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Training of Elementary Education Teachers in Physical Management of Students with Physical Disabilities

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TRAINING OF ELEMENTARY EDUCATION TEACHERS IN PHYSICAL MANAGEMENT OF STUDENTS WITH PHYSICAL DISABILITIES

by

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THESIS

Submitted to the Department of Physical Therapy
of Grand Valley State University
Allendale, Michigan
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MASTER OF SCIENCE IN PHYSICAL THERAPY

1993
TRAINING OF ELEMENTARY EDUCATION TEACHERS IN PHYSICAL MANAGEMENT OF STUDENTS WITH PHYSICAL DISABILITIES

ABSTRACT

This study was designed to examine what training regular elementary teachers receive and need in the physical management of students with physical disabilities who have been mainstreamed into their classrooms. This study also attempted to determine when this training should be provided. A questionnaire was sent to 57 teachers within two counties and forty-one were returned and utilized. The questionnaire was designed to obtain information about the following areas: (a) demographics, (b) competency in physical management, (c) knowledge of diagnoses, (d) knowledge of medications, and (e) need and support for training in physical management. The data was analyzed using the Statistical Analysis System (SAS). The findings show that these teachers do not feel competent in many of the physical management skills. The majority of this population supports the opinion that teachers desire training in physical management. They also support the inclusion of a course in the undergraduate curriculum focusing on such topics.
ACKNOWLEDGMENT

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Mainstreaming is an integration of handicapped, or exceptional students into the general, or regular education classes (Hallahan & Kauffman, 1991). An exceptional student can be any child that is not considered "normal". This student could be learning disabled, visually impaired, auditory impaired, or physically disabled in some way. This study is directed toward the mainstreaming of students with physical disabilities into the traditional elementary classroom. It seems a simple concept until one pauses to consider all of the implications involved in incorporating a student with physical disabilities with 30 traditional third grade students. It takes hard work and dedication to put mainstreaming into action because it requires professionals to acquire new ideas and skills, and it calls for changes in school organizations, educational policies, and funding systems (Reynolds & Birch, 1988). In order to bring about these changes, careful planning and devotion is required.

The questions that come to mind are: Does mainstreaming work; and is it worth making the changes that it requires? Although mainstreaming is a relatively new concept and controlled investigations on its effects are limited, some conclusions about its effectiveness have been drawn. Some of these conclusions as offered by
Reynolds and Birch (1988) include:

1. Teachers, parents, and students express positive reactions toward the experience of mainstreaming.

2. Problems are usually resolved after the process is under way.

3. Referrals for mainstreaming have increased. Also, because acceptance of people with disabilities has grown, support for the concept of mainstreaming has grown as well.

The Mainstreaming Movement

Prior to 1975, educational services provided to students with physical disabilities and their families were not well defined. In 1975, students with physical disabilities were given the right to public education through the enactment of Public Law 94-142, the Education for All Handicapped Children Act. Since then, other laws further defining the educational process of students with physical disabilities have been enacted. Most recently was the Americans with Disabilities Act (ADA). The ADA, which took effect on January 26, 1992, re-emphasizes the concept of integrating students with physical disabilities into regular education classrooms. Laws such as these have increased the public’s awareness and acceptance of disabled individuals.
The Benefits of Mainstreaming

Integrated schooling helps to prepare students with physical disabilities to become functional members of society which in turn helps to increase their acceptance by others (Kirk & Gallagher, 1989). After the enactment of Public Law 94-142, students with physical disabilities were no longer segregated from the mainstream of society; no longer were their differences emphasized (Grindley, 1988). Without integrated schooling, children with physical disabilities experience decreased contact with the community in which they must live. By placing these children in the mainstream of the school system, they are better prepared to function in the mainstream of the other aspects of society (Kirk & Gallagher, 1989). Furthermore, mainstreaming children with physical disabilities into public classrooms requires all persons involved to focus attention on providing the best education for these students.

Educating the Student with Physical Disabilities

Even though many positive conclusions about the mainstreaming concept have been drawn, there still appears to be some confusion as to who should be responsible for the education of students with physical disabilities. Is education up to the special education teachers or the regular education teachers (Reynolds & Birch, 1991)? In
order to assure improvement of the mainstreaming process, this process must be evaluated constantly in order to assess weaknesses and implement changes that will improve the approach to providing education for the disabled.

In order to help optimize education for students with disabilities, we must take steps to improve the mainstreaming process. The roles of the professionals involved in the mainstreaming process; including school administrators, teachers, physical therapists, occupational therapists, recreational therapists, and paraprofessionals; need to be clearly defined so that each can be properly trained in order to reach the goals of students with physical disabilities.

The direction of this investigation focuses on the role of the regular education teacher. The mainstreaming process causes many changes in the functions and roles of teachers. They now are thrust into the position of being an advocate for the physically disabled, they have to always consider the limitations of the student with physical disabilities, they need to understand the student’s diagnosis and the implications it has on learning, they need to know what medications their student is taking and the possible side effects of these, and they have to deal with the attitudes and prejudices of the other students and their parents. Our specific interest is in the functions and roles of regular education teachers who have students with physical and health impairments mainstreamed into their classrooms. According to Reynolds
and Birch (1988) the goals of the teacher in this situation should be: (a) to promote the acceptance of the disabled child by the rest of the school and (b) to organize educational programs in terms of students' educational needs. In order to meet these goals, the authors feel it is imperative that the teacher have a basic understanding of the child's diagnosis, medications, and equipment as well as an understanding of basic handling techniques. Not only will this understanding aid in acceptance and education of the student, it will also help promote the health and well-being of the student and will give teachers a better understanding of the health care professionals goals for the child which will result in enhanced communication between professionals.

The Physical Therapist's Role In the School

It is important to establish a successful working relationship with the teacher and other school employees. In order to establish this relationship and strengthen the student's educational achievement, information needs to be shared between the physical therapist and the primary teacher. To communicate effectively, teachers need to understand the physical therapist's perspective, goals, and plans for intervention to help enhance the student's educational experience. In turn, physical therapists must be familiar with the teacher's goals and expectations for learning (Blossom & Ford, 1991). The therapist needs to
know what information the teachers have available to them on the student with physical disabilities and the difficulties of integrating such a student into the regular education classroom. This will inform them on where communication between therapist and teacher should begin and at what level.

Within the school setting, a physical therapist's attention is focused primarily on the child's educational achievement. It is the responsibility of the school therapist to identify and treat specific problems that may impede the child's ability to function successfully within the learning environment. Therapists working within the school system must effectively communicate with school administrators, teachers, paraprofessionals, and other school personnel, as well as, with other medical professionals, the children, and their parents or guardian in order to help assure fulfillment of goals. Blossom and Ford (1991) point out that the school physical therapist has three clients: the parents or guardian, the student, and the school system.

Problem Statement and Aims of Study

The authors believe that regular education teachers should receive some training in basic physical management skills and education on basic diagnoses. The question being studied is: Do regular elementary education teachers receive adequate training and information on the physical
management and diagnoses of the children with physical disabilities who are being mainstreamed into their regular education classrooms in order to provide the optimal educational experience? If not, Do regular elementary education teachers want this training? The problem is that the authors believe the following two statements to be true. (a) Teachers do not receive proper training in the mainstreamed student's diagnosis, medications, the implications of either of these on learning, the assistive equipment being used, or on basic handling techniques. (b) Teachers would find such training beneficial. The purpose of this study is to support these statements by surveying regular elementary education teachers.

**Implications on Physical Therapy**

If the results of this study support our hypotheses by revealing a lack of training and a desire for training, it is our belief that physical therapists can make an impact. Physical therapists can be used as consultants on physical disabilities at all levels of education. If regular education teachers can be educated on physical management skills, carry over of physical therapy goals can be facilitated. Since therapy goals are designed to benefit the child's educational experience, teachers would also benefit from the student meeting them. Another benefit for teachers would be an increase in their confidence and ability to handle most any situation that could arise.
Most importantly, there are benefits for the students and their caregivers in that their educational experience will take one more step towards being optimal.
CHAPTER 2
LITERATURE AND CONCEPTUAL FRAMEWORK

The literature review reports on the success of mainstreaming and determines the need for regular elementary educators to be trained in the physical management of students with physical disabilities. The literature introduces many strategies and techniques that can enhance the mainstreaming experience. The categories examined in the literature review include: (a) legislation, (b) the role of the teacher, (c) need for training, (d) training, (e) need for investigation, and (f) description of this study.

Legislation

Mainstreaming is a relatively new concept. The incorporation of students with physical disabilities with non-handicapped, or traditional students in the classroom has existed for only twenty years. The inclusion of students with physical disabilities in traditional schools began in 1973 with the passage of the Federal Vocational Rehabilitation Act Amendment, Public Law (PL) 93-112. Section 504 of this act is essentially a civil rights provision that mandated cessation of any discrimination against the handicapped in any program or activity receiving federal funds. Its impact on education included
the following requirements: education for all and integration of handicapped students with non-handicapped students (Rine & Toot, 1985).

PL 93-112 was further enhanced by Public Law 94-142, the Education for All Handicapped Children Act of 1975. This law prohibited discrimination based on a disability in all federally financed programs and required that educational opportunities on all levels be opened to students with disabilities (Connolly, 1992). According to Hallahan and Kauffman (1991), this law mandates the following provisions:

1. child identification
2. full service, at no cost
3. due process
4. parent/guardian surrogate consultation
5. least restrictive environment
6. individualized education program (IEP)
7. nondiscriminatory evaluation
8. confidentiality
9. personnel development, in-service (p. 25). Child identification and full service at no cost have been combined by Kirk and Gallagher (1989) and Reynolds and Birch (1988) as zero reject. These refer to the policy of requiring that schools provide free, appropriate education for all children. This includes special education and any related services which are necessary to meet each child's unique needs. Due process assures the child's and parent's rights to information. It requires informed consent prior
to the child being evaluated, labeled, or placed, and
dictates the right to an impartial hearing if they disagree
with any of the school’s decisions (Hallahan & Kauffman,
1991; Kirk & Gallagher, 1989). Parent, guardian, or
surrogate consultation mandates regular, periodic
involvement including consultation and informed consent.
This ensures parents the right to a copy of any part of the
records and that written notice be given to parents when
the school proposes to or refuses to initiate or change the
identification, assessment, evaluation, or educational
placement of a child. A surrogate parent will be found if
the parents or guardian are unknown or unavailable
(Hallahan & Kauffman, 1991; Rine & Toot, 1985). Least
restrictive environment pertains to the inclusion of
students with physical disabilities with traditional
students whenever possible (Hallahan & Kauffman, 1991; Kirk
& Gallagher, 1989; Reynolds & Birch, 1988). An IEP
includes a list of the child’s deficits, the goals for the
child, services to be provided, and a list of the methods
and materials that will be used to help the child achieve
these goals (Hallahan & Kauffman, 1991; Tasso & Billings,
1992). Nondiscriminatory evaluation entails that a child
"be evaluated in all areas of suspected disability and in a
way that is not biased by the child’s language or cultural
characteristics or handicaps" (Hallahan & Kauffman, 1991,
p. 25). Any evaluation and placement information must be
kept confidential (Hallahan & Kauffman, 1991; Rine & Toot,
1985). Teachers and other professional personnel must be given training, including in-services in meeting the needs of handicapped students (Hallahan & Kauffman, 1991). What this law ultimately leads to then, is more disabled students being placed into the mainstream of education (Reynolds & Birch, 1988).

Provision for children with physical disabilities did not stop with Public Law 93-112, several laws have followed which expanded upon 93-112 or further clarified it. Public Law 99-457 of 1986 increased the age span required to have services provided for them. It ensures the provision of special education and related services to preschool children ages three to five who have disabilities. To qualify, a child must demonstrate developmental delays in one or more of the following areas: (a) physical development, (b) cognitive development, (c) communication development, (d) social or emotional development, and (e) adaptive development (Effgen, 1992, p. 30). These delays are measured by diagnostic instruments and procedures. In addition, children diagnosed with a condition that has a high probability of developmental delay are also eligible for these services (Effgen, 1992).

Public Law 102-119, the Individuals with Disabilities Education Act Amendments, strengthened PL 99-457 in October 1991 to provide intervention for children from birth to three years of age (Effgen, 1992). Also mandated within PL 99-457 and PL 102-119 is that each eligible child have an individualized family service plan (IFSP) developed
specifically for them. An IFSP takes into consideration the family’s concerns, priorities, and resources. It must include the specific services necessary as well as the frequency, intensity, location, and method of delivering these services (Effgen, 1992). Finally, the American’s with Disabilities Act, ADA, implemented on January 26, 1992, re-establishes this principle of teaching children with disabilities within the nation’s mainstreamed school systems (Thornburgh, 1991).

The Role of the Teacher

The key to successful mainstreaming is a capable teacher who has the aptitude to recognize the mainstreamed student’s abilities and disabilities, to understand the diagnosis and its significance, to incorporate the child into the classroom community, and to facilitate acceptance of the student with physical disabilities by the traditional students. In addition to dealing with the attitudes of the students, the teacher also has to manage the attitudes of the parents. The success of the mainstreaming experience rests in the hands of the teacher (Kirk & Gallagher, 1989; Reynolds & Birch, 1988). Jeanne Shanks Sellers (1980) writes: Most teachers, including some special education teachers, have had neither training nor experience in working with the orthopedically or neurologically involved child. [She goes further to indicate that this lack of training
might lead to] apprehension or hostility on the part of the teacher toward her student. [This] may indicate the teacher's need for information that will promote greater understanding of the child's disability (p. 1159). Cited in Reynolds & Birch (1988) is an interview by Aiello with Mary F. Ramsey, an elementary education teacher specializing in education for physically impaired students. She states: "The school experience should prepare all children to live well in the mainstream of society. It is our responsibility as teachers to make that happen, and placement in regular setting is one of the best ways I know" (p. 268).

Need for Training

Training in physical management, knowledge and understanding of diagnoses, and medications is a necessity for regular elementary education teachers (Grindley, 1988; Reynolds & Birch, 1988). One reason for such training is that some individuals feel that integration such as this places undue demands on regular education teachers (Taylor, 1982). They argue that a teacher has enough responsibility in managing thirty "normal" students and that it is too much to ask this same individual to alter teaching styles, change the classroom environment, deal with unfamiliar equipment, and so forth for one student with physical disabilities. In contrast, the authors hold that with adequate education and training of the teacher, this
criticism will be invalid. If the teacher understands the student with physical disabilities and is comfortable with the student and the student's needs, incorporating this student into the classroom will no longer be considered a burden, but a challenge. The apprehension that accompanies the unknown will be eliminated. For without training, the regular education teacher may have less success incorporating the child into the classroom, creating a successful environment, and utilizing teaching strategies that can improve the mainstreaming process (Hallahan & Kauffman, 1991; Grindley, 1988).

Regular education teachers are not trained in the same instructional techniques that special education teachers use in their classrooms. One example of this is from a study on the transitions used in regular and special education classrooms. The findings showed that special education teachers will use one and two step commands as opposed to four and five step commands used by the regular education teacher (Rosenkoetter & Fowler, 1986). It is obvious how this would cause problems for a child with any cognitive or memory disabilities. Such learning disabilities are often found in physically or otherwise health impaired (POHI) students either in addition to their physical disability or as another consequence of their disease. For example, the student with spina bifida obviously has physical problems secondary to the spinal cord injury, but may also suffer cognitive deficits as a result of an upper motor neuron lesion which is a common
side effect of surgery to close the opening exposing the spinal cord (McDonald, 1992). Consequently, simple changes on the part of regular elementary education teachers would make transitions easier for the student with physical disabilities in their class. This again, demonstrates how training the regular education teacher on students with physical disabilities and their needs would enhance the mainstreaming experience for all involved.

One difficulty that many regular education teachers face when posed with the task of including a student with physical disabilities into their classroom, is fear (Reynolds & Birch, 1988). In an interview (cited in Reynolds & Birch, 1988), Mary F. Ramsey states, "the basic problem with mainstreaming...is that teachers are afraid when it comes to handicapped children. They don’t know what to expect" (p. 268).

Grindley (1988) supports the need to train school personnel, especially teachers, in medical management of students with physical disabilities. She describes the misunderstanding of medical intervention by school personnel: "Medical control over outcomes is not absolute and is subject to many variables. These variables include the failure of caretakers or the child to follow prescribed regimens consistently. School personnel may not understand the importance of some interventions" (p. 14). Grindley (1988) further explains the teacher’s role in safety planning and medication knowledge. It is important for teachers to seek out potentially dangerous equipment
and situations in the school environment. To be able to do this effectively, the teacher must have knowledge of the student's limitations, both physical and cognitive.

Misuse of medication is another potential danger. The school must know the medications the child takes so that the regimen is upheld and any adverse effects can be noted. Another reason the teacher needs to be familiar with the medications, is that medications often affect school performance. Teachers need to be aware of these effects and take them into consideration when evaluating the student's performance. A final consideration relating to the student's medication is the potential danger that can be created by adverse side effects. For instance, the child with juvenile diabetes may be insulin dependent. Given the physical sensitivity of this disorder, school personnel, including teachers, need to be familiar with the signs of hyper and hypoglycemia and the emergency treatment needed. Therefore, in order for teachers to provide a successful teaching environment, an understanding of the child's condition, medications and its implications are necessary.

Training

Accepting that regular education teachers need training, what should this training include? Gary Best (1978) outlines a training program for teachers educating children with physical disabilities. This outline includes
competencies in the assessment of the following:

1. physical characteristics;
2. instruction of students with physical disabilities;
3. identification, development, and utilization of appropriate materials including orthopedic appliances or other prosthetic equipment; and
4. innovative classroom modifications.

It is necessary for teachers who are incorporating a POHI student into their regular elementary classroom to make certain adjustments. Reynolds and Birch (1988) emphasize the need for adaptations in the curriculum including: (a) mobility training, (b) health habits, and (c) physical education and recreation. Students with physical disabilities need specialized instruction designed to meet their individual needs in traveling with increasing independence within the school environment, in personal hygiene practices such as toileting, and in participating in various physical and recreational activities.

How and when should the regular elementary education teacher be educated on the student with physical disabilities? The state of Michigan has demonstrated that the movement toward inclusion of these students with traditional students requires the acquisition of knowledge on the subject by those involved in this process at the college and university level (Michigan Inclusive Education Project). The state has published the Inclusive Education: Implementation Guidebook which is
designed to provide technical assistance and follow-up to school districts in Michigan who desire to implement inclusive education in their school systems. This guidebook lists one of the objectives as being the development of an inter-university consortium to facilitate curriculum changes in teacher and educational administrator preparation and to provide a statewide network of resource consultants for inclusive education (Michigan Inclusive Education Project). The authors agree that the undergraduate curriculum is the most appropriate time in teachers' careers to instruct them on the management of special needs students because of the increasing prevalence of these children in the traditional classroom. College students may encounter POHI students while student teaching and they need to understand this child's abilities and disabilities at this time as well as later when they are the teacher and not the student.

Need for Investigation

If regular education teachers are not taught the teaching methods that aid instruction of students with physical disabilities, as was indicated by Rosenkoetter and Fowler (1986), it is reasonable to assume that they are also not being taught about the physical management of these same students. Literature on the effects of mainstreaming POHI students was not found, thus indicating that there is a need for research in this area. Our study
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is designed to examine the relationship between regular elementary teachers of integrated classrooms that include POHI students and the physical management of these students. It is important to determine what training they need and when this training should be provided.

Description of this Study

Purpose

This study was designed to determine what educators are taught regarding the physical management of POHI students; what instruction they would like; and at what level of education it should occur.

Research Hypotheses

There are three hypotheses being addressed in this study.

1. Regular elementary education teachers do not receive training in the physical management of POHI children.

2. Regular elementary education teachers with a POHI student in their otherwise traditional classroom would welcome training in such topics.

3. Regular elementary education teachers who have had students with physical disabilities in their classroom would support the inclusion of instruction in the physical management of disabled students in the undergraduate curriculum.
Delimitations


2. Regular education teachers teaching grades kindergarten through fifth.

3. POHI students mainstreamed into a traditional classroom at least part of the day.

Terms and Variables

Mainstreaming

Mainstreaming is the integration of students with physical disabilities into the regular education classes, yet still providing them with the special education and related services that they require (Hallahan & Kauffman, 1991; Reynolds & Birch, 1988).

Students with Physical Disabilities

Students with physical disabilities refers specifically to POHI students in this study due to our sample specifications.

Physically or Otherwise Health Impaired (POHI)

This is a label that is commonly used in the education system. POHI status in the state of Michigan is given to a student who manifests a physical or other health impairment which adversely affects educational performance and which may require physical adaptations within the school environment. This is determined by a comprehensive
evaluation by a multidisciplinary team which shall include one of the following: an orthopedic surgeon, internist, neurologist, or pediatrician (Michigan State Board of Education, 1987).
CHAPTER 3
METHODOLOGY

This investigation was a descriptive study designed to discover the following: the amount of training that regular elementary teachers have received in the physical management of students with physical disabilities, the forms of this training, the need for further training, and their opinion on what would constitute optimal training. Literature supports the idea that training in physical management and diagnoses helps to improve the mainstreaming process.

Procedure

Once a committee was chosen and the initial research idea had been accepted by the Grand Valley State University (GVSU) Physical Therapy Department, the research proposal and instrument had to be created. This written proposal (see Appendix A) and initial questionnaire were then submitted to the Human Research Review Committee of GVSU. The Committee granted approval of our proposed study on September 3, 1992.

The sample was selected by first telephoning the selected counties' intermediate school district. The contact person at Kent County Intermediate School District responded to our request for assistance by mailing us a
list of Special Education Contacts for the twenty local districts within the county. These individuals were contacted by a letter requesting the names of kindergarten through fifth grade regular education teachers who have had a physically or otherwise health impaired (POHI) student mainstreamed into their classroom within the last five years and the name of the school where they were currently teaching. The contact person at Ionia County Intermediate School District responded by assembling a list of the teachers' names, schools, and addresses that qualified for our investigation.

The questionnaires were sent to the sample population in November, 1992. We requested that the teachers respond before December 14, 1992 and stated in the cover letter that we would call if we did not receive a questionnaire from each teacher. We waited until after the Christmas vacation before calling those teachers from whom we did not receive a questionnaire. An additional two weeks was given to respond after the follow-up telephone calls prior to initiating data analysis.

In order to include actual ideas and viewpoints of teachers, we randomly selected four teachers that returned the questionnaire and interviewed them by phone. We feel that this interview provided a chance to gain greater insight into the views of teachers. We were able to allow them to expand on their questionnaire responses and gather further opinions on the role of the teacher in the physical management of students mainstreamed into regular education
classrooms by asking four questions (see Appendix C). We hope that these insights and opinions will spark ideas regarding the training that regular elementary education teachers receive regarding the physical management and diagnoses of students mainstreamed into the regular education classroom. This information was used in our study as examples of teachers' thoughts on the subject of physical management and understanding of diagnoses as it applies to the mainstreamed child.

**Instrument**

The questionnaire (see Appendix B) was designed to obtain information about the following areas: (a) demographics, (b) diagnoses, (c) physical management, (d) need for training, and (e) types of training desired. These five objectives stemmed from a literature review, discussions with therapeutic and education professionals, and personal curiosity. By designing the questionnaire to address these five areas, we felt we would gather substantial data concerning teachers' current knowledge of physical management and diagnoses as well as their opinions on further training in these same areas.

The design of the questionnaire was that of close-ended questions consisting of multiple answer yes/no response questions and modified Likert scale questions with the following five options; strongly agree, agree, undecided, disagree, and strongly disagree. The
close-ended question style versus the open-ended question style was selected in order to help objectify and simplify data analysis as well as to make it more convenient and less time consuming for the recipients (Polit & Hungler, 1978). There were also several questions designed to specify exactly who our population was. These were a fill-in-the-blank style and; consequently, more open-ended. In general, there were three groups of questions: those that identify the demographics of our population, those that expound the current competency of the teachers surveyed on physical management and knowledge of diagnoses and medications, and finally those that identify how teachers feel about training in the physical management of POHI students.

Population

A sample population of regular elementary education teachers was selected. It was decided that our sample would consist of regular elementary education teachers who have had POHI students mainstreamed into their classrooms within the past five years, since 1987. Regular versus special education teachers were selected because of the impact of mainstreaming on this population of teachers. With the change in laws and the consequent increase in mainstreaming, as demonstrated in chapter 2, regular education teachers need to understand the students being placed in their classroom. In order to understand, we feel
that teachers need to be taught, or trained, in how to manage physical disabilities of POHI students. Our decision to survey elementary as opposed to secondary teachers was based on the knowledge that the earlier the intervention, the greater the chance that the child’s disabilities will have a lesser impact on the child’s ability to learn (Kirk & Gallagher, 1989). Therefore, elementary level teachers have a greater chance to decrease the impact that a physical disability has on a child’s learning experience within the mainstreaming process. The focus of this study is on the physical management of mainstreamed students; therefore, we selected the POHI population because this group encompasses students with physical impairments. In order to facilitate continuity and receive current data, our final criterion was that the teachers surveyed must have had at least one POHI student mainstreamed into his/her classroom within the past five years.

Sample

Once the criteria of our sample population was defined, the actual sample was selected. We chose our sample population from Kent County Intermediate and Ionia County Intermediate school districts located in western Michigan. These areas were chosen due to their proximity to the researchers. In order to obtain names and schools of teachers who met the previously defined criteria, the special education directors of each district were contacted
and provided with a summary of our thesis proposal. If they chose to, they provided a list of teachers within their district who met the established criteria. We were provided with a total of fifty seven teachers to whom we could submit our questionnaire. In order to meet validity standards for sample size, we chose to provide all fifty-seven teachers with a questionnaire instead of randomizing the sample. Rural and suburban school systems were both represented within our sample, most of Ionia County school districts are considered rural while most of Kent County school districts are considered suburban. This combination will provide us with a clearer picture of the needs of regular elementary education teachers in different types of school environments. However, missing in our sample are teachers that represent the urban school setting. Although contact was made with the city of Grand Rapids school system located within Kent County, we were unable to recruit participants for our survey from this school system. The Grand Rapids school system is the only urban environment located within the chosen two counties.

Along with the questionnaire, a cover letter explaining our study was sent to help assure return (see Appendix B). The cover letter explained that there would be a follow-up phone call a few weeks after the designated return date to those who had not yet returned the questionnaire. This phone call was to answer any questions the teachers may have had concerning our study and the questionnaire, to notify them that we did not
receive a completed questionnaire from them, and to give them another opportunity to participate in this study. To help simplify and assure return, a self-addressed, stamped return envelope was included with the questionnaire.

**Data Analysis**

Once the questionnaires were returned, the data was analyzed and the results interpreted. As mentioned previously, the questionnaire format was primarily close-ended questions. The answers to close-ended questions are more simply tabulated and analyzed than open-ended questions. We calculated percentages and frequencies for each individual question utilizing the Statistical Analysis System (SAS) program. A correlation was run to compare the answers to the modified Likert questions and what year the teacher graduated from college. Once the calculations were made, we analyzed the relationship between the obtained values and the demographic information provided to us on the questionnaire in order to gain insight into the differences and similarities between teachers with different and similar backgrounds. Once the analysis was completed, we were able to utilize the obtained data to draw conclusions within our sample regarding the needs of teachers in the physical management of the mainstreamed child. It is our hope that the interpretation of our data will reflect teachers' needs and desires for training in the physical management and diagnoses of children
mainstreamed into regular education classrooms. If our study can help to point out these teachers' needs and desires, one can begin to address them in order to improve the mainstreaming process.

Application of Study

We hope that some of the principles of this study can be generalized beyond our sample to assist other teachers in other school districts, who have similar situations. One of our primary goals is to spark the interest of other educators and health care professionals in order to assure proper training of all regular elementary education teachers in the areas of physical management and diagnoses. As physical therapists, we are in a position to help provide this training in order that mainstreamed children's educational experience continues to improve and be positive for all persons involved.
A questionnaire was mailed to 57 regular elementary teachers at 22 public schools throughout Kent County and Ionia County Intermediate School Districts, located in the western Michigan area. Forty-four teachers returned the questionnaire. These teachers represented 18 of the 22 schools. However, only 41 could be utilized secondary to not meeting the sampling criteria, not being received by the deadline, and being incomplete. This constituted a 77% return rate and a 72% utilization rate.

Techniques

To begin the process of data analysis, the questionnaire responses were coded. The computer program used was Statistical Analysis System (SAS). For all of the questions, simple frequencies were calculated with corresponding bar graphs. A regression test was performed to determine whether or not there was a trend between the year that the teacher received their baccalaureate and their responses to the modified Likert scale questions (Questions 16, 9-13). These questions were designed to determine the teachers' opinions regarding training in physical management.
Characteristics of the Sample

The questionnaire (see Appendix B) was designed to establish the characteristics of the sample population. The population was predominantly Caucasian, 39 teachers of 39 responses, although two participants chose not to respond to this question. Thirty-six participants were female (88%), four were male, and one did not answer the question. The majority of the participants were of the ages between 40 and 50. Table 1 displays the age range of the teachers.

Table 1. Age Range of Teachers

<table>
<thead>
<tr>
<th>Years</th>
<th>Number of Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-30</td>
<td>5</td>
</tr>
<tr>
<td>30-40</td>
<td>9</td>
</tr>
<tr>
<td>40-50</td>
<td>21</td>
</tr>
<tr>
<td>50-60</td>
<td>5</td>
</tr>
</tbody>
</table>

The educational background of the participants determined in question 15. Fourteen of the teachers (34%) had a masters degree. Figure 1 illustrates the distribution of the teachers' degrees. Examining the baccalaureate degrees of the teachers, it was found that 93% graduated from colleges and universities within the state of Michigan.
Another area explored was the year the teachers graduated with a baccalaureate degree (Question 16). Table 2 illustrates the distribution of when the teachers graduated. In preliminary analysis this characteristic seemed to play a key role in the teachers' attitudes regarding training in the physical management of physically or otherwise health impaired (POHI) students mainstreamed into their classrooms. Upon statistical analysis this was found to be insignificant for each individual modified Likert scale question (Question 9, p=0.59; 10, p=0.56; 11, p=0.94; 12, p=0.56). When the five modified Likert scale questions were averaged together, the comparison was still statistically insignificant (p=0.67).
Table 2. Decade Graduated with Baccalaureate

<table>
<thead>
<tr>
<th>Decade</th>
<th>Number of Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960-1969</td>
<td>8</td>
</tr>
<tr>
<td>1970-1979</td>
<td>19</td>
</tr>
<tr>
<td>1980-1989</td>
<td>9</td>
</tr>
<tr>
<td>1990-1992</td>
<td>3</td>
</tr>
<tr>
<td>No Response</td>
<td>2</td>
</tr>
</tbody>
</table>

Finally, one of the criterion of this study was that the population must consist of elementary teachers, specifically grades kindergarten through fifth. Figure 2 shows the distribution of the grades taught by the participants.
Characteristics of the Mainstreaming Experiences

Several questions were dedicated to establishing the teacher's experience with mainstreaming and their opinions on their abilities to handle various situations. Seventy-eight percent (32) of the teachers surveyed have had a POHI student mainstreamed into their classroom within the last five years. The POHI label represents several diagnoses. Table 3 depicts the diagnoses of the mainstreamed students that the teachers in this study have had experience with.

Table 3. Students' Diagnoses

<table>
<thead>
<tr>
<th>Diagnoses</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cerebral Palsy</td>
<td>17</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
</tr>
<tr>
<td>Spina Bifida</td>
<td>6</td>
</tr>
<tr>
<td>Asthma</td>
<td>5</td>
</tr>
<tr>
<td>Muscular Dystrophy</td>
<td>4</td>
</tr>
<tr>
<td>Congenital Disabilities</td>
<td>3</td>
</tr>
<tr>
<td>Head Injury</td>
<td>2</td>
</tr>
<tr>
<td>Diabetes</td>
<td>2</td>
</tr>
<tr>
<td>Osteogenesis Imperfecta</td>
<td>2</td>
</tr>
<tr>
<td>Cancer</td>
<td>1</td>
</tr>
<tr>
<td>Fetal Alcohol Syndrome</td>
<td>1</td>
</tr>
</tbody>
</table>
The study participants were asked a series of questions on their competency in the physical management of a student with physical disabilities (Question 4). Table 4 depicts the teachers' perception of their competency in the six categories of physical management. Overall, the majority (64%) of teachers answered that they were not competent in the physical management of the student with physical disabilities.

Table 4. Competency In Physical Management

<table>
<thead>
<tr>
<th>Skill</th>
<th>Yes</th>
<th>No</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheelchair Management</td>
<td>16</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>Transferring</td>
<td>11</td>
<td>20</td>
<td>1</td>
</tr>
<tr>
<td>Application of Equipment</td>
<td>7</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>Use of Assistive Devices</td>
<td>15</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>Assistance with Dressing</td>
<td>9</td>
<td>21</td>
<td>2</td>
</tr>
<tr>
<td>Bladder and Bowel Management</td>
<td>2</td>
<td>28</td>
<td>2</td>
</tr>
</tbody>
</table>

Question number five was a series of inquiries about the teachers' knowledge of procedures necessary for care in the management of wounds, epileptic seizures, shunts, and diabetic comas. The majority of teachers answered no, they did not have knowledge of procedures for care of any of these areas. Specifically, 66% said no to wound management, 64% said no to management of an epileptic
seizure, 88% said no to shunt management, and 84% said no to management of a diabetic coma. When asked if they had a working knowledge of diagnoses (Question 6), the teachers expressed the following: Sixty-seven percent said that they knew what to expect when given a student's diagnosis. Sixty-nine percent indicated that they understood the student's prognosis based on the diagnosis. Fifty-nine percent responded positively to the question, "Do you know the implications a particular diagnosis has on learning?" In general, an average of 66% of the respondents felt they had a good working knowledge of diagnoses.

The majority of teachers (68%) answered negatively to the questions regarding their knowledge of the common medications prescribed to POHI students (Question 7). Seventy-two percent indicated that they were not aware of common drug side effects. Seventy-eight percent of the teachers were not familiar with possible drug interactions and the signs and symptoms to be alert to. Finally, 55% were not competent in assisting a student with an inhaler.

Question number 14 summarizes the mainstreaming experience for the 32 teachers who have undergone this. This question asked if their mainstreaming experience was good, indifferent, or bad. Eighty-four percent chose good, 13% chose indifferent, and 3% chose bad.

Opinions Regarding Training

Five questions (Questions 9-13) were designed to
establish the teachers’ opinions on the need and desire for training in the physical management of POHI students. These questions were in the form of a modified Likert scale with the response selection of strongly agree, agree, undecided, disagree, and strongly disagree.

Hypothesis number two in this study was that regular education teachers with a POHI student in their traditional classroom would welcome training in physical management. Figure 3 illustrate the responses to this question. Eighty-six percent of the respondents answered favorably which supports our hypothesis that teachers would like training in physical management.

![Figure 3. Need of Training Regular Educators](image)
Question number 10 was designed to find out if the teachers would support receiving this training at an undergraduate level. This corresponds to the hypothesis that educators who have had students with physical challenges in their classroom would support the inclusion of instruction in the physical management of students with physical disabilities in the undergraduate curriculum. Figure 4 shows the distribution of the teachers' responses to this question. Sixty percent of the teachers support this hypothesis and agree that training would be beneficial in the undergraduate curriculum.

![Figure 4. Inclusion of Training in Undergraduate Curriculum](image-url)
Questions 11 and 12 addressed inserviceing on the physical management of students with physical disabilities and the support of this inserviceing by the school staff. Twenty-four percent of the teachers strongly agreed and 56% agreed that their administrator would support an inservice or conference on the topic of physical management of the student with physical disabilities. Seventeen percent were indifferent and two percent strongly disagreed. When asked if they believed that an inservice on physical management of students with physical disabilities would be well attended at their school, 7% strongly agreed, 22% agreed, 46% were undecided, 22% disagreed, and 2% strongly disagreed.

Question number 13 asked if peers would support the teachers' pursuit of a better understanding of physical management of the POHI student. The teachers responses were: 17% strongly agreed, 59% agreed, 17% were undecided, 5% disagreed, and 2% strongly disagreed.

Conclusion

The responses to the questions designed to describe the teachers' mainstreaming experiences indicated that teachers do not receive training in all of the physical management skills. The majority of the teachers who responded agreed that teachers should receive training in the physical management of POHI students mainstreamed into their classrooms. They also supported this training being
introduced in the undergraduate curriculum. Consequently, the empirical data supports the three hypotheses being addressed in this study.
CHAPTER 5
DISCUSSION AND IMPLICATIONS

The purpose of this investigation was to determine the teachers' needs and desires for training in the physical management of students with physical disabilities who are being mainstreamed into their regular education classrooms. At the beginning of this investigation, it was the authors' opinion that teachers do not receive adequate training and would welcome it. After collecting and analyzing the data, the authors' continue to hold this opinion.

Discussion of Findings

It was encouraging that the surveyed teachers showed such a strong interest in the study as evidenced by the 77% return rate. It was obvious that the population believes that the subject of physical management of mainstreamed students is important to consider. Not only did a large percentage of teachers return the questionnaire, but several wrote additional comments (see Appendix D).

It was not surprising that the teachers surveyed found the study worthwhile. The study dealt with a possible way to improve the mainstreaming process. This is, of course, an interest to teachers. A teacher's goal is to educate students. It is reasonable to assume that they would hold strong opinions regarding ideas to improve the teaching
process; whether the opinions be supportive of the authors' ideas or not.

When students with physical disabilities are introduced into regular education classrooms, the teacher's goal does not change. They are responsible for educating these students to the best of their ability. This brings new challenges to the teacher. Some of these challenges can be better met if the teacher is adequately prepared. One teacher commented, "With the philosophy of inclusion, many POHI students are entering the classroom. However, elementary teachers are not prepared (training, etc...)."

Physical management is one of the areas that the teacher can and should be prepared for. The majority of the teachers in the study responded that teachers should receive training in the physical management of students being mainstreamed into the regular education classrooms. One teacher wrote, there was a lot to learn at the beginning of the year and it was a rough start. Perhaps some of this "roughness" could be eliminated with adequate preparation.

Of course, some of the respondents did not agree that teachers should receive training in physical management. Several teachers wrote that the child's health aide could care for such needs. However, another teacher that agreed that teachers should receive training commented that the health aide assigned to the student was not familiar with the child's needs. Another teacher commented, "I also have a personal care aide, but I share in at least 50% of
physical care." This demonstrates how every situation is different. But, regardless of who is responsible for the primary care of the student, the teacher is ultimately responsible. Teachers need to be aware of physical management issues if they are not provided with health aides, if they need to assist the health aide, or if the health aide is unable to be with the student on some occasions.

Assuming that teachers need training in physical management, what should this training consist of? It is unrealistic to believe that teachers should receive training in all aspects of physical management; they are teachers not medical professionals. In order to gain a better idea of what teachers feel they need to know about students with physical disabilities, four teachers were interviewed (see Appendix C). Teacher one stated, "Teachers need to be completely informed regarding disabilities and what to expect physically, emotionally, and mentally." Teacher three commented, "I was not fully aware of my student's disabilities. Teachers need to be aware of disabilities and limitations." This teacher went on to comment that teachers also need to be aware of the student's strong points and gifts. The example given was the ability of one student to write poetry. Emphasizing the gifts of a student helps to balance the disabilities.

Another area that was designated as important by the interviewees was parental expectations. Teacher four explained the importance of meeting the parents before the
child begins class in order to gain understanding as to what the parents expect from the mainstreaming process. Teacher three also specified that parental attitudes, opinions, and concepts needed to be known beforehand. This is a very important point to consider. Teachers need to know the expectations of the parents as well as the student in order to fulfill the family's needs. Furthermore, if the parents' expectations are unrealistic, this can be explained so that the parents are fully informed of the child's potential and are not surprised or disappointed in the mainstreaming process.

The interviewees were asked if they felt that the child's diagnosis and its implications were important to know. All four of the teachers agreed that this is important to some extent. Teacher three gave an example of not knowing that the disorder the student had was fatal. This teacher stated, "This was a very difficult situation." Teacher two also indicated that knowing if the child is going to deteriorate or get better is important. It assists the teacher with forming realistic expectations for the student. These responses suggest that understanding the effects of the diagnosis is more important than understanding the pathological mechanism. The authors agree that teachers need to know the effects that the diagnosis will have on the child, especially in the classroom; for it is the effects that the teacher will see, not the disorder itself.

Related to the effects of the diagnosis is the
equipment that the child may require. All four interviewees agreed that understanding the equipment used by the child in the classroom is important. Teacher two explained how the physical make-up of the room is crucial when a student requires the use of additional equipment. Teacher one recommended that the teacher be trained or that the school give someone else the responsibility of checking the classroom and how it is set up to determine how the student’s additional equipment, whether a braille writer or a wheelchair, will be accommodated. Teacher two was concerned with knowing where in the room the equipment should be kept and whether or not the child who has a wheelchair should have a table attached to the chair, roll up to a table, or sit at a regular desk. Equipment needs are common among POHI students; therefore, understanding how to use the equipment is important if it is utilized in the classroom.

Another area the authors feel is important to familiarize teachers with is the medications a child is taking. The bulk of the teachers responded negatively to questions regarding medications. However, medications can interfere with the child’s ability to learn. For instance, certain medications may make the child drowsy and therefore, less alert in the classroom. Teachers need to be aware of the medication’s side effects in order to better structure the student’s class. When interviewed, teachers one and two felt that knowing the medication schedule was important so that the student received their
medication at the proper time. Teacher three specified that it was important to know how the medication may effect learning and personality. This is a very good point. Personality changes may interfere with socialization as well as learning. It is important for the teacher to recognize that medication may cause behavioral changes and that these changes, to a certain extent, are out of the child’s control. Because of the time a teacher spends with a student, they may observe things that the physician needs to know. Based on the teacher’s observations, the physician may recommend a different medication schedule or that the teacher re-structure the child’s school day to accommodate the medication and its effects. Not only do teachers need to know the medication schedule and its effects on the student’s classroom performance, but also the adverse side effects. Many of these are dangerous and the teacher should be aware of them in order to be prepared for any situation.

 Teachers should be prepared for emergency situations that could arise in the classroom. Whether it is medication side effects, a diabetic coma, an epileptic seizure, or a shunt blockage. The majority of the teachers surveyed indicated that they did not feel able to handle these types of emergency situations. This is of great concern to the authors. These situations are life threatening even when dealt with properly. The steps to take in each of these events to help insure the child’s safety are not complicated, but to most teachers they are
foreign. Teachers need to be aware of the signs of these emergencies and the procedures to follow. If the teacher is adequately prepared to handle the situation, a devastating consequence can be avoided. When asked about knowledge of handling emergency situations during the interview, teacher one gave an example of having an undiagnosed student with epilepsy. After the student was diagnosed, teacher one reflected on the fact that if this student had had a seizure in her presence, she would not have known how to handle it. This is a good example of a potentially bad situation. If a person is faced with this sort of situation and does not know how to handle it, it is easy to panic. A simple explanation of how to recognize, in this case, a seizure and then how to respond would prepare the teacher and could save a student's life.

The authors saw a need for teachers to be trained in physical management skills prior to this study and the survey results revealed that the majority of teachers agreed. The results of the interviews provided insight into what teachers feel they need to know about their mainstreamed students in regards to physical management. The information provided has to be relevant to the classroom and to dealing with the student. By further exploring teachers' opinions regarding this subject, curriculums and inservices in the area of physical management can be designed to meet their needs. Teachers may not support training in physical management if they feel that the training will include topics that are not
important to them. However, if teachers are given what they need, they will support the training. Another important question to consider regarding training in physical management is when should it be implemented? Question number 10 on the survey asked the teachers opinion regarding training being received at the undergraduate level. This question generated a variety of replies. Although the majority of the population (60%) supported undergraduate training, this question received a significant amount of undecided (22%), disagree (9%), and strongly disagree (9%) responses. One teacher wrote, "Only a small percent of teachers will have a POHI student--why spend all that money--besides each case is different--training should fit the child." Another wrote, "If I had had training 2-3-5 years ago it wouldn't have meant much--training should come with the child and be specified to his/her needs." In contrast, one teacher explained that teachers should, "at least be given an idea of the problems the children might have in a regular classroom."

When interviewing the four teachers, three of them supported the implementation of a course or part of a course on basic training at the undergraduate level. Teacher one said that this training should definitely be included and that this type of course may help a potential teacher to develop a special interest in the area. Teacher four answered, "Sounds like a good idea as long as it's practical." Teacher two; however, was concerned that not all teachers will have these students, so why spend the
money. This teacher also explained that there is such a large variety of students that not all of them could be thoroughly covered in an undergraduate course.

When asked who should provide this type of training at the undergraduate level, all four interviewees felt that educators would be best suited to provide this information. They indicated that both special education teachers (4) and regular education teachers that have had the experience of integrating a child with physical disabilities into the regular education classroom (3) should take part in teaching this type of course. Experience is often the best teacher and it is usually easier to relate to persons of the same profession. In addition to a teacher with experience, the four interviewees specified that specialists or health care professionals should be brought in to present certain categories. For example, a physical therapist might teach the portion of the course regarding assistive devices and equipment commonly used. The teachers feel that certain topics are best handled by different professionals who specialize in that area, but that the overall class needs to be taught by an educator.

After completing the study, the authors continue to believe that training at the undergraduate level is still a worthwhile idea. However; after receiving a notable amount of undecided (22%) and negative (18%) responses to this question, reading the comments that some teachers made, and listening to the interviewees’ responses; it is clear that the undergraduate course would have to be designed
carefully. If well designed, an undergraduate course would provide future teachers with baseline information concerning physical management and it would encourage future teachers to pursue further training when they encounter a child with physical disabilities being mainstreamed into their classroom. The baseline knowledge that an undergraduate course would provide teachers with would improve their ability to understand information given about the student immediately prior to the mainstreaming experience as well as provide the teacher with references to utilize in this situation. Ultimately, this course needs to be designed for teachers—it should contain only what the teacher needs to know and omit extraneous information.

As indicated by the subjective comments written by some of the respondents, teachers would like to receive training immediately prior to teaching the student. The authors support this and feel that physical management training should be included as part of the teacher’s preparation before integrating the student into the regular classroom. However, the authors believe it is impractical to thoroughly educate all teachers on the physical management skills specific to each student on a one-on-one basis. This is why including a basic course on this subject in the undergraduate curriculum is beneficial. The teachers would have basic knowledge and be able to apply this knowledge to different students. Also, with this basic knowledge, the teacher is more apt to understand the
training that they receive prior to integrating the student into their classroom. All four of the interviewees specified that information regarding the physical management of students with physical disabilities should be shared before the child comes into the classroom.

The question that comes to mind is, who should share the information? All of the interviewed teachers stated that the parents should be part of the sharing of this information. This is a very good point. Nobody knows the needs of the child better than the parents. Teacher two shared with us an experience regarding this. Prior to beginning the school year, teacher two received the records of the disabled student that would be in her class and met with the aide who had worked with this student. What the records and the aide shared were completely different from how the student presented on the first day of school. Over the summer the student’s condition had progressed and he was now wheelchair bound. This caused problems in the classroom because it had not been set up to accommodate a wheelchair. If the family of this student had met with the teacher, this difficult situation would not have occurred. Also, by involving the parents, the school personnel may be able to alleviate some of the worry that parents may have regarding their child’s safety. By involving the parents, the school personnel will understand the physical needs of the child better and will also gain the trust of the parents to a greater extent.

When interviewed, teachers three and four expressed
the need for the school administrator (principal) to take part in providing the information necessary for the teacher to understand the physical needs of the student. Teacher four went on to elaborate that the administrator should play a large part in organizing this meeting to share information.

It is the authors' opinion that it is important for teachers to have support from the school administrator. Question number 11 asked the teachers' opinion about the level of support that their administrator would show regarding an inservice or conference on the topic of physical management. The majority of the teachers (80%) felt that their administrator would support such an inservice or conference. If teachers feel that their administrators are supportive, they are more likely to inquire about receiving this training. Also, supportive administrators are more likely to bring this training to the teachers.

The interviewees also specified that case managers, special educators, health care professionals, health care aides, regular education teachers, and psychologists should be utilized to share information concerning the physical management of students with physical disabilities whenever necessary. What the four interviewees are advocating is a team approach to dealing with the physical management of students with physical disabilities.

Teacher three expressed, "All teachers need to be made aware, not just the teacher who has the student." The
authors agree and further feel that teachers are not the only school personnel who need to be aware of the student’s physical needs. The responsibility belongs to the entire school. Special educators need to be willing to assist the teacher in dealing with the educational needs of the teacher. Health care professionals must provide the teacher with an adequate understanding of the physical management skills necessary to insure the student’s safety, improve the student’s physical well-being, and ultimately improve the student’s educational experience.

What this study has revealed is that teachers need to know more about the student with physical disabilities prior to having this student integrated into their regular elementary classroom. Ideally, perspective teachers would be taught about the common diagnoses of physically or otherwise health impaired (POHI) students and the implications of these on classroom performance, the common assistive devices and equipment that might accompany such a student, the common medications and their side effects, and how to manage common emergency situations. They would receive this training as an undergraduate student. In preparation for integrating the POHI student into their classroom, the school administrator would hold a team meeting to which the past and present teachers, the student’s parents, any special educators and related service personnel who work with the student, and any paraprofessionals that might be required to work with the student would be invited. Finally to finish the
preparation phase, the school administrator would briefly present the student’s case at the first staff meeting in order to orient the rest of the school. In the authors’ opinion this type of arrangement would provide the optimal experience for the student, the teacher, and the entire school.

Application to Practice

Physical therapists are professionals with an expertise in physical management. The results of this study indicate that regular elementary teachers within our population have a need for training in physical management. As experts in this area, physical therapists can play a vital role in training teachers. They can initiate inservices on this topic to the school staff, act as a consultant to the teacher, and support a teacher or administrator’s initiative to learn more in this area.

Physical therapists need to recognize the benefits of teachers understanding physical management. Training the teacher in physical management can lead to better communication between the teacher and the therapist. If the teacher better understands the role of physical therapy and is trained in physical management, carryover of therapeutic goals is more likely.
Application to Education

The results of this study indicate that teachers have an interest in training perspective teachers in physical management. Physical therapy (P.T.) educators, students, and practitioners could greatly influence whether or not such a course is implemented at the undergraduate level. The departments of physical therapy and education would be an excellent team for developing such a course. Students and practitioners of physical therapy could be utilized in teaching. Practitioners could provide expertise and experience. The use of P.T. students as teachers could benefit both the education and therapy students. The P.T. students would gain experience in teaching and would be made aware of the school setting as an option for practice and the needs and desires of teachers. Education students would receive the baseline knowledge that they need to better handle the variety of students that they will teach throughout their careers.

Limitations

Although this study successfully answered the research hypotheses posed by the authors, it is limited by several factors. The following is a list of these factors that the reader should consider.

1. The population utilized was a sample of convenience. This lead to: (a) non-randomized sample, and
(b) non-generalizable population.

2. The homogeneous sample consisted of: (a) 95% Caucasian, (b) 88% female, and (c) 93% graduates of Michigan colleges and universities.

3. An original questionnaire was utilized.

4. No pilot study was conducted.

5. Validity tests were not run on the questionnaire.

6. Some of the respondents did not answer every question.

7. Question number 20 was not well written.

Recommendations for Future Research

In order to acquire more information concerning teachers' needs and desires for training in the physical management of students with physical disabilities who are being mainstreamed into regular elementary classrooms, the following recommendations for future investigators are suggested:

1. Determine the characteristics of a successful mainstreaming process.

2. Investigate the needs and desires of teachers in the urban school setting.

3. Determine the specific areas that teachers want included in the training.

4. Further determine the desire for an undergraduate course and what this course should consist of.

5. Thoroughly investigate specific problems teacher
have regarding physical management of their mainstreamed students.

6. Determine the role that the physical therapist in the school setting should play in physical management training.

7. Determine what physical therapists in school settings believe teachers should be taught in regards to physical management.
REFERENCES


Michigan Inclusive Education Project. Detroit, MI: Wayne State University.


APPENDIX A

Thesis Approval Form

GRAND VALLEY STATE UNIVERSITY
DEPARTMENT OF PHYSICAL THERAPY
GRADUATE PROGRAM

THESIS TOPIC PROPOSAL APPROVAL

DATE July 20, 1992

STUDENT Laura Gregory and Marnie Wittenbach

LOCAL ADDRESS 11563 Boyne Blvd., Allendale, MI 49401
8083 Ashley Ave., Belding, MI 48809

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ADVISOR Gordon Alderink, Barb Baker

COMMITTEE CHAIR Jane Toot, Ph.D., P.T.

ESTIMATED DATE OF COMPLETION April, 1993

TENTATIVE TITLE The Implications of the Lack of Training of the Elementary Education Teacher in the Physical Management of Exceptional Children

   The establishment of the American's with Disabilities Act will lead to an increase in the mainstreaming of children with disabilities into the classroom. This will necessitate a greater emphasis on the team approach to the management of each child. Each member of the team will need to prepare themselves for the undertaking of new responsibilities. Among these team members are the regular elementary education teachers. Teachers will be increasingly asked to maximize these students' educational experience. In order to maximize this experience, physical management of these students must be optimal. It is our belief that regular education teachers are not adequately prepared in the physical management of children with disabilities.

2. Source of materials, subject, etc.
   After conducting a literature review, we plan to contact persons employed by Kent Intermediate School District in order to obtain a list of elementary teachers who have had physically or otherwise health impaired students mainstreamed into their classrooms. We then plan to submit questionnaires to these teachers in order to gain
information about their experience with mainstreaming and their training on the physical management of children with disabilities. A few of the teachers who return the questionnaire will be interviewed further on their opinions on physical management and how to maximize the mainstreaming experience for all involved.

3. Method and design (statistical analysis where applicable)

This is a descriptive study in which we will utilize a questionnaire to obtain data. This questionnaire will be prepared so that it is statistically valid. Only those teachers' questionnaires who have had physically or otherwise health impaired students mainstreamed into their classrooms within the past five years will be used. After the surveys are returned, statistical analysis will be done to detect significant findings. The interviews will not be used in the statistical analysis.

4. Hypothesized Results (where applicable).

It is our belief that the teachers surveyed will report little or no training on the physical management of students with disabilities. We also believe that the teachers surveyed will express an interest and a need for education on physical management of children with disabilities.
November, 1992

Dear Educator,

We are students at Grand Valley State University seeking our masters degree in physical therapy. One of the requirements of this program is to write a thesis. Our research for this involves obtaining information from regular elementary education teachers who have had physically or otherwise health impaired (POHI) students mainstreamed into their classrooms during the past 5 years.

The included questionnaire is designed to obtain information concerning your exposure to mainstreaming, what training you have received, and what training you feel would be beneficial in regard to the physical management of POHI students. We will be happy to share the results of this study with you. If you are interested, please indicate so on the completed questionnaire.

We need to receive your completed questionnaire before the Christmas Holidays in order to analyze the data and write our results by our deadline. If we have not received your questionnaire by December 14, 1992, we will contact you by phone.

We greatly appreciate your willingness to offer your insight on how the experience of mainstreaming can be enhanced for all involved parties by completing and returning the included questionnaire. Confidentiality is assured, so please answer the questions openly and honestly.

With Sincere Thanks,

Marnie Wittenbach
Laura Gregory
Jane Toot, Ph.D., P.T.
Barb Baker, M.P.T.
Glenda P. Taylor, Ph.D.
SURVEY OF REGULAR ELEMENTARY EDUCATION TEACHERS
ON THE PHYSICAL MANAGEMENT OF DISABLED CHILDREN

1. Have you had a child that was classified as POHI (physically or otherwise health impaired) mainstreamed into your regular education classroom within the past five years? (circle one)
   Yes No (If no, proceed to #9.)

2. What grade level were you teaching when you had a POHI student mainstreamed into your classroom? (check as many as apply)
   ___ kindergarten ___ 4th
   ___ 1st ___ 5th
   ___ 2nd ___ other (please specify)
   ___ 3rd

3. Please specify how many students with the following primary diagnoses have been mainstreamed into your classroom.
   ___ cerebral palsy ___ asthma
   ___ spina bifida ___ fetal alcohol syndrome
   ___ head injury ___ osteogenesis imperfecta
   ___ rheumatoid arthritis ___ congenital disabilities
   ___ muscular dystrophy ___ (please specify)
   ___ cancer
   ___ cystic fibrosis ___ other (please specify)
   ___ amputee
   ___ diabetes
   ___ hemophilia

4. Are you competent in the physical management of the disabled child? Please specify.
   a. Wheelchair management (brakes, footrests, armrests, propulsion, etc.)
   Yes No
   b. Transferring or moving the student from one surface to another (wheelchair to floor or desk, etc.)
   Yes No
   c. Application of special equipment (braces, artificial limbs, etc.)
   Yes No
   d. Use of assistive devices (crutches, cane, walker, etc.)
   Yes No
   e. Assistance with dressing
   Yes No
   f. Bladder and bowel management (self-catherization, ostomy bags, etc.)
   Yes No
5. Do you have knowledge of procedures necessary for care? Please specify.
   a. Wound management
   b. Management of epileptic seizure
   c. Shunt management
   d. Management of a diabetic coma

6. Do you have a working knowledge of diagnoses? Please specify.
   a. Given a student's diagnosis, do you know what to expect?
   b. Given a diagnosis, do you understand the prognosis for that student?
   c. Do you know the implications a particular diagnosis has on learning?

7. Do you have a working knowledge of the common medications prescribed to POHI students? Please specify.
   a. Are you aware of common side effects?
   b. Are you familiar with possible drug interactions and the signs and symptoms to be alert to?
   c. Are you competent in assisting a student with an inhaler?

8. Would you be competent in integrating a child with a progressive life threatening illness into your classroom? (Cancer, cystic fibrosis, muscular dystrophy, or autoimmune deficiency syndrome for example.) (circle one)

9. I feel that all teachers with POHI students mainstreamed into their classroom should go through training on the physical management of these students. (circle one)

10. I feel that all teachers (regular and special education) should receive training on the physical management of these students as an undergraduate. (circle one)
11. I feel that my administrator would support an inservice or conference on the topic of physical management of the physically disabled student. (circle one)

   Strongly Agree  Undecided  Disagree  Strongly
   Agree

12. I feel that my peers would support my pursuing a better understanding of physical management of the POHI student. (circle one)

   Strongly Agree  Undecided  Disagree  Strongly
   Agree

13. I feel that an inservice on physical management of the physically disabled student would be well attended. (circle one)

   Strongly Agree  Undecided  Disagree  Strongly
   Agree

14. My mainstreaming experience was (circle one)

   Good  Indifferent  Bad

15. My teaching degree is (check all that apply and specify in what):

   __ B.A. ____________  __ B.S. ____________
   __ M.A. ____________  __ M.S. ____________
   __ Ph.D. ____________  __ other ____________

16. From what school and in what year did you receive your degree? Please specify.

   School       Year
   Baccalaureate ________________ _____
   Masters      ________________ _____
   Doctoral     ________________ _____

17. How many years have you taught school? ________

18. My sex is (circle one)

   Male  Female

19. My race is (please specify)

   __ Black       __ Caucasian
   __ Hispanic    __ other ____________

20. My age is (please specify)

   __ 20-25       __ 30-35       __ 40-45   __ 50-55
   __ 25-30       __ 35-40       __ 45-50   __ 55+

Would you like a copy of the results of this study? Yes/No
Thank you for your participation. Any comments are welcome.
APPENDIX C

Phone Interview Form

My name is __________, and I am a physical therapy student at Grand Valley. As part of my Masters degree I am writing a thesis. I sent you a questionnaire regarding this in December. We have randomly selected you and three others to do follow up interviews with. The purpose of this interview is to gain further insight into teacher’s opinions on the physical management of POHI students being mainstreamed into their classroom. If you choose to participate in this interview, you will remain anonymous. This will take approximately a half hour of your time. Are you willing to participate? Is now a good time or would you prefer that we call you back? When___________
Phone_______________.

1. What do you believe teachers need to know about the students being mainstreamed into their classroom?

Now you’ve outlined ........ how about,

Diagnosis and implications--

Equipment--
Medications and implications--
Physical management (bowel/bladder, transfers, dressing, emergency situation--seizure, diabetic shock)--
2. When should this information be shared with the teacher?

3. You’ve outlined some areas that you feel a teacher should know about, what do you think about a course or part of a course at the undergraduate level being dedicated to providing a base of knowledge in these areas?

4. In your opinion, who would be best suited to provide this type of training to teachers?

Undergraduate--

Immediately prior to experience--

Thank You!!!!
APPENDIX D

Additional Comments from the Study Participants

"With the philosophy of inclusion, many POHI students are entering the classroom. However, elementary teachers are not prepared (training, etc.). I feel fortunate to have special ed. background."

"The first year I had a cerebral palsy student I found out about three days before school started. His grandmother came to school, looked at the chairs and informed me that he would not be able to sit in one. His aide did not know him or his needs. His records sounded great. His ability was far below what the records would lead anyone to believe. We had a rough start but the year ended great. The next year, 1991, when I had another cerebral palsy student, got off to a much smoother start. Teachers need more information ahead of time on special students."

In explanation of answering "disagree" to question 10 which states, "I feel that all teachers should receive training on the physical management of these students as an undergraduate" one teacher wrote, "Only a small percent of teachers will have a POHI student--why spend all that money--besides each case is different--training should fit the child."
Another teacher explained as follows, "This should be done at the time such a diagnosed student is going to be enrolled. There are far too many variances of POHI for regular ed. teachers to get all necessary training."

In contrast, one teacher explained the answer of "strongly agree" with undergraduate training as, teachers should "at least be given an idea of the problems the children might have in a regular classroom."

"In my situation I had a boy with MD [muscular dystrophy] in a wheelchair. A Healthcare aide with no special training was assigned to him to help with bathroom, eating and transfers. We learned by trial and error, from the P.T. [physical therapist] and because I had experience with some things because of a head injured family member. We needed a half day training session with a P.T. who was familiar with our student’s needs. If I had had training 2-3-5 years ago it wouldn’t have meant much--training should come with the child and be specified to his/her needs. Thanks for your interest."

"I also have a personal care aide, but I share in at least 50% of physical care."

"Our school system and county jointly provide for 'health aids' who work in the classroom to meet these special needs."
"I think our school has worked hard to meet the needs of our POHI students. Teachers have attended all prior IEPC meetings, observed in POHI and regular classrooms, and had the services of OT’s, PT’s, speech teachers, etc. We have also been fortunate to have health aids in the classrooms to not only meet special physical needs, but also to work one-on-one with these students and adapt regular classroom work to their capabilities."

"I have a full-time aide that works with my POHI student."

Two teachers indicated that an inservice on physical management of the physically disabled student would be well attended by teachers of these students (Question #13).
Laura L. Gregory received a B.S. in health science in 1990 from Grand Valley State University, Allendale, Michigan. She is currently completing an M.S. in physical therapy at Grand Valley State University and will graduate May 1, 1993. Honors include the Grand Valley State University Honors Scholarship and the Dean’s List.

After graduation, she will be working as a staff physical therapist at Wyandotte Hospital located in Wyandotte, Michigan. She is professionally affiliated with the American Physical Therapy Association and the Michigan Physical Therapy Association.

The thesis titled, Training of Elementary Education Teachers in Physical Management of Students with Physical Disabilities, was submitted to Grand Valley State University on March 15, 1993.

Marnie S. Wittenbach received a B.A. in biology in 1990 from Hope College, Holland, Michigan. She is currently completing an M.S. in physical therapy at Grand Valley State University, Allendale, Michigan and will graduate May 1, 1993. Honors include cum laude and Dean’s List at Hope College.

Upon graduation, she will be working as a staff physical therapist at Blodgett Memorial Medical Center, Grand Rapids, Michigan. She is professionally affiliated

She is married to Mike Wittenbach, a self employed farmer in Belding, Michigan.