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A Survey of Educators' Needs when Accommodating Students with Physical Disabilities in Regular Education Classrooms

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A SURVEY OF EDUCATORS' NEEDS WHEN ACCOMMODATING STUDENTS
WITH PHYSICAL DISABILITIES IN REGULAR EDUCATION CLASSROOMS

by

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A Scholarly Project

Submitted to the Graduate Faculty of the
Department of Physical Therapy

School of Medicine

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In partial fulfillment of the requirements

For the degree of

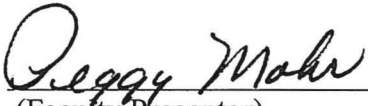
Master of Physical Therapy

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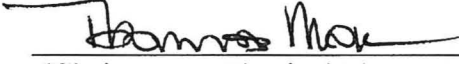
This Scholarly Project, submitted by Heather Fisher, Lynn McKay, Barbara Roise, and Katrina Sem in partial fulfillment of the requirements for the Degree of Master of Physical Therapy from the University of North Dakota, has been read by the Faculty Preceptor, Advisor, and Chairperson of Physical Therapy under whom the work has been done and is hereby approved.



(Faculty Preceptor)



(Graduate School Advisor)



(Chairperson, Physical Therapy)

PERMISSION

Title A Survey of Educator's Needs When Accommodating
Students with Physical Disabilities in Regular Education Classrooms

Department Physical Therapy

Degree Master of Physical Therapy

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“I can do all things through Christ who strengthens me.” Philippians 4:13

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ABSTRACT

Background and Purpose. Students with physical disabilities have been included in regular education classrooms, under IDEA, since the 1970's. Research has shown that many teachers do not feel adequately prepared for adapting their classrooms for a student with physical disabilities. The purpose of this study is to assess the perceived needs of regular educators in North Dakota and determine what ways physical therapists can offer assistance to educators when accommodating for a student with physical disabilities.

Subjects and Methods. Six hundred and fifty questionnaires were sent out to randomly selected, North Dakota teachers via the mail (325) and email (325). The questionnaires requested information regarding: demographics, perceived competencies, where they seek assistance, and areas of need for more information. A descriptive analysis was then performed comparing the returned survey responses. **Results.** Of the 650 questionnaires sent out, 324 (49.8%) fit the criteria to be analyzed for purposes of this study. Women ($\chi^2=.049$) and elementary teachers ($p=.031$) significantly felt the most competent in adapting their classrooms for students with physical disabilities, and were more likely to utilize outside resources such as occupational ($\chi^2<.001$) and physical therapists ($\chi^2<.001$). High school teachers were least likely to feel competent ($p=.031$). There was not a significant difference between general and special educators' feelings of competency, however, special educators perceived themselves slightly higher than regular educators in all categories. North Dakota educators indicated need for education in adapting

environments (62.3%), handling and positioning techniques (59%), defining roles and responsibilities of team members (54.3%), sources for adaptive equipment (51.2%), and basic guidelines for medical procedures (45.7%). **Discussion and Conclusion.** This study corresponded with other recent research in showing a need for further teacher education on the inclusion of students with physical disabilities into the regular education classroom. The responses indicated a request for moderate to maximum assistance in all topic areas related to physical disabilities. Physical therapists may be of assistance in this area because of their knowledge of physical disabilities. More research is needed in this area, as North Dakota teachers were the only representatives of this study.

CHAPTER I

INTRODUCTION

Students in public schools across the US are entitled to education in the “least restrictive environment” possible. This movement began in 1975 and has continued with the institution of the Individuals with Disabilities Education Act (IDEA) in 1997.^{2,3,6,10,11} This law encourages the inclusion of students with disabilities into the regular classroom. While these changes are being implemented on a practical level in the classroom, those instituting the Individuals with Disabilities Education Act, namely the teachers, are encountering challenges.^{1,13}

Teachers are professionals who are called to strive for high quality in their everyday practice, however, research shows that in many cases they do not feel adequately prepared to adapt their classroom for a student with a physical disability.^{1,13} Since the number of children who have a physical disability is increasing (in the regular educational setting), this is an issue that deserves further attention. Surveys in different parts of the United States have shown that teachers, students with physical disabilities and their parents feel that there is a need for more teacher training addressing accommodation in the school setting.^{1,16,25,26} Teachers surveyed have reported a need for further education in the use of assistive devices, wheelchairs and information regarding many diagnostic areas including cerebral palsy and spina bifida (both among the most common pediatric physical disabilities).¹

Among the largest barriers in education, as reported by students themselves, include unintentional barriers such as the attitudes of teachers and other professional towards them as a student with a disability.^{25,26} Attitudinal barriers are, in many cases, caused by a lack of knowledge, which again relates to the purpose of this study.^{25,26} Following the review of existing literature on this issue, it was concluded that further investigation was warranted.

Based on our literature research and subsequent findings a survey was developed designed to answer the research questions listed below:

1. What are the perceived needs of North Dakota K-12 public school educators in regards to adapting their classrooms for students with physical disabilities?
2. In what ways can physical therapists offer assistance to general education teachers to better accommodate students with physical disabilities?

After observing the national trends of inclusion and the widespread concerns of teachers, North Dakota teachers are expected to show a need for further education and professional cooperation in teaching students with physical disabilities in the regular classroom as well. Potential benefits of this survey include enhanced services for children via communication collaboration, increased teacher knowledge and skill base, and possible provision of resources for teachers. Physical therapists can play an integral role in the success of inclusion. With an increased awareness of the specific needs of teachers and students, physical therapists will be better prepared to serve them in the educational setting.

CHAPTER II

LITERATURE REVIEW

Public education is one of the pinnacles of the American society. The chance for every child to receive an education, helping to ensure the promise of their future, is part of the American dream. The United States public schools have been, and still are, in the process of fully attaining this high calling. Schools across the country are moving toward the inclusion of students with disabilities into the regular classroom, even those with what could be viewed as severe physical limitations. Advocates of the inclusion movement consider it a civil right for such students to receive equal educational opportunities.¹

The laws governing the regular education classroom have seen many changes over the past 30 years. Before the 1970's, children with physical disabilities were not allowed to be educated with their peers.² Those with cognitive impairments and more severe disabilities, about 1 million children, did not have access to a public education at all.^{2,3} The Rehabilitation Act of 1973 began to shape the future for students with disabilities across the nation.

The Rehabilitation Act of 1973 was actually geared towards assisting adults with disabilities to find job training and employment.⁴ However, Section 504 did discretely mandate that no program receiving federal money (school programs included) could discriminate on the basis of handicap.^{4,2} Section 504 stated that "no otherwise qualified disabled individual would be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal

financial assistance.”⁵ This act was not the last in educational legislation reform, there was more to come.

The Education for All Handicapped Children’s Act (PL 94-142) was passed in 1975. This law set federal guidelines and a foundation for special education services.^{2,6} Public Law 94-142, or EHA as it was known, stated that students with disabilities are to receive “free and appropriate public education” (FAPE). The law also went on to mandate the concept of the least restrictive environment (LRE). School systems are required that: “To the maximum extent appropriate, children with disabilities, including children in public or private institutions or other care facilities, are educated with children who are non-disabled; and that special classes, separate schooling or other removal of children with disabilities from regular classes occurs only when the nature or severity of the disability is such that education in the regular classroom with the use of supplementary aids and services cannot be achieved satisfactorily.”⁷ This included consideration of the benefits that social interaction will have on the child in nonacademic activities and environments.⁸ The law also stated that every child receiving services must receive an individualized education program (IEP), which is developed by a multi-disciplinary team and the child’s parents.^{8,2,9,7}

The law (EHA) changed again in 1990, when it was reauthorized and amended as PL 101-476, the Individuals with Disabilities Education Act (IDEA).¹⁰ This law incorporated a “person-first” language and substituted the term “handicapped” with the term “disability.” Another important change was the addition of two new categories of disability: autism and traumatic brain injury. This brings the list to twelve specific types of disabilities that entitle students to receive special services. The other categories are:

learning disabilities, speech or language impairments, mental retardation, emotional disturbance, hearing impairments, visual impairments, deaf-blindness, orthopedic impairments, other health impairments and multiple disabilities.^{2,6,10}

The Individuals with Disabilities Education Act (IDEA) was reauthorized and amended in 1997. It then became known as PL 105-17, the Individuals with Disabilities Education Act Amendments of 1997 (IDEA-97).¹¹ The amendments included adding that at least one general education teacher must participate as a member of the multi-disciplinary team that writes the IEP. It also changed the assessment process, requiring that students with disabilities be assessed with the same tools or an equivalent alternative, as that of their peers.⁶ Some of the other provisions included are: changes in evaluation and eligibility requirements, transition services, behavior plans, mediation, and paraprofessional training. The last provision is very important when working with students who have disabilities. The law mandates that “paraprofessionals, teaching assistants, and other similar personnel must be trained for their jobs and appropriately supervised.”⁶

Van Kuren,³ a spokeswoman for the Council for Exceptional Children, concluded that IDEA has, without question, changed the lives of millions of students across the country. She further stated that, “Today, students with disabilities are achieving in ways never thought possible. We can trace their success to the passage of IDEA.” In an overview of IDEA in 1997, the US Department of Education expressed that while the progress that has been made is significant, more must be done for those students who are still meeting difficulties in the school system.¹² The specific focus of the following research is on the concerns of teachers to be successful in educating the student with a

physical disability in the regular education classroom, and the challenges that have been met in doing so.

With all of the legislation and initiatives to include students with physical disabilities into the regular classroom setting, there have been many changes occurring in school systems. There is a trend among US states in requiring introductory level special education courses for both preservice and inservice teacher certification processes.¹³ The Council for Exceptional Children has included standards of preparation such as knowledge of assessment techniques, diagnosis, and evaluation of children with a physical disability.¹⁴ However, even with a special education preparation class, it has not been concluded that these requirements and legislation are carrying over into classroom success in teaching the physically disabled.¹³

In a recent study by Wolff and associates¹⁴ in 1999, it was noted that for students with a mild to severe physical disability and little or no intellectual disability, over half were being educated in a regular education classroom, either with or without support from special education services. Also, in 1991, the United States Department of Education estimated that 93% of students with disabilities received their education in a regular classroom setting.¹⁵ However, as more students with physical disabilities are included in regular classrooms, greater demands are placed on the teachers, according to Beattie and associates.¹⁶ There are a number of specific role changes, identified by Shellady and Stitche,¹⁷ that many regular education teachers are dealing with at the present time, they include: increased multidisciplinary involvement through IEP meetings, and incorporating children with physical disabilities into feasible lesson plans.

These changes call for a close-knit team of professionals who can support the teacher and help ensure the student's highest level of function.

In the US, the number of students who have physical disabilities is increasing. In 1996 the IDEA Report to the Congress stated that there were 60,604 children with orthopedic impairments being served.¹⁴ That number continues to grow along with the demands on the schools themselves. In 1999-2000 there were 71,000 children with orthopedic impairments being served under IDEA. That same year it was reported that 13,610 children were being assisted by IDEA in North Dakota.¹⁸

The movement toward inclusion is occurring nationwide. For example, New York City and San Francisco began the process of full inclusion in 1998 and 1997, respectively. Los Angeles public schools were behind in the inclusion movement for their 35,000 students with disabilities. They now have a deadline for "mainstreaming" by 2006 as a result of a lawsuit brought on by parents of the physically disabled students.¹⁹

Teachers, especially those with significant experience, have seen the influence of all of the changes in the educational arena firsthand and have had to learn how to adapt. If the "new system" of public education is going to be a success, then the teachers need to be successful in their individual classrooms. However, there is alerting evidence that teachers are not getting the preparation they need to be successful at educating a wide variety of children with disabilities.¹ A study done in the state of New York, by Singh,¹ indicated that only 40% of regular education teachers felt competent in their ability to educate a child with a physical disability. Furthermore, over 95% of the teachers surveyed did not know the key disabilities associated with hydrocephalus or spina bifida. The vast majority had the stereotype in mind that all children with cerebral palsy were

mentally retarded. These conditions are among those that would be seen in children with disabilities who are being included into regular education.

Adequate preparation for any task relates to the competence one feels while completing it. The same is true of educating students with disabilities. It has been found that coursework and pre-service experience significantly affected teachers' perceived competence in including disabled students into their classrooms.²⁰ In a survey of educators done by Daane and associates²¹ in 2000, three separate groups agreed that regular education teachers were not prepared to meet the needs of students with disabilities. At many universities regular education majors are only required to take one special education course and it generally does not include very much practical experience.¹⁶ A survey was conducted, by Wolff and associates,¹⁴ with the largest college/university in each state in the US, and it was found that 40% of these schools did not even offer physical/health disability programs. Of the universities that did offer such a program, however, their students showed better training in the areas of disability. In short, Daane and associates²¹ came to the conclusions that teacher-education programs need more extensive coursework and experience for this challenging facet of the field of education.

Teachers across the country have reported their need for more education regarding children with disabilities.^{1,14,21} Singh¹ noted that 66% of teachers reported zero hours of inservice training on physical disabilities and adapting for them in the classroom. A vast majority (94%) felt they needed training for using adaptive equipment. Adaptive equipment is utilized by many children with moderate to severe physical disabilities. Teachers in a separate survey, by Briggs and associates,²⁰ stated that they

would require special instruction before they would be able to teach a child with a disability along side children without disabilities. Also, a study done in cooperation with school system directors, noted by Wolff and associates,¹⁴ found that the teachers within the directors' schools needed more training on physical and health disabilities, the implications on education, and using assistive technologies. If teachers were not provided the opportunity to learn this information in their preservice education, then it is important that the information still be provided.²⁰

A survey among North Dakota regular education teachers was done in 1994 by Mohr,²² and had similar findings to those done across the US. It was found that teachers indicated a need for further training in a variety of areas dealing with physically and medically disabled children. Some of the areas in which the teachers needed further information included: adaptive equipment, medical terminology, screening procedures, curriculum implications, and psychological issues. It was concluded that training programs should be instituted to address these topics.

Paraprofessionals are utilized in many schools who serve students with disabilities. These people have daily contact with students, so they are also important to the success of inclusion. Paraprofessionals can assist students in a regular classroom, but in this setting their responsibilities are often not clearly defined.²³ According to Murata and Hodge,²³ some main areas in which these educational support personnel should be trained are about the specific condition/disability of the student, their learning styles, and classroom management techniques.

In conjunction with the concrete knowledge about a disability, the attitudes of the teachers and other personnel have a huge influence on the success of the student's

educational experience, according to Briggs and associates.²⁰ Therefore, it is worthwhile to note that professional experience and training contribute to a more positive attitude of teachers toward including students with disabilities into their classrooms, as found by both Beattie et al¹⁶ and Van Ruessen et al.²⁴ Beattie and associates¹⁶ proposed that the small amount of experience that preservice teachers have in dealing with disability issues may cause them to view students as more disabled and less able to be educated in the regular classroom setting. The negative attitude of a teacher towards a student can support a low levels of achievement and acceptance for that child in school. Long-term changes are needed in order to positively affect attitudes in the field of education for the inclusion of students with physical disabilities.

Surveys have been done, by both Pivik et al²⁵ and Tackett et al,²⁶ of students with disabilities (and their parents) attending a regular education school setting to pinpoint some areas that need improving. Their results correlate with what has been found lacking in teacher education, namely attitude barriers and a lack of knowledge. The students with disabilities reported that the worst barrier in school was that of an attitudinal one. They stated that both peers and teachers were responsible for putting up these barriers out of unwillingness to adapt, busyness, and a lack of understanding and knowledge. Parents had a similar report about the attitude barriers being the most difficult to deal with.

The literature reviewed in the previous pages has displayed a need in the ability to include children with physical disabilities into the regular classroom. There are some current programs in use that can offer a rough template for more extensive education to come. There are three main parts, outlined by the education department at the University

of Northern Iowa, that will be discussed with regard to this type of programming: attitudes, information, and application.²⁷

First of all, the teachers and/or other personnel must assess their own attitudes toward people with disabilities in general, and also toward including them into their classroom. They should identify areas that they are not comfortable with and explore them further. The informational step is self-explanatory; teachers need more information on specific diseases/conditions, assistive devices, and curriculum modifications.^{1,27} This can be done through inservices, IEP meetings and other avenues. Another important need is for multidisciplinary collaborative problem solving.²⁷ According to Jorgensen²⁸ and Salisbury et al,²⁹ many teachers are not accustomed to collaborating with their colleagues, let alone medical/therapy personnel, so growth is needed in this area.

Physical therapists have professional knowledge about specific diagnoses, assistive devices and classroom adaptations, among other things and so can be a resource for teachers, according to Esperat and associates.³⁰ Many children with a physical disability will receive physical and occupational therapy at some point in time. Meetings for a student's IEP create an opportunity for the multidisciplinary collaboration because all professionals and paraprofessionals who work with the student are required to be in attendance.^{6,8,10} McLaurin³¹ reported that recently in North Carolina a course was developed for preparing physical therapists for employment in a school setting. Physical therapists were educated on strategies for interdisciplinary collaboration and problem solving for adapting school activities and providing appropriate treatments.

The last step is the application of the learned skills/knowledge. Colleges and universities would do well to include more special education requirements for regular

educators to begin with, according to Beattie and associates.¹⁶ Saint Mary's College in Indiana has a program specifically targeted at preparing their teaching students for inclusion in the classroom. These students meet with peers who have a physical disability to role play situations, give feedback and share suggestions. Saint Mary's Education Department has noted a decreased level of anxiety in these pre-service teachers in their ability to include a pupil with a physical disability.¹³

In the regular education classroom, peer education may also be a key factor to reducing the barriers for students with disabilities. Lipsitt,³² a teacher in Vermont, wrote about his experiences with inclusion; and he noticed that once the entire class had a better understanding of why the student with a disability was different, the difference seemed less important and the class was willing to accept the child with the disability. Research done by Jorgensen²⁸ has also concluded that cooperative/collaborative learning is not only good for teachers, but also for their students. It was found that children with disabilities had more positive outcomes in a group-learning type of setting.

Incorporating these new programs into the educational arena takes time, but the concepts behind the programs strive toward the ideals upon which our public school system was based. The process of inclusion will not be entirely complete until each child is challenged to reach his/her highest educational level in a positive environment.²⁷

CHAPTER III

METHODOLOGY

This study was designed as a survey focused on addressing (a) the perceived needs of ND K-12 public school educators for accommodating students with physical disabilities; and (b) how physical therapists may offer assistance to educators of students with physical disabilities. The methodology used in this research project included: 1) developing a questionnaire, 2) selecting a sample of educators, 3) administering and receiving completed questionnaires, 4) analyzing returned data, and 5) reporting results. The Institutional Review Board at the University of North Dakota granted approval of this scholarly project in August 2003.

Questionnaire Formulation

During the spring of 2003, a survey was drafted that addressed objectives a and b as stated above. Following revisions, a 20-item survey was completed and made ready for dispersal. Initially, our intended subject size was 1000 ND educators. However, in the summer of 2003 the possibility of conducting a survey via internet/email was investigated. Following research and discussions with Dr. Ed Simanton of the UND Medical Education Department, it was determined that this was a viable means of gathering data. As a result, an internet account was set up through Information Management Services and a survey was formatted in Microsoft Frontpage. A web link was created so that subjects would receive an email explaining our research. They could consent to participate by selecting the link, and submit a completed survey.

Confidentiality of the web surveys was assured as there was no means of tracking respondents. In addition to the email survey, an equivalent number of paper surveys were disbursed with a cover letter outlining survey procedures and confidentiality of information.

Subject Selection

The North Dakota Department of Public Instruction (DPI) was contacted during the spring of 2003 and a list of 1000 North Dakota public school educators' names and addresses was purchased in the form of adhesive mailing labels. Educator email addresses were compiled by searching under the educator's respective school web-site. If the educator's email address was present on the web-site, it was recorded for the email survey disbursement. From the school web search, 325 email addresses of the 1000 names were found. An equal number of paper survey and email survey subject sizes was desired. As a result, the 325 email survey subjects were subtracted from the list of 1000 randomly selected individuals. The names of the 325 paper survey subjects were randomly selected from the remaining 675 names. The final target subject size, combining both email and paper surveys, was 650 North Dakota educators.

Procedure for Educators

The paper surveys were mailed, September 22, 2003, to the 325 educators selected as members of the paper survey group (see appendix B). A cover letter (see appendix B) and a pre-paid postage, self-addressed reply envelope was included with the survey. The cover letter explained the purpose of the survey, estimated time for completion, potential risks to the subject, provisions to ensure confidentiality, and an explanation for the return of the completed survey. On October 10th, a reminder postcard

was mailed to the educators who had not returned their surveys as encouragement to complete and return their survey. The names of individuals who had not completed surveys were determined from the coding system used.

Email surveys were disbursed September 24, 2003. The educator's received an email via a physical therapy UND medicine email account created for the purpose of this survey (see appendix B). The letter included a description of who the researchers were, the purpose of the survey, a web-link to the survey, and a description of how to complete and submit the survey. The educators were informed that the information they submit would remain anonymous and confidential. Once the web-link to the survey was selected, subjects were directed to the survey web address where the survey could be completed. On Oct 8th, a reminder email with the link to the survey was sent to all 325 educators in the email group (see appendix B). A reminder was sent to all subjects in this group because it was not possible to track who had or had not completed the survey via email. The closing date for returned surveys was Oct 29, 2003.

Data Analysis

The information from both the paper and email surveys were combined and sorted in a Microsoft Excel spreadsheet. All responses were compiled using the Statistical Package for the Social Sciences (SPSS) release 11.5, except for the narrative responses gathered from the open-ended questions.

Descriptive statistics were used to analyze the demographics of the educators in relation to their responses to questions related to the following 5 areas: 1) feelings of competency; 2)resources for information regarding working with special needs children; 3)areas of perceived need requiring further information; 4)amount of physical therapy

assistance requested from educators; and 5)educators perception of educational challenges present for children with physical disabilities within the regular education classroom.

The questionnaire was composed of 20 questions consisting of educator demographics (such as gender, years teaching, community size, class size, work experience, and grades taught) and questions related to the areas listed in the previous paragraph. Educators were asked to answer the questions in a manner that was representative of their perceived needs, opinions, and feelings regarding working with children with physical disabilities in the classroom.

Data Reporting

Upon completion of this study, a summary of the results was given to the University of North Dakota Physical Therapy Department, the Harley E. French Library of Health Sciences, and to all researchers that participated in this study. This study was completed as partial fulfillment of requirements for the University of North Dakota Master of Physical Therapy Degree.

CHAPTER IV

RESULTS

Three hundred twenty-five paper surveys were mailed out and three hundred and twenty-five were sent out via email and electronic response. Out of the 650 total surveys sent out, 337 responded. From the 337 that responded, 4 mailed responses did not meet the deadline requirements for analyzing the data, 3 were returned with no responses, and 6 were submitted via electronic response more than once. As a result, they were disregarded. Out of the 324 surveys returned that fit the requirements, 144 (44.4%) were returned through the mail and 180 (55.6%) were returned by electronic response.

Demographics

The majority of the respondents answered this survey through electronic response (55.6%). The electronic response rate for males and females was nearly equal (males 59.2%, females 55.6%). Females accounted for 243 (76.2%) of the total responses, while males accounted for only 76 (23.8%). Of the special educators that responded, 21.8% were female, while only 2.6% were male.

There were three respondents on the survey who checked both the regular educator and special educator boxes on the question regarding type of experience. These respondents were considered to be special educators for the purposes of this study. With this consideration, the majority of respondents were regular educators (83%), had a class size of 16-25 students (59.9%), lived in communities under 5,000 (44%), and had 20-40

years of teaching experience (44%). There was some overlap in the grade levels taught, but the majority of the educators had taught in grade 7 (38.8%), grade 10 (35.8%) and grade 11 (35.2%). The respondents were then categorized as either elementary, middle or high school teachers, also with some overlap as educators checked all grade levels that they have experience with. Please refer to Table 1 and 2 for the complete demographics.

Table 1. Demographics

	Frequency (n)	Percentage
Received Surveys:		
Paper (in the mail)	144	44.4%
Electronic	180	56.6%
Gender:		
Males	76	23.8%
Females	243	76.2%
Experience:		
Special Educator	55	17.0%
Regular Educator	269	83.0%
Class Size:		
<5 Students	13	4.1%
6-15 Students	79	24.9%
16-25 Students	190	59.9%
26-35 Students	28	8.8%
>35 Students	7	2.2%
Community Size:		
<5,000	140	44.0%
5,000-20,000	43	13.5%
20,000-50,000	43	13.5%
>50,000	92	28.9%
# Years Experience:		
<5years	35	11.1%
6-10 years	51	16.1%
10-20 years	88	27.8%
20-40 years	139	44.0%
>40 years	3	.9%

Table 2. Grade Levels Taught

	Frequency (n)	Percentage
Elementary	192	59.3%
Middle	185	57.1%
High	142	43.8%

Analytical Statistics

The survey responses were analyzed to answer the two main research questions and determine what the perceived needs of general education teachers in North Dakota are in adapting their classrooms for students with physical disabilities and how physical therapists can better assist these teachers in their classrooms. The general and special education teachers' responses of perceived feelings of competency, information resources, assistance and information needed were paired to see if they were affected by reported demographics, such as: gender, work experience (special educator vs. regular educator), class size, community size, number of years experience, grades taught, and overall number of students with physical disabilities taught in their classroom. The analysis was done using cross-tabulation techniques and analysis of variance (ANOVA). The predetermined level of significance used for the purposes of this study was $p > .05$.

Educator Competency

Of the completed surveys, 83.3% of the respondents (both special educators and regular educators) indicated that they felt moderately competent or competent to contribute to the educational growth of a student with a physical disability. There were

69.8% that felt they were moderately or completely competent in planning class activities to maximize active participation by students with physical disabilities, and 78.1% felt the same level of competence toward adapting a classroom environment to accommodate a child with a physical disability. Teachers appeared less competent in setting up or utilizing adaptive equipment; only 48.1% of respondents indicated they were moderately or completely competent in this area.

Although the responses were not significantly different between special educators' and regular educators' feelings of competency, it is interesting to note the slight differences. Special educators felt they were moderately or completely competent overall in contributing to the educational growth of a student with a physical disability (special 90.9%, regular 82.1%), planning class activities to maximize participation (special 72.7%, regular 69.7%), adapting the classroom environment (special 81.8%, regular 77.9%), and setting up and utilizing adaptive equipment (special 54.5%, regular 47.3%).

Two demographic characteristics appeared to significantly affect respondent's feelings of competency to adapt the classroom for a student with physical disabilities. These include:

Gender: Women (27.8%) more frequently felt completely competent in adapting the classroom for a student with a physical disability than men (17.1%), $\chi^2=.049$.
Grade Levels Taught: Elementary teachers were found to feel most competent in adapting their classroom ($p=.021$), while high school teachers were least likely to feel competent ($p=.031$).

Information Resources

Respondents were asked to indicate who and/or where they went for assistance when they had questions regarding the specific needs of a child with a physical or medical disability from a list of information providers. The most frequent response written in “other” was “other teachers,” indicating their use of the child’s previous educators and their colleagues as a useful resource. The following table describes the percentage of teachers who use each provider.

Table 3. Sources of requested assistance

Rank	Provider	# of Respondents	Percentage
1.	Special Educator	281	86.7%
2.	Parent	279	86.1%
3.	OT	157	48.5%
4.	PT	152	46.9%
5.	Child	132	40.7%
6.	Paraprofessional	90	27.8%
7.	School Nurse	75	23.1%
8.	Internet	68	21.0%
9.	Doctor	53	16.4%
10.	Sibling	24	7.4%
11.	Other	15	4.6%

Following data analysis, a number of demographic characteristics appeared to influence where teachers inquired for assistance:

Gender: Females more frequently indicated their use of occupational therapists ($x^2 < .001$), physical therapists ($x^2 < .001$), and the internet ($x^2 = .025$) than males.

Work Experience: Special educators were significantly higher than regular educators in their reports of using an occupational therapist ($x^2 < .001$), physical therapist ($x^2 < .001$), the internet ($x^2 = .019$), and doctors ($x^2 = .045$). However, regular educators indicated a higher use of a paraprofessional for information ($x^2 = .016$).

Class Size: Larger class sizes were less likely to ask a physical therapist ($x^2 = .002$) or an occupational therapist ($x^2 = .023$), and more likely to use a paraprofessional ($x^2 = .031$).

Community Size: Larger communities utilized a school nurse more frequently ($x^2 < .001$).

Grades Taught: When compared to middle and high school teachers, elementary teachers were more likely to go to an occupational therapist ($p > .001$), physical therapist ($p = .028$), parent ($p = .005$), the internet ($p = .003$), nurse ($p = .043$), or a doctor ($p = .009$) when they had questions, than middle and high school teachers.

Beneficial Information

Surveyed teachers were asked to check any topics of information they felt they would benefit from, and were given an opportunity to write in any topic in a line designated “other.” Educators indicated that there are several topic areas in which a physical therapist could provide beneficial information, with the top five indicated in Table 4.

As the table implies, North Dakota teachers feel they would benefit most from education in adapting the environment (62.3%), handling and positioning techniques

(59%), defining roles and responsibilities of team members (54.3%), sources for adaptive equipment (51.2%), and basic guidelines for medical procedures (45.7%).

Table 4. Beneficial Information.

Respondents (n)	%	Topic of Benefit
202	62.3	Techniques of adapting the environment for a student with physical or medical disabilities
191	59.0	Handling and positioning techniques that promote participation
176	54.3	Definition of the roles/responsibilities of team members in managing students' medical and physical disabilities in the school setting
166	51.2	Sources for adaptive equipment and games for recreational, physical education, or gross motor activities
148	45.7	Basic guidelines for specific medical procedures completed in educational setting (suctioning, utilizing feeding tubes)

There were several groups that displayed significant differences in their responses. Variables contributing to these differences include:

Community Size: individuals teaching in a smaller community size more frequently responded that they would benefit from education on the sources of adaptive equipment and games for recreation, physical education, or gross motor activities ($\chi^2=.034$).

Years of Experience: Those with more years of experience tended to desire information about basic guidelines for specific medical procedures completed in the educational environment ($\chi^2=.047$).

Grade Levels Taught: Elementary teachers when compared to middle and high school teachers, more often stated that they would benefit from evaluation procedures ($p=.019$), procedures for writing measurable goals and objectives ($p<.001$), basic guidelines for specific medical procedures completed in the educational environment ($p=.015$), definitions of roles and responsibilities of team members ($p=.001$), guidelines for handling and positioning techniques ($p=.048$), and sources of adaptive equipment ($p=.004$).

Although it is not statistically significant, it is interesting to note the differences between the responses from regular educators and special educators. Regular educators expressed more interest in topics such as: evaluation procedures (50.2%), writing measurable goals (45.4%), definition of roles and responsibilities among team members (56.1%), adapting the environment (64.3%), positioning and handling techniques (59.5%), and sources of adaptive equipment (52.4%). Special educators expressed more interest in emergency evacuation techniques (43.6%), and basic guidelines for specific medical procedures (50.9%).

Assistance Requested

Respondents were asked to indicate the level of assistance they would like from physical therapists in a number of areas. Circling 1 indicated no assistance was needed, 4 indicated maximal assistance. The total assistance levels for each area were summed and

averaged to determine areas where more assistance is necessary. The following table displays these results.

Table 5. Assistance Requested from Physical Therapists.

Respondents (n)	Percentage %	Assistance Level	Area of Assistance
299	38.6	3.16	Emergency Procedures
307	42.9	3.11	Use of Adaptive Equipment
315	45.1	2.99	Enhance Classroom Participation
309	39.5	2.90	Interpretation of Medical Information
308	37.0	2.89	Interpreting Medical Charts

Respondents indicated that they were most concerned with emergency procedures, followed by the use of adaptive equipment. All of the responses were indicative that the respondents were requesting between moderate to maximum assistance based on the scale (1=no assistance, 4=maximum) for the topic areas. This is significant to this study and identifies areas of need.

Demographic analysis showed significant differences only when comparing “grades levels taught.” Elementary teachers had a higher need for assistance in “interpreting medical information” (p=.001), “interpreting medical reports in non-technical language” (p=.006), “using adaptive equipment” (p=.004), and “enhancing classroom participation.” In all of these areas, plus “emergency procedures,” high school

teachers significantly demonstrated they needed less information than middle and elementary teachers.

Classroom Challenges

The final question asked teachers to put in rank order the situations they found challenging, with 1 being the most challenging and 7 the least challenging. A large percentage of the respondents incorrectly submitted this question. In order to eliminate responses that were incorrectly done and salvage those that were correct, individual scores were added, and the responses were withheld from calculations if the sum did not total 21. In all, 144 responses were eliminated, leaving 180 to analyze.

Among these surveys, there was no significant difference noted between regular educators and special educators when ranking challenges. There was also no apparent correlation between the number of students with disabilities in the classroom and an increase in challenging situations. This could be due to the varying responses of educators when answering how many students they have had with disabilities in their classrooms (some answered over the course of career, others over the current school year).

There were three demographic areas that appeared to have a significant affect on the ranking of challenging situations among the respondents. These include:

Years of Experience: As the years of experience increased, teachers were more likely to consider psychological aspects of the disability ($p=.032$), as well as fine motor difficulties ($p=.028$), and sensory losses ($p=.047$), as a challenge.

Class Size: Teachers with larger class sizes were more likely to consider absences as a challenge ($p=.023$).

Community Size: Teachers in larger communities were also more likely to consider absences as a challenge ($p=.015$).

CHAPTER V

DISCUSSION AND CONCLUSION

The fifty-two percent response rate showed a cooperative population of North Dakota teachers. The high response rate may be an indicator of the current need for training in this area; a teacher who felt this topic was of benefit to our educational system would likely feel compelled to respond. The survey responses echo this need, as the following paragraphs explain.

Educator Competency

An encouraging aspect of our study was the high number of respondents (83.3%) who felt at least moderately competent in contributing to the educational growth of a child with a physical disability. Overall, these teachers felt they were able to overcome physical barriers to provide these children with a quality of education. The other areas questioned were not as positive; less than half of the respondents stated they were moderately or completely competent in setting up or utilizing adaptive equipment. The low competence reported in this area signifies room for improvement and need for education by a physical therapist. Approximately 30 % of teachers stated they were minimally competent or less in their ability to plan class activities to maximize active participation by students with physical disabilities. Competence was found lacking (minimal or less) in 21.9 % of teachers in the area of adapting the classroom environment. Additional steps must be taken to assure competence in all of these areas; this problem can be greatly reduced by improved education in areas of deficiency.

Information Resources

After totaling the frequencies of resources used, physical therapists ranked fourth in their use as an information provider behind special educators, parents, and occupational therapists. Only 46.9% of teachers reported using a physical therapist to answer questions. Perhaps this percentage could be increased by making adjustments in the availability of physical therapists in the school system and improving the levels of communication between teachers and therapists. A high percentage of teachers reported using a special education teacher (86.7%) or a parent (86.1%) to gain information regarding the child's disability. The evidence of good communication between these two sources and teachers is of great benefit to the child with special needs in the classroom.

Beneficial Information

In four of the eight topic areas given, over 51% of teachers reported they would benefit from information that is within a physical therapist's knowledge base. These percentages indicated teachers are open to learning information regarding students with physical disabilities, and they feel a need exists in the areas questioned. A high percentage of teachers found information on the following topics to be beneficial: techniques for adapting the environment for students with physical or medical disabilities (62.3%), handling and positioning techniques that promote participation (59.0%), definitions of the roles/responsibilities of team members (54.3%), and sources for adaptive equipment and games for recreational, physical education, or gross motor activities (51.2%). Inservices on these topics would benefit a majority of our surveyed teachers.

Assistance Requested

When the levels of assistance needed for the given areas were averaged, the relatively high need for further instruction was confirmed. After a review of recent literature, we determined five areas in which teachers may need assistance: interpreting medical information, interpreting medical reports, use of adaptive equipment, enhancing classroom participation, and emergency procedures. On average, teachers reported needing more than minimal assistance in all areas researched. These results suggested North Dakota teachers would benefit from additional information that may further enhance education for a child with a physical disability. “Emergency procedures” was found to be the most concerning area for teachers. For the safety of children with a physical disability, teachers must be properly instructed in this area.

Classroom Challenges

Although the elimination of incorrect responses greatly reduced the number available to analyze, our results still signified an important ranking of challenges. It would benefit both educators and physical therapists to note the more difficult aspects of teaching a student with physical disabilities, so that a greater effort can be made to improve education in these areas.

Demographic Comparisons

With comparison of demographic differences, several important conclusions were found that may affect children with a physical disability in an educational setting. Special educators were more apt to utilize medical professionals (such as a physical therapist, occupational therapist, or a doctor) as a source of information. It is unknown

whether this finding is due to this population having a greater need for information, more time available to seek information, or a greater understanding of the benefits medical professionals can provide. Further investigation in this area is warranted.

Significant differences were also found when elementary teachers were compared to middle and high school teachers. In general, elementary teachers appeared to have more concerns about working with a child who has physical disabilities. Elementary teachers reported feeling more competent in adapting their classroom for a student with physical disabilities, and they selected a higher number of information sources (significantly higher in their use of physical therapists, occupational therapists, parents, the internet, nurses, and physicians). Despite these positive findings, a significant number of elementary teachers stated they would benefit from further education regarding the following: evaluation procedures, writing measurable goals and objectives, medical procedures used in an educational setting, roles and responsibilities of team members, guidelines for handling and positioning techniques, and sources of adaptive equipment. In addition, elementary teachers reported a significantly higher average need for assistance in 4 of the 5 areas listed. These results indicated that, from a teacher's perspective, the need for assistance by a physical therapist is greater among elementary teachers. A suggested explanation for this finding is the differences in the maturity level of their pupils. As a child with physical disabilities grows, he/she begins to take on responsibilities previously assumed by his team members. For example, a second grader may have difficulty putting on his/her hand splint for writing activities, while a tenth grader is likely to have mastered this task. Whatever the reason, elementary teachers feel

a stronger need for further cooperation with therapists. Physical therapists in a school setting may need to take this into consideration as they prioritize their time.

Another important finding was the relationship of class size and its correlation to informational resources. As their class size increased, teachers were significantly less likely to seek assistance from an occupational or physical therapist. This study concludes this is an important finding because it relates directly to children with physical disabilities; as additional demands are placed on a teacher, she may have less time to seek out information pertinent to the child's physical and educational development. The prevalence of this problem in North Dakota is beyond the scope of this study. Future studies should assess the affect of class size on education.

Comparison to Literature Review

When comparing the results of this study to previous ones, there are striking similarities. This further implies the need for better teacher education about physical disabilities. Less than half of the teachers surveyed in North Dakota felt competent in setting up and utilizing adaptive equipment, which in the previously noted study by Singh¹ in 2002, 94% of the teachers surveyed in North Dakota needed assistance in this area.

When a child is on an IEP there is more than one person involved in their education and care, this means that having a successful team will contribute to the success of the child. In this study, over half of the teachers surveyed said they would benefit from further information regarding specific roles of the team members. Murata and Hodge²³ also found this in their research of paraprofessionals; more clearly defined responsibilities are needed as well as training in specific medical conditions.

A teacher's attitude has a significant effect on a child's success in school.²⁰ For the most part the teachers in this study either felt competent or were open to receiving more education about physical disabilities. However, there was concern regarding two surveys returned from teachers. One of these stated that children with physical disabilities were not his/her concern, and the other seemed resentful over the amount of time that students with physical disabilities took away from other students. Since attitudinal barriers were the biggest barrier noted by children with physical disabilities (and their parents) in studies done by Pivik et al²⁵ and Tackett et al,²⁶ this is an area of concern in the school setting.

The results of this study also correlated well with the previous study done with regular education teachers in North Dakota in 1994 by Mohr.²² Some of the areas in which teachers were requesting further information showed overlap between the two studies; these areas included: adaptive equipment, medical terminology, and resources for materials and equipment.

Overall, our results showed similarities to studies done across the US. This need for teacher education in the area of physical disabilities seems to be a concern nationwide. This is an issue that needs attention from teachers and medical personnel alike. Physical therapists can play an important role in this improvement because of their professional knowledge of physical disabilities.

Problems with Returned Surveys

There were a number of unforeseen problems with returned surveys and several had to be excluded from the data analysis. Three surveys were returned through the mail with no data because they were either retired or felt that they did not meet the criteria for

the study. Six of the surveys returned electronically had to be omitted due to the fact that they were resubmitted several times. There were also some questions that were found to be confusing and may need to be reworded if used for future studies:

Question #2 asks: "Please indicate which item is most characteristic of your work experience: Regular Education____ Special Education____." There were several respondents that checked both special and regular education. This skewed that data, which had to be reorganized for analysis. Those that checked both were then considered to be special educators for the purposes of this study.

Question #7 asks: "Number of students with physical disabilities with whom you have worked during your teaching experience." There is some question as to how this was answered. The data varied greatly, with teachers responding within a range of 0 to 300 children. The responses then had to be reorganized, with several answers omitted, in order to be used for data analysis. Teachers with greater than 10 years experience who answered "0" children, and those that answered with very high numbers of children and less experience were thrown out so they did not skew the data.

Question #20 asks: "Please put the following conditions in rank order according to the educational challenge they present-1 most challenging...7 least challenging." Of the 324 respondents, only 19 answered this question correctly and were able to be used for data analysis. Many ranked the questions from 1-6 leaving out "other" or would use the same number multiple times.

There were several teachers who indicated that they were unsure of what would constitute a physical disability. This may also be a reason for the variance in data of question #7 (how many students with physical disabilities have you had in your teaching experience). It would have been beneficial to have this information included on the survey to decrease the variability of the answers collected.

Limitations of the Study

This study collected very significant and interesting data, however there are a number of limitations. Teachers in North Dakota were the only ones to be surveyed, so their answers may not compare with teachers in other states across the country. North Dakota is also a rural area, with a small population, and may not have the same resources as those available in large urban schools. It would be helpful to have representation from several different states to see how responses to these study questions compare.

Another limitation found during this study was the lack of access to and accuracy of teachers' email addresses. The names of the teachers and their school addresses were accessed and randomly selected through the Department of Public Instruction of North Dakota. However, they did not have a database or any information on the teachers' email addresses. There was also reluctance, or the information was unknown and not collected among schools and state agencies across the state. This is significant because the electronic response rate was 55.6%, where the rate for those returned through the mail was only 44.4%. This information would be beneficial for future studies and may allow access to a greater population when used to gather information within this and other states.

Implications of Study

Following completion of this study, it is clear that there has been little research conducted in the area of teacher competency regarding working with students with physical disabilities in the regular education classroom. The IDEA legislature, which calls for the least restrictive learning environment for children, creates a necessity for further research regarding preparation and competency of teachers assuming such roles in the classroom. This research study demonstrates a need for improved preparation of our educators if they are to be working with students with physical disabilities. Furthermore, it remains the responsibility of accredited physical therapy schools to teach therapists how to educate teachers in the skills and knowledge necessary for working efficiently in educating students with physical disabilities in the least restrictive environment.

APPENDIX A

University of North Dakota Exempt Certification Form
Research Involving the Use of Survey, Interview, Observational Procedures or Educational Tests

Complete the following if you are requesting permission to use survey, interview, or observational procedures, or educational tests.

Please Note: The policies and procedures of the University of North Dakota apply to all activities involving the use of Human Subjects performed by faculty, staff and students conducting such activities under the auspices of the University. No activities are to be initiated without prior review and approval as prescribed by the University's policies and procedure governing the use of human subjects.

Please answer the following questions regarding your research.

1. Are prisoners included in the research? ___ Yes ___ **X** No

If you answered "No" to the above question, please continue to question 2a. If you answered "Yes" to the above question, this research does not qualify as exempt. Please fill out and submit a "Human Subjects Review Form".

2a. Are minors included in the research? ___ Yes ___ **X** No

If you answered "No" to the above question, please skip 2b and continue to question 3. If you answered "Yes" to the above question, please continue to question 2b.

2b. Does the research include survey or interview procedures, or the observation of public behavior with researcher interaction with the subjects? ___ Yes ___ No

If you answered "No" to the above question, please continue to question 3. If you answered "Yes" to the above question, this research does not qualify as exempt. Please fill out and submit a "Human Subjects Review Form".

3a. Will the data be recorded in a manner such that subjects cannot be identified, either directly or through identifiers linked to the subjects (subject name, social security number, birth date, coding, etc.)?

X Yes ___ No

If you answered "No" to the above question, please continue to question 3b. If you answered "Yes", please skip question 3b and continue with the rest of the form.

3b. Will the disclosure of the subjects' responses outside of the research reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation?

___ Yes ___ No

If you answered "Yes" to the above question, this research does not qualify as exempt. Please fill out and submit a "Human Subjects Review Form". If you answered "No", please complete the rest of the form:

Principal Investigator: Peggy Mohr, PT, Ph.D.

Telephone: 777-3689 Address: PO Box 9037, Grand Forks, ND 58202-9037

E-mail address: pegmohr@medicine.nodak.edu

School/College: School of Medicine Department: Physical Therapy

Student Adviser (if applicable):

Telephone: Same as above Address:

E-mail address:

School/College: _____ Department:

Project Title: *The Current Needs of North Dakota K-12 Teachers Associated with Accommodating Children with Physical Disabilities in the Classroom.*

Proposed Project Dates: Beginning Date: June 2003 Completion Date: December 2003

Funding agencies supporting this research:

(A copy of the funding proposal for each agency identified above MUST be attached to this proposal when submitted.)

YES or NO Does the Principal Investigator or any researcher associated with this project have a financial interest in the results of this project? If yes, please submit, on a separate piece of paper, an additional explanation of the financial interest (other than receipt of a grant).

If your project has been or will be submitted to another Institutional Review Board(s), please list those boards below along with the status of each proposal.

N/A Date submitted: _____ Status: Approved Pending
_____ Date submitted: _____ Status: Approved Pending

Type of Project: Please check "Yes" or "No" for each of the following.

YES or NO New Project YES or NO Dissertation/Thesis
 YES or NO Continuation/Renewal YES or NO Student Research Project
 YES or NO Protocol Change for previously approved project
(resubmit "Human Subjects Review Proposal" with changes bolded or highlighted and signed)

Cooperating Institution:

YES or NO Will any institution or agency personnel assist in the Proposed Project?

Letters from each institution/agency must accompany this proposal. Each letter must illustrate that the institution/agency understands their involvement in that study, and agrees to participate in the study. Letters must include the name and title of the individual signing the letter and, if possible, should be printed on letterhead.

YES or NO Will subjects be recruited from Altru Health Systems?

Please provide additional information regarding your research on a separate sheet of paper.

4. In non-technical language, briefly describe the purpose of the study and state the rationale for this research.
5. In non-technical language, briefly describe the study procedures.
6. Where will the research be conducted?
7. How will data be recorded and stored (that is will it be coded, anonymous, etc.)?
Note: data and consent forms must be stored for a minimum of three years after data analysis is complete.
8. Describe the nature of the subject population and the estimated number of subjects.

Necessary attachments:

- Signed Student Consent to Release of Educational Record Form (if applicable);
- Consent form (not required for observational studies);
- Surveys, interview questions, or educational tests;
- Printed Web screens (if survey is over the Internet); and
- Advertisements.

NOTE: The UND IRB requires that all key personnel involved in the research complete human subject education before IRB approval to conduct research can be granted.

By signing this form, I certify that:

the above information is accurate and that this research will be conducted in accordance with the statements provided above; this research does not involve prisoners, but if a subject becomes a prisoner, I will notify the IRB.

_____ Date:
(Principal Investigator)

_____ Date:
(Student Adviser)

10/22/2002

4. In non-technical language, briefly describe the purpose of the study and state the rationale for this research.

The purpose of this study is to answer the following questions:

1. What are the perceived needs of North Dakota K-12 public school educators regarding making accommodations for students with medical or physical disabilities?
2. In what ways can physical therapists assist educators make accommodations for students with medical or physical disabilities?

Students with disabilities were guaranteed a "free and appropriate public" education in the "least restrictive environment" appropriate under the mandates of the Education for All Handicapped Act (EHA), Public Law 94-142, in 1975. This legislation has most recently been re-authorized as the Individuals with Disabilities Education Act (IDEA), Public Law 105-17, in 1997 and is currently undergoing an additional reauthorization process. The implementation of these mandates has resulted in the need for many changes on a practical level in the schools. Subsequently, the number of children with physical disabilities participating along side their peers in the regular educational setting has increased. However, research has indicated that educators may not feel competent in making appropriate accommodations for students with physical disabilities. In addition, survey research data has indicated that students with physical disabilities and their parents feel that there is a need for more teacher training addressing accommodations in the school setting. Specifically, educators have reported a need for education regarding the use of assistive devices and the implications of specific diagnoses. Students have reported unintentional attitudinal that result from a lack of knowledge regarding specific diagnoses. This research will assess the informational needs of teachers in North Dakota to determine specific areas to target in future educational efforts and to guide physical therapists regarding practice in educational settings.

5. In non-technical language, briefly describe the study procedures.

Survey Tool Construction and Protocol: Based on a literature research, a survey was developed designed to answer the research questions listed above. Drafts of the survey questions and consent letter are attached. Two forms of the survey will be used, a written paper survey and an electronic survey. Microsoft *Front Page* software will be used to format and code the electronic survey to allow data to be returned electronically and stored without any identifying information (providing for protection of confidentiality). A reminder e-mail will be forwarded to all subjects approximately four weeks after the initial e-mail. The completed paper surveys will be returned in a postage-paid, self-addressed envelope which will be provided to subjects. A reminder letter and additional survey will be sent to subjects who have not returned their paper survey 4 weeks following the initial survey dispersal.

Subject Recruitment: Upon IRB approval, a random sample of approximately 1000 regular and special education instructors in North Dakota will be purchased from the Department of Public Instruction. From this list, approximately 200 subjects will be selected for a stratified sample to receive the paper copy of the survey and consent letter. An additional sample of approximately 800 subjects will be sent the survey and consent letter in electronic form.

Protection of Confidentiality: All data will be coded and stored without identifying information. No identifying information will be on the survey documents or electronic files that are returned. All coding data will be stored in a locked cabinet in a location separate from the data storage area. Upon completion of the data analysis, data will be reported in aggregate form.

6. Where will the research be conducted?

The surveys will be completed by the individual teachers in their respective locations across North Dakota.

7. How will data be stored?

Electronic data will be stored on a secure server without any identifying information until the information can be converted to written documentation. Data file documentation and returned survey documents will be stored in a locked filing cabinet in the Physical Therapy Department for three years post completion of the study and then

destroyed. Any identifying information for coding purposes will be stored in a locked cabinet in a location separate from the data storage.

8. Describe the nature of the subject population and the estimated number of subjects.

A random sample of approximately 1000 regular and special educators teaching in Kindergarten through 12th levels will be selected for participation in this study. **See Subject Recruitment above.**

REPORT OF ACTION: EXEMPT/EXPEDITED REVIEW
University of North Dakota Institutional Review Board

Date: 7/28/2003 Project Number: IRB-200308-027

Principal Investigator: Mohr, Peggy M.

Department: Physical Therapy

Project Title: The Current Needs of North Dakota K-12 Teachers Associated with Accommodating Children with Physical Disabilities in the Classroom

The above referenced project was reviewed by a designated member for the University's Institutional Review Board on 7-31-03 and the following action was taken:

Project approved. **Expedited Review** Category No. _____
Next scheduled review must be before _____

Copies of the attached consent form with the IRB approval stamp dated _____ must be used in obtaining consent for this study.

Project approved. **Exempt Review** Category No. 2
 This approval is valid until July 2004 as long as approved procedures are followed.
No periodic review scheduled unless so stated in the Remarks Section.

Copies of the attached consent form with the IRB approval stamp dated _____ must be used in obtaining consent for this study.

Minor modifications required. The required corrections/additions must be submitted to ORPD for review and approval. **This study may NOT be started UNTIL final IRB approval has been received.**
(See Remarks Section for further information.)

Project approval deferred. **This study may not be started until final IRB approval has been received.**
(See Remarks Section for further information.)

REMARKS: Any adverse occurrences in the course of the research project must be reported immediately to the IRB Chairperson or ORPD.

Any changes in protocol or Consent Forms must receive IRB approval prior to being implemented. You must submit a memo with a copy of the Consent Form and a revised Human Subjects Review Form, with the appropriate signatures, to the Office of Research and Program Development for review and approval.

PLEASE NOTE: Requested revisions for student proposals MUST include adviser's signature. All revisions MUST be highlighted.

Education Requirements Completed. (Project cannot be started until IRB education requirements are met.)

Waiver if signed consent 46.117(c)

cc: Chair, Physical Therapy

Patty A. [Signature] 7-31-03
Signature of Designated IRB Member Date
UND's Institutional Review Board

If the proposed project (clinical medical) is to be part of a research activity funded by a Federal Agency, a special assurance statement or a completed 310 Form may be required. Contact ORPD to obtain the required documents.

APPENDIX B

SCHOOL OF MEDICINE & HEALTH SCIENCES
 DEPARTMENT OF PHYSICAL THERAPY
 501 NORTH COLUMBIA ROAD
 P.O. BOX 9037
 GRAND FORKS, NORTH DAKOTA 58202-9037
 (701) 777-2831
 FAX (701) 777-4199

September 2003

Dear Educator:

We, Heather Fisher, Barbara (LaMont) Roise, Lynn McKay and Katrina Sem, are students in the Physical Therapy program at the University of North Dakota (UND) and would like to invite you to participate in a survey to assess the current informational needs of teachers regarding accommodating students with physical disabilities in their classrooms. We are conducting this research as a portion of the requirements for the Master of Physical Therapy Degree.

This survey will be distributed to regular and special educators teaching in Kindergarten through 12th grades across North Dakota. It is our hope that data from this survey will support the development of educational and practice recommendations for both educators and physical therapists.

Participation in this survey should take approximately 10 minutes. You may return the completed survey in the enclosed self-addressed envelope (no postage is necessary). Return of the survey serves as your consent to participate in this research.

Completing this survey involves minimal risk; however, some participants may feel uncomfortable answering survey questions. You are not obligated to answer any questions you do not wish to answer. Data will be reported in aggregate form to protect confidentiality. Also, the data will be stored in a locked file cabinet in the UND Physical Therapy Department for 3 years following completion of the study and then destroyed.

If you have any concerns or questions about the study, you may contact any of the individuals below. The results of the study will be available at the UND Harley E. French Library of Health Sciences. Thank you for your time and participation in this study.

Sincerely,

Barbara LaMont Roise, SPT
 Barbara (LaMont) Roise, SPT
 Email: barbara_lamont@und.nodak.edu

Lynn McKay, SPT
 Lynn McKay, SPT
 Peggy Mohr, PT, Ph.D., Student Advisor, 701-777-3689

Heather Fisher, SPT
 Heather Fisher, SPT
 Telephone: 701-772-7893

Katrina Sem, SPT
 Katrina Sem, SPT



Dear Educator,

We, Heather Fisher, Lynn McKay, Katrina Sem, and Barbara Roise are graduate students in the Physical Therapy program at the University of North Dakota in Grand Forks. We are conducting a survey in order to fulfill requirements for the Masters in Physical Therapy Degree. As a part of our project, we are surveying educators across the state of North Dakota to determine what teachers feel they know or what they would like to know more of regarding educating children with physical disabilities within the regular education classrooms.

You have been randomly selected to participate in our study, and we would appreciate your responses! To help us with our research please click on the web link below, provide your responses in the survey format (it should take only a few minutes), then complete the survey by clicking on the submit button at the bottom of the web page. Your answers will be stored in a database for analysis and will remain anonymous. Your submission of this survey signifies your consent to participate in this study. Thank you for your time and participation!

<http://med.nodak.edu/pt/survey.asp>

**Survey of Educators' Needs When Accommodating Students with
Physical Disabilities in Regular Education Classrooms**

*Please complete the following survey. Your responses are important and your
time in completing this survey would be appreciated.*

1. Gender:
 Male
 Female

For questions 2 through 6, please indicate which item is most characteristic of your work experience.

2. Work experience:
 Regular education
 Special education
3. Current teaching class size:
 < 5 students 26-35 students
 6-15 students > 35 students
 16-25 students
4. Community size in which you work:
 < 5,000 20,000-50,000
 5,000-20,000 > 50,000
5. Number of years of teaching experience you have:
 < 5 years 20-40 years
 6-10 years > 40
 10-20 years

6. Grade level(s) you have taught or are currently teaching (*please check all that apply*):
- | | | |
|--|--|---|
| <input type="checkbox"/> Preschool | <input type="checkbox"/> 4 th grade | <input type="checkbox"/> 9 th grade |
| <input type="checkbox"/> Kindergarten | <input type="checkbox"/> 5 th grade | <input type="checkbox"/> 10 th grade |
| <input type="checkbox"/> 1 st grade | <input type="checkbox"/> 6 th grade | <input type="checkbox"/> 11 th grade |
| <input type="checkbox"/> 2 nd grade | <input type="checkbox"/> 7 th grade | <input type="checkbox"/> 12 th grade |
| <input type="checkbox"/> 3 rd grade | <input type="checkbox"/> 8 th grade | |

7. Number of students with physical disabilities with whom you have worked during your teaching experience: _____

Using the following scale, please indicate your feeling of competence in the areas listed below:
 (1 = Not Competent, 2 = Minimally Competent, 3 = Moderately Competent, 4 = Competent)

Do you feel competent in your ability to:

- | | | | | |
|---|---|---|---|---|
| 8. Contribute to the educational growth of a student with a physical disability? | 1 | 2 | 3 | 4 |
| 9. Plan class activities to maximize active participation by students with physical disabilities? | 1 | 2 | 3 | 4 |
| 10. Adapt the classroom environment to accommodate a child with a physical disability? | 1 | 2 | 3 | 4 |
| 11. Set up/utilize the adaptive equipment a student requires? | 1 | 2 | 3 | 4 |

(over)

12. When you have questions regarding the specific needs of a child with a medical or physical disability, where do you go for assistance? *(Please check all that apply.)*

- | | |
|--|---|
| <input type="checkbox"/> Special education teacher | <input type="checkbox"/> Physical therapist |
| <input type="checkbox"/> Parents | <input type="checkbox"/> Internet/books |
| <input type="checkbox"/> Siblings | <input type="checkbox"/> Child |
| <input type="checkbox"/> School nurse | <input type="checkbox"/> Paraprofessional |
| <input type="checkbox"/> Doctor | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Occupational therapist | |

13. Do you feel that you would benefit from information in the following areas? *(Please check all that apply.)*

- Evaluation procedures for students with medical and/or physical conditions.
- Procedures for writing measurable goals and objectives based on the student's individual needs.
- Emergency evacuation techniques for students with physical and medical disabilities.
- Basic guidelines for specific medical procedures completed in the educational environment (i.e., suctioning, utilization of feeding tubes, etc.).
- Definition of the roles and responsibilities of team members regarding the management of students' medical (and physical) disabilities in the educational setting.
- Techniques of adapting the environment to accommodate students with physical or medical disabilities.
- Guidelines for handling and positioning techniques that promote students' participation in classroom activities.
- Sources for adaptive equipment and games for recreational, physical education, or gross motor activities.
- Other: _____

Using the following scale, please indicate the degree of assistance you would like to receive from physical therapists in the following areas:

(1 = No Assistance Needed, 2 = Minimum Assistance, 3 = Moderate Assistance, 4 = Maximum Assistance)

- | | | | | |
|--|---|---|---|---|
| 14. Interpretation of medical information | 1 | 2 | 3 | 4 |
| 15. Interpreting medical reports in non-technical language | 1 | 2 | 3 | 4 |
| 16. Use of adaptive equipment | 1 | 2 | 3 | 4 |
| 17. Enhancing classroom participation for a child with physical disabilities | 1 | 2 | 3 | 4 |
| 18. Emergency procedures | 1 | 2 | 3 | 4 |
| 19. Other: _____ | 1 | 2 | 3 | 4 |

20. Please put the following conditions in *rank order* according to the educational challenge they present.

(1 = Most Challenging ... 7 = Least Challenging)

- Sensory losses
- Frequent absences
- Gross motor difficulties
- Fine motor difficulties
- Need for adaptive equipment
- Psychological aspects of disability
- Other: _____

Thank you for completing and returning your survey responses.

Dear Educator,

About 3 weeks ago a survey was mailed out to you. Thank you for your participation. If you have not already completed and returned your survey, this is just a friendly reminder that we would like to have them back by Oct. 24th 2003.

Your responses are very valuable to us and we appreciate your participation.

Sincerely,

Heather Fisher, Lynn McKay, Barb Roise and

Katie Sem

UND Physical Therapy Students

Dear Educator,

Approximately 3 weeks ago, an email was sent to you regarding a survey we are conducting as a requirement for the Masters in Physical Therapy Degree. To this date, we have received approximately 130 completed surveys out of the 325 we disbursed. If you have already completed the survey, you may disregard this letter (thank you for your responses). However, if we have not received your responses, we hope that this reminder will serve as encouragement for you to consider completing the survey. Your responses are greatly appreciated. We will NOT be contacting you for any further information!

Following is the web-link and original email sent 3 weeks ago. If you have any questions, feel free to email us! Thank you for your time and valuable responses!

<http://med.nodak.edu/pt/survey.asp>

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