
Prince Edward Island	2	1
Quebec	40	13
Saskatchewan	18	5
Yukon and N. W. Territories	2	0
Mailed directly to indiviudals athome or delivered by hand	126	Resonses included in above
Responses returned without province indicated		19
TOTAL	511	110
responses returned without being filled out		118

TABLE 11
Reliability Analysis of Questionnaire Sections

Section	Alpha levels in accordance with Cronbach's method of reliability analysis	
	IMPORTANCE	COVERAGE
Programme Planning	0.86	0.90
Individual Instruction	0.77	0.89
Group Leadership	0.79	0.85
Administration	0.87	0.88
Specific Teacher Competencies	0.87	0.77
Awareness of Health Issues	0.77	0.77
Integration	0.89	0.95
Reliability of Whole Questionnaire	0.94	0.96

TABLE 12

Summary *Manova* Table for Significant Differences amongst Respondents as a Function of Personal Profile Variables

		Source	SS	DF	MS	F-Ratio	Prob. > F
			PERCEIVED COVERAGE				
1)	**Courses in Adapted Physical Education**	Between	1,454.0	3	484.68	6.76	0.000
		Within	5,595.12	78	71.73		
2)	**Courses in Special Education**	Between	1,274.99	4	318.75	4.39	0.003
		Within	1,274.99	76	77.64		
3)	**Years since Preservice Education**	Between	536.26	2	268.13	3.37	0.047
		Within	4,927.09	62	79.47		
4)	**Age of Respondents**	Between	412.91	1	412.91	4.88	0.030
		Within	6,774.20	80	84.68		
			PERCEIVED IMPORTANCE				
1)	**Courses in Special Education**	Between	516.64	4	43.91	2.94	0.025
		Within	3,556.56	81	129.16		

TABLE 13

Summary of Significant One-way Analysis of Variance Tables for Degree of Perceived Coverage with Regard to Competencies in Adapted Physical Education, as a Function of Courses Taken in Adapted Physical Education

	Source	DF	SS	MS	F-Ratio	Prob. > F
			PERCEIVED COVERAGE			
1) **Programme Planning**	Between	3	1,318.88	439.62	9.96	0.0000
	Within	96	4,237.07	44.13		
	Total	99	5,555.96			
2) **Individual Instruction**	Between	3	785.12	261.70	6.50	0.0005
	Within	100	4,025.86	40.25		
	Total	103	4,810.99			
3) **Specific Teacher Competencies**	Between	3	123.55	41.18	4.97	0.0030
	Within	97	803.63	8.28		
	Total	100	927.18			
4) **Integration**	Between	3	401.90	133.96	11.93	0.0000
	Within	100	1,122.85	11.22		
	Total	103	1,524.75			
5) **General Background Issues**	Between	3	43.41	14.47	8.62	0.0000
	Within	100	167.80	1.67		
	Total	103	211.22			

TABLE 14

Summary of Significant One-way Analysis of Variance for Teachers Perceived Degree of Importance and Coverage of Competencies, in Adapted Physical Education, as a Function of Courses Taken in Special Education

	Source	DF	SS	MS	F-Ratio	Prob. > F
			PERCEIVED IMPORTANCE			
1) **Programme Planning Groups**	Between	4	362.52	90.63	2.55	.0442
	Within	94	3,340.19	35.53		
	Total	99	3,702.72			
2) **Personal Communication Groups**	Between	4	14.16	3.54	3.74	.0070
	Within	100	94.59	0.94		
	Total	104	108.76			
3) **Specific Teacher Competency Groups**	Between	4	307.53	76.88	4.81	.0014
	Within	98	1,563.80	15.95		
	Total	102	1,871.33			
4) **Integration Groups**	Between	4	70.94	17.736	3.283	.0143
	Within	99	535.01	5.40		
	Total	103	605.96			
5) **General Background Issues Groups**	Between	4	9.99	2.49	2.83	.0281
	Within	101	88.91	0.88		
	Total	105	98.91			

TABLE 14 (continued)

	Source	DF	SS	MS	F-Ratio	Prob. > F
			PERCEIVED COVERAGE			
1) **Programme Planning Groups**	Between	4	931.97	232.99	4.84	.0014
	Within	94	4,523.38	48.12		
	Total	98	5,455.96			
2) **Individual Instruction Groups**	Between	4	656.45	164.11	4.03	.0045
	Within	98	3,983.64	40.64		
	Total	102	4,640.09			
3) **Group Leadership**	Between	4	130.18	32.54	4.21	.0034
	Within	98	756.02	7.71		
	Total	102	886.21			
4) **Administration Groups**	Between	4	270.49	67.62	2.69	.0354
	Within	93	2,230.98	25.06		
	Total	97	2,601.47			

TABLE 15

Summary of Significant One-way Analysis of Variance, for Perceived Degree of Importance and Coverage, with Regard to Competencies in Adapted Physical Education, as a Function of Years Since Pre-Service Education

	Source	DF	SS	MS	F-Ratio	Prob. > F
			PERCEIVED IMPORTANCE			
1) **Personal Communication**	Between	2	5.64	2.82	3.44	0.0369
	Within	82	67.34	0.82		
	Total	84	72.99			
			PERCEIVED COVERAGE			
1) **Programme Planning**	Between	2	519.48	259.74	4.88	0.0101
	Within	78	4,154.03	53.26		
	Total	80	4,673.51			
2) **Individual Instruction**	Between	2	353.65	176.82	3.78	0.0268
	Within	82	3,831.76	46.73		
	Total	84	4,185.41			
3) **Awareness of Health Issues**	Between	2	54.05	27.02	3.65	0.0302
	Within	83	614.28	7.40		
	Total	85	668.33			
4) **General Background Issues**	Between	2	17.92	8.96	4.76	0.0110
	Within	82	154.26	1.88		
	Total	84	172.18			

TABLE 16

Summary of Significant One-way Analysis of Variance for Perceived Degree of Importance and Coverage, with Regard to Competencies in Adapted Physical Education, as a Function of Age

	Source	DF	SS	MS	F-Ratio	Prob. > F
			PERCEIVED IMPORTANCE			
1) **Integration**	Between	1	45.77	8.39	0.0046	
	Within	102	556.21	5.45		
	Total	103	601.99			
2) **General Background Issues**	Between	1	9.64	9.61	11.08	0.0012
	Within	104	90.23	0.86		
	Total	105	99.84			
			PERCEIVED COVERAGE			
1) **Programme Planning**	Between	1	470.12	470.12	8.73	0.0039
	Within	98	5,279.67	53.87		
	Total	99	5,749.79			
2) **Individual Instruction**	Between	1	199.38	199.38	4.41	0.0383
	Within	102	4,614.46	45.24		
	Total	103	4,813.85			
3) **Specific Teacher Competencies**	Between	1	67.37	67.37	7.72	0.0065
	Within	99	863.85	8.72		
	Total	100	931.23			
4) **Integration**	Between	1	121.16	121.16	8.68	0.0040
	Within	102	1,423.46	13.95		
	Total	103	1,544.61			
5) **General Background Issues**	Between	1	20.90	10.90	10.92	0.0013
	Within	102	195.25	1.91		
	Total	103	216.15			

TABLE 17

Student-Newman-Keuls Post Hoc Test for the Degree of Perceived Coverage by Teachers as a Function of Courses in Adapted Physical Education

Competency Area	Group	Mean	N	Groups 1	2	3	4
Programme Planning	1	1.5	28				
	2	1.9	31		*		
	3	2.4	12	*	*		
	4	2.4	29	*	*		
Individual Instruction	1	2.7	29				
	2	2.4	31				
	3	3.2	13				
	4	3.3	31	*			
Personal Communication	1	1.4	29				
	2	1.3	32				
	3	1.7	14				
	4	2.0	31	*	*		
Integration	1	1.6	29				
	2	2.4	32				
	3	2.8	14				
	4	3.7	29	*	*	*	
General Background Issues	1	2.0	29				
	2	2.2	32				
	3	3.2	13	*	*		
	4	3.5	30	*	*		

* Denotes pairs of groups significantly different at the 0.05 level.

Group 1 = 0 courses in adapted physical education (N = 31)
Group 2 = 1 courses in adapted physical education (N = 33)
Group 3 = 2 courses in adapted physical education (N = 14)
Group 4 = 3 or more courses in adapted physical education (N = 32)

Note: For considering Tables 16 to 20, the number of questions per competency section are as follows: Programme Planning (10), individual instruction (7), group leadership (3), administration (6), personal communication (1), specific teachers competencies (4), awareness of health issues (3), integration (3), background issues (1).

TABLE 18

Student-Newman-Keuls Post Hoc Test for the Degree of Perceived Importance and Coverage by Teachers as a Function of Courses in Special Education

Competency Area	Group	Mean	N	Groups 1	2	3	4	5
			PERCEIVED IMPORTANCE					
Programme Planning	1	3.6	31					
	2	4.0	20					
	3	4.0	12					
	4	3.9	10					
	5	4.1	26	*				
Personal Communication	1	3.8	32					
	2	4.2	22					
	3	3.4	15					
	4	3.5	10					
	5	4.4	26			*		
Specific Teacher Competencies	1	3.0	30					
	2	3.8	22	*				
	3	3.5	15					
	4	3.6	10					
	5	4.1	26	*				
Integration	1	3.9	33					
	2	4.2	20					
	3	4.0	15					
	4	3.8	10					
	5	4.6	26	*		*		
General Background Issues	1	3.7	33					
	2	4.2	22					
	3	3.7	15					
	4	3.8	10					
	5	4.5	26	*				

TABLE 18 (Continued)

Competency Area	Group	Mean	N	Groups 1	2	3	4	5
		PERCEIVED COVERAGE						
Programme Planning	1	1.7	33					
	2	1.8	20					
	3	2.5	13	*	*			
	4	2.4	10	*				
	5	2.2	23	*				
Individual Instruction	1	2.4	33					
	2	2.8	21					
	3	3.3	15	*				
	4	3.6						
	5	2.9	24					
Group Leadership	1	2.4	33					
	2	2.5	21					
	3	3.1	15					
	4	3.6	10	*	*			*
	5	2.5	24					

* Denotes pairs of groups significantly different at the 0.05 level.

Group 1 = 0 course in adapted physical education (N = 34)
Group 2 = 1 courses in adapted physical education (N = 22)
Group 3 = 2 courses in adapted physical education (N = 15)
Group 4 = 3 courses in adapted physical education (N = 10)
Group 5 = 3 or more courses in adapted physical education (N = 29)

TABLE 19

A Comparison of Means for the Degree of Perceived Importance and Coverage by Teachers as a Function of Age

Competency Area	Group	Mean	N
	PERCEIVED IMPORTANCE		
Integration	1	4.4	52
	2	3.9	52
General Background Issues	1	4.3	54
	2	3.7	52
	PERCEIVED COVERAGE		
Programme Planning	1	2.2	51
	2	1.8	49
Individual Instruction	1	3.1	52
	2	1.4	52
Specific Teacher Competencies	1	1.8	52
	2	1.4	49
Integration	1	3.1	51
	2	1.9	53
General Background Issues	1	3.1	53
	2	2.2	51

Group 1 = 37 years of age or less (N = 54)
Group 2 = 38 years of age or less (N = 52)

TABLE 20

A Newman-Keuls Post Hoc Test Analysis for the Degree of Perceived Importance and Coverage by Teachers as a Function of Years of Since Preservice Education

Competency Area	Group	Mean	N	Groups 1	2	3
		PERCEIVED IMPORTANCE				
Personal Planning	1	4.1	28			
	2	3.7	30		*	
	3	4.0	27			
		PERCEIVED COVERAGE				
Programme Planning	1	1.9	29			
	2	2.4	27	*		*
	3	1.9	25			
Individual Instruction	1	2.9	29			
	2	3.2	29			*
	3	2.5	27			
Health Issues	1	1.9	30			
	2	2.4	29	*		*
	3	1.8	27			
General Background Issues	1	2.8	31			
	2	3.3	27			*
	3	2.2	27			

* Denotes pairs of groups significantly different at the 0.05 level.

Group 1 = 2 years or less since preservice education (N = 31)
Group 2 = Greater than 2 years since preservice education (N = 32)
Group 3 = Greater than 11 years since preservice education (N = 28)

TABLE 21

Correlations between the Degree of Importance of Competencies and the Degree of Coverage in Preservice

	1)	2)	3)	4)	5)	6)	7)	8)	9)
1) Program Planning	.0744								
2) Individual Instruction		.4225**							
3) Group Leadership			.4437**						
4) Administration				.2173*					
5) Specific Teacher Competencies					.1132				
6) Awareness of Health Issues						.1304			
7) Integration							.1013		
8) Personal Communication								.0773	
9) General Background Issues									.2706**

(*) $P < 0.05$

(**) $P < 0.01$

TABLE 22

Mean Responses to Perceived Degree of Importance and Coverage of Teacher Competencies

Questionnaire Options IMPORTANCE Range 1 to 5 Means	Questionnaire Items	Questionnaire Options COVERAGE Range 1 to 5 Means
	A. PROGRAM PLANNING	
4.32	1. Knowledge about disabilities (eg, cause, prevalence, preclusion from certain activities and medication)	2.49
3.87	2. Knowledge about existing physical activity programs (eg., Red Cross, Special Olympics, PREP, I CAN, etc.)	2.12
3.84	3. Knowledge of support organizations for special populations (eg delivery services for recreation and education, parent and professional association.	1.94
4.11	4. Knowledge of the roles of other professionals who work with students (eg. occupational therapists, physical therapists, etc...)	1.87

Questionnaire Options IMPORTANCE Range 1 to 5 Means	Questionnaire Items	Questionnaire Options COVERAGE Range 1 to 5 Means
3.91	5. Knowledge of organization and administration; equipment time and scheduling, pupil\teacher ratio, provisions for parents, transportation, assignment of staff responsibilities.	2.01
3.57	6. Knowledge of pertinent legislation concerning disabilities or persons with a disability	1.93
3.56	7. Importance of programs (eg., Red Cross, etc..) to population needs.	1.88
3.79	8. Knowledge of trends towards community leisure programs for those with disabilities	2.04
4.00	9. Importance of the selection and purchase of appropriate equipment for Adapted Physical Education	1.89

Questionnaire Options IMPORTANCE Range 1 to 5 Means	Questionnaire Items	Questionnaire Options COVERAGE Range 1 to 5 Means
3.84	10. Importance of assessing indoor and outdoor facilities used by disabled groups (eg., accessibility, safety, appropriateness for age, size and disability).	2.13
3.9	PROGRAM PLANNING GROUP MEAN	2.0
	B. INDIVIDUAL INSTRUCTION	
3.89	11. Importance of assessment techniques (eg., norm - referenced and criterion - referenced).	2.66
4.53	12. Selection of activities according to the needs, interests and potential of the individual.	2.73
4.44	13. Importance of task analysis of pertinent skills (eg., breaking down specific skills into parts in order to teach)	3.25
4.00	14. Importance of teaching styles (e.g. direct and indirect instructional techniques such as direct or problem solving approaches).	3.04
	15. Knowledge of behaviour management techniques (eg. ideas	

Questionnaire Options IMPORTANCE Range 1 to 5 Means	Questionnaire Items	Questionnaire Options COVERAGE Range 1 to 5 Means
4.51	on how to control or stop inappropriate behaviour amongst student).	2.57
4.40	16. Importance of appropriate prompting techniques to enhance performance (eg. visual, verbal and physical feedback).	2.87
3.94	17. Knowledge of record keeping for evaluation purposes	2.91
4.2	INDVIDUAL INSTRUCTION GROUP MEAN	2.9

Questionnaire Options IMPORTANCE Range 1 to 5 Means	Questionnaire Items	Questionnaire Options COVERAGE Range 1 to 5 Means
	C. GROUP LEADERSHIP	
4.01	18. Importance of group organization in order to implement activities.	2.75
4.22	19. Importance of a repertoire of group activities suitable for the class.	2.58
4.06	20. Importance of flexibility in leadership style (eg. autocratic to laissez faire), according class needs.	2.75
4.1	GROUP LEADERSHIP GROUP MEAN	2.7

Questionnaire Options IMPORTANCE Range 1 to 5 Means	Questionnaire Items	Questionnaire Options COVERAGE Range 1 to 5 Means
	D. ADMINISTRATION	
3.26	21. Preparation of budgets for department.	1.82
4.15	22. Preparation of reports for parents, indivdiual education program (IEP) supervisors, committees.	2.21
3.24	23. Preparation of proposals for new programs and provisions for appropriate advertising.	1.69
3.20	24. Importance of conducting meetings.	1.76
3.26	25. Importance of recruitment and training of volunteers.	1.72
4.20	26. Importance of open communication with parents, volunteers, other professionals and participants.	2.42
3.6	ADMINISTRATION GROUP MEAN	1.9

TABLE 22 (Continued)

Questionnaire Options IMPORTANCE Range 1 to 5 Means	Questionnaire Items	Questionnaire Options COVERAGE Range 1 to 5 Means
	E. PERSONAL COMMUNICATION	
3.96	27. Knowledge of how to set up support system (e.g. referral to professionals and significant others) and make use of it.	1.81
	F. SPECIFIC TEACHER COMPETENCIES	
3.51	28. Importance of basic sign language for the hearing impaired.	1.30
3.86	29. Importance of lifting techniques for those with a physical disability.	1.90
3.29	30. Knowledge of wheelchair design and adjustment.	1.41
3.87	31. Knowledge of therapeutic exercises (eg. rehabilitative mobility exercises).	1.87
3.7	SPECIFIC TEACHER COMPETENCIES GROUP MEANS	1.6

Questionnaire Options IMPORTANCE Range 1 to 5 Means	Questionnaire Items	Questionnaire Options COVERAGE Range 1 to 5 Means
	G. AWARENESS OF HEALTH ISSUES	
4.20	32. Importance of medical services or appropriate emergency procedures.	2.29
3.98	33. Importance of health concerns i.e. knowledge of correct procedures to ensure your safety and that of your clientele in dealing with blood and other body fluids.	1.888
4.18	34. Importance of procedures related to various aspects of child abuse.	1.98
4.1	AWARENESS OF HEALTH ISSUES GROUP MEANS	2.0

Questionnaire Options IMPORTANCE Range 1 to 5 Means	Questionnaire Items	Questionnaire Options COVERAGE Range 1 to 5 Means
	H. INTEGRATION	
4.22	35. Knowledge of the concept of educating children in the least restrictive environment.	2.69
4.15	36. Knowledge of and the arguments for and against integration of children into Adapted Physical Education (eg., children with disabilities and mainstream children in the same class).	2.70
4.15	37. Importance of the philosophy of integration.	2.70
4.2	INTEGRATION GROUP MEANS	2.7
	I. GENERAL BACKGROUND ISSUES	
4.04	38. A knowledge of the history of Adapted Physical Education	2.69
3.99	GRAND MEAN ACROSS ALL SECTIONS	2.26

TABLE 23

Summary *Manova* Table for Non-Significant Differences amongst Respondents as a Function of Personal Profile Variables

	Source	SS	DF	MS	F-Ratio	Prob. > F
		PERCEIVED IMPORTANCE				
Education	Between	50.77	4	12.69	.26	.906
	Within	4,078.49	82	49.74		
Experience	Between	9.49	1	9.49	.19	.663
	Within	2,961.12	60	49.49		
Courses in Adapted Physical Education	Between	116.41	3	38.80	.80	.495
	Within	3,956.78	82	48.25		
Years Since Preservice	Between	25.81	2	12.90	.34	.714
	Within	2,476.81	65	38.10		
Range of Age Groups in School	Between	251.16	3	83.72	1.80	.155
	Within	3,730.17	80	46.63		
Type of School	Between	7.02	2	3.51	.07	.932
	Within	3,904.26	79	49.42		
Nature of Disabilities	Between	147.31	4	36.83	.81	.524
	Within	3,008.13	66	45.58		
Age	Between	14.08	1	14.08	.29	.590
	Within	4,048.63	84	48.20		
Province	Between	170.19	4	42.55	.94	.446
	Within	3,078.85	68	45.28		

TABLE 23 (Continued)

	Source	SS	DF	MS	F-Ratio	Prob. > F
		PERCEIVED COVERAGE				
Experience	Between	5.55	1	5.55	.06	.808
	Within	188.36	57	93.29		
Education	Between	188.36	4	47.09	.52	.719
	Within	7,023.82	78	90.05		
Range of Age Groups in School	Between	559.69	3	186.88	2.20	.095
	Within	6,450.26	76	84.88		
Type of School	Between	131.55	2	65.78	.73	.487
	Within	6,789.01	75	90.52		
Province	Between	211.22	4	85.93	.61	.654
	Within	5,327.79	62	52.80		

APPENDIX D

Letter to Principals

McGill

May 21, 1991

Dear Principal:

I am an international graduate student from England and am studying at McGill University in the Department of Physical Education. I am conducting a cross Canada survey on the skills and knowledge teachers presently identify as important or relevant to their teaching and the degree to which these items were covered at the preservice (i.e. university) level.

This study is towards my Masters of Arts degree in Physical Education. I would be most grateful if you would distribute these questionnaires to the physical education teacher(s) or classroom teacher(s) who are currently teaching physical education in the school.

Enclosed please find two copies of the questionnaire (in case there are two physical education teachers in your school) and a self-addressed stamped envelope for return. I am confident that the information gathered from this study will be useful to those involved in teaching and teacher preservice education programs.

I appreciate your assistance and thank you.

Yours faithfully

J B Madden

John B. Madden

Greg Reid

Greg Reid, Ph.D.
Thesis Supervisor