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Utilization of Collaborative Clinical Education Placements

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UTILIZATION OF COLLABORATIVE
CLINICAL EDUCATION PLACEMENTS

by

Sandie Marston
Sally Talbot

THESIS

Submitted to the Department of Physical Therapy
at Grand Valley State University
Allendale, Michigan
in partial fulfillment of the requirements
for the degree of

MASTER OF SCIENCE IN PHYSICAL THERAPY

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ABSTRACT

The purpose of this study was to describe the collaborative model's utilization, effectiveness, and effect on ease of student placement. Surveys were sent to academic coordinators of clinical education at all 130 physical therapy programs in the United States. Four of these surveys were sent as a pilot study. Of 126 surveys sent, 114 were received for a 90% return rate. Frequencies of responses were calculated. 75% of respondents report using the collaborative model. Of those who use the model, 95% reported that it met their objectives for clinical education, and 93% reported decrease (24%) or no change (69%) in difficulty of placing students when using the collaborative model. In conclusion, the collaborative model is a viable model for clinical education that allows more students to be placed at each site without increasing the difficulty of placing them. Education of clinical site staff is vital to the success of the model.
ACKNOWLEDGMENTS

We would like to thank the following people and organizations for all the help they have given to help make this dream come true. Dr. Jane Toot, our committee chair, for her guidance and insight into the process of writing a thesis and the collaborative model itself. Karen Ozga, for all of the corrections and revisions that helped teach us how to write scientifically and make this thesis a polished piece of science. Dr. Lucille Grimm for teaching us how to make our study valid and reliable and statistically simple. Grand Valley State University’s Physical Therapy Department, for donating materials that made this study relatively inexpensive and professional. The Academic Coordinators of Clinical Education who helped make this study valid and reliable by completing and returning the survey.

On a more personal note, we would like to thank those who gave us both their financial and emotional support throughout this endeavor, our families and friends. We thank you for your listening ears when things seemed stressful and the hugs of support that helped keep things in perspective. All that you have given us is greatly appreciated and will never be forgotten. We love you.

Lastly, we would like to thank God for giving us the drive to get into this program and the strength and motivation to get through it.
PREFACE

Definition of Terms

Clinical education is the portion of a learning experience that takes place in the professional work setting. A clinical affiliation site is a facility that works with the university in promoting the education of students and is used in clinical education. The academic coordinator of clinical education (ACCE) is a university faculty member whose responsibility is organizing the clinical education program. The ACCE is also responsible for planning and coordinating each student's clinical experience with academic preparation and evaluating the student's progress. The Center Coordinator of Clinical Education (CCCE) is a person from the clinical affiliation site who works with the ACCE in the implementation of the clinical education experience at that facility. The Clinical Instructor (CI) is a clinician who supervises, facilitates and evaluates the student's performance throughout the clinical experience (Moore & Perry, 1976).

Physical therapy clinical education programs may vary in many areas. Some schools use part-time affiliations. With part-time affiliations, a student may be at a clinical site for half a day or a full day, but will not experience a full-time, forty hour work week. Other schools use full-time affiliations. In full-time affiliations, the student is at the site for a full day, five days a week (or the equivalent of forty hours a week), for a specified number of weeks. Some schools use both forms of clinical education.

Physical therapy clinical education programs may also vary in the model of placement that they use. The traditional model for clinical education uses an individualized approach to clinical education. Under the traditional model, one student is placed at a clinical affiliation site under one CI. This placement is a 1:1 placement, or one student per CI (Declute &
The **collaborative model** for clinical education uses a cooperative approach. Under this model, two or more students are placed at an affiliation site under one CI. This placement has a ratio of 2:1, or two or more students per CI. In this model, the students interact with each other to work through questions and concerns cooperatively. Here, the CI serves as a facilitator in the learning process (Declute & Ladyshewsky, 1993). The term **cooperative learning** may be used interchangeably with **collaborative learning** (Glendin & Ulrich, 1992). Although the literature does not always make the distinction, not all 2:1 placements involve collaborative learning. The difference between non-collaborative and collaborative 2:1 placements is whether the CIs facilitate and instruct the students to interact with each other, and view each other as resources for information and problem solving as they do in the collaborative model. In the non-collaborative model this does not occur.

There are different variations to the collaborative model and they may carry different titles, such as the **Student Staffed Clinic** (SSC), **Planned Small-Group Experience** (PSGE) and the **Academic-Clinical Faculty Exchange Model**. The SSC uses a 2:1 placement ratio for clinical education and takes place in a clinical environment, two days a week during off peak hours (Emery & Nalette, 1983). The PSGE is used for part-time affiliations (Grisetti, 1993). With the Academic-Clinical Faculty Exchange model, an academic faculty member accompanies two or more students into the clinical setting and serves as their CI. During this clinical affiliation, two clinical faculty members teach the courses for which the academic faculty member was previously responsible (Drench & Toot, 1993).

Another model for clinical education that physical therapy or occupational therapy schools may use is the **sharing model**. Under this
model, one student may be working under two different CIs. The sharing model uses a 1:2 placement. Programs typically use such a model to allow part-time clinicians to serve as clinical educators or to place students in non-traditional settings such as in home health care (Gaiptman & Forma, 1991).

Physical therapy programs are not uniform as to the length and specific content required in pre-physical therapy classes (or undergraduate classes) and in professional course work. The following profiles are used to describe some different formats of these programs: 2+2, 3+2, 2+3, 3+3, 4+2, 2+4, 4+1. The first number in the profiles stands for the number of years the program requires for undergraduate or pre-professional studies. The second number represents the additional years of professional course work required.

A person may earn a professional degree in physical therapy through a variety of profiles. A bachelor of science in physical therapy (BSPT) is an undergraduate degree that may take four to five years to earn. There are two types of graduate level degrees most commonly seen, the master's of science degree in physical therapy (MSPT) and the master's degree in physical therapy (MPT). The MSPT programs require research and a final product that is usually a thesis. The MPT programs may or may not require research and typically do not require a thesis. A person may also earn a certificate in physical therapy through completion of the professional course work at a university without attending that university for his or her core course work. The certificate is a post-baccalaureate degree. A new type of program that is in the process of obtaining accreditation is the doctorate of physical therapy (DPT). We will not examine this program type in this study. A physical therapist may earn a post-professional master’s degree in physical therapy through graduate study at a university.
The Commission on Accreditation In Physical Therapy Education (CAPTE) is the professional organization that is responsible for setting minimum standards that all PT schools must meet to be accredited.

The American Physical Therapy Association (APTA) is a professional organization that works to maintain the CAPTE and its functions. The APTA also represents physical therapists and physical therapy assistants who choose to affiliate with the APTA.

Abbreviations
ACCE- Academic Coordinator of Clinical Education
CAPTE-Commission on Accreditation In Physical Therapy Education
CCCE- Center Coordinator of Clinical Education
CI- Clinical Instructor
APTA- American Physical Therapy Association
BSPT- Bachelor of Science in Physical Therapy
MSPT- Master of Science in Physical Therapy
MPT- Master of Physical Therapy
PSGE- Planned Small-Group Experience
SSC- Student-Staffed Clinic
PT- Physical Therapist
OT- Occupational Therapist
1:1- One student per clinical instructor
2:1- two (or more) students per clinical instructor
1:2- one student under two clinical instructors
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CHAPTER 1
INTRODUCTION

In order to keep up with the increasing demand for physical therapists in the workplace, physical therapy education programs face the challenge of expanding the number of students they admit. Physical therapy programs, as well as occupational therapy programs, are finding it difficult to place current students into the clinical environment for their clinical affiliations (Monahan, 1993; Tompson & Tompson, 1987). Physical therapy programs may need to address the challenge of limited clinical affiliation sites before they can expand their class sizes to meet the need for physical therapists.

In response to the need for clinical education sites, some schools have tried alternative models for clinical education. Traditionally, physical therapy schools have taken an individualized approach to clinical education. In the traditional model, one student is placed under one clinical instructor (CI) at a clinical affiliation site. The traditional model continues to be the most widely used and accepted, although it has not been validated through research to be the best method (Tiberius & Gaitman, 1985). The alternative models that some physical and occupational therapy schools have experimented with are the collaborative and sharing models. The sharing model for clinical education involves two CIs sharing one student at a clinical affiliation site.

Education through collaborative methods involves using the teacher as a facilitator of knowledge instead of as the center of knowledge, and stimulates learning through group effort of the students (Glendin & Ulrich, 1992). A book titled, The Anatomy Of Judgment, by Abercrombie indicates that medical students acquired faster and better medical judgment if the
diagnosis was acquired through collaborative efforts. Abercrombie stresses in her book that diagnosing and making judgments occurs more effectively when people interact instead of individuals working alone.

Collaborative learning has also been cited for its ability to improve communication skills, conflict resolution skills, student's self-esteem and race relation skills of the students involved (Glendin & Ulrich, 1992; Slavin, 1983). Johnson and Johnson (1974) suggested that this model is useful when scenarios presented to students involve task analysis and problem solving.

Some physical therapy schools and occupational therapy schools have taken this information and applied it to clinical education, based on its demonstrated benefits in the classroom, as well as its implications for addressing the shortage of clinical education sites (Ladyshewsky, 1993). Essentially, the collaborative model in clinical education means placing more than one student under one CI (2:1) during a clinical affiliation.

The collaborative model of clinical education has been used in a limited number of studies and the results reflect only the experience of those programs that participated. The extent to which the collaborative model is being used for clinical education is not known. Also, it is not known whether or not the collaborative model meets the objectives set by universities for a clinical education experience. Furthermore, it is not known if the collaborative model has had an effect on the number of available clinical affiliation sites and if schools using the model have been able to admit more students into their programs. If it is found that the collaborative model is used frequently and effectively, it may help decrease the challenge of finding clinical affiliation sites, and other schools may be more willing to implement it.
The purpose of this study is to identify how many physical therapy schools are using the collaborative model for clinical education exclusively, or in conjunction with the traditional model, and to identify the effectiveness of this model, as evaluated by the academic coordinators of clinical education (ACCEs), in meeting the objectives set by universities for clinical education. The ACCEs will be surveyed because of their role in organizing and implementing clinical education, as well as for their interaction with the students and the CIs who evaluate them. This study is also being done to determine whether the collaborative model decreases the challenge of finding clinical placements for clinical education. Essentially the research questions are: "Are physical therapy schools using the collaborative model exclusively or in conjunction with the traditional model for clinical education?"; "Have the academic coordinators of clinical education found the collaborative model to be effective in meeting the goals set by universities for a clinical education experience?"; and, "Has the collaborative model effected the number of available clinical placements?"

The collaborative model for clinical education may address the challenge of finding clinical education placements and allow schools to accept more students into their programs each year. Thus, this method may have a positive impact on the shortage of physical therapists in the workplace. How much impact the collaborative model has, can only be determined if the extent of its usage and its effectiveness is known.
CHAPTER 2
LITERATURE REVIEW

The following paragraphs provide a brief description of the studies on the collaborative model in clinical education. The studies cited here may vary with the type of clinical education upon which each focused (part-time or full time), the types of patients seen and the discipline which explored the collaborative model. The need for alternative forms of clinical education by many different health care professions has presented us with a variety of studies from which to cite. Occupational and physical therapy professions are cited in this study.

In 1993, Solomon and Sanford did a pilot study to determine the suitability, productivity and feasibility of the collaborative model (two students-to-one clinical instructor) and the sharing model (one student-to-two clinical instructors) in a home care setting. Four physical therapy students and two CIs participated in the collaborative model with each CI supervising two students. Two students and four CIs tried the sharing model. This clinical placement was for two, four-week, full-time affiliations. Through the use of questionnaires, the authors found that although three of the four students from the collaborative model found the experience to be extremely satisfying, all of the students found it difficult to achieve their educational objectives. The students participating in the sharing model found the experience to be moderately satisfying. The clinical instructors who participated in the sharing model were able the see more patients (higher productivity mean) than were the clinical instructors who participated in the collaborative model. Both CIs who participated in the collaborative model
found it difficult to constantly supervise two students but did indicate that the students were resources for each other, which seemed to alleviate some stress for the CIs (Solomon & Sanford, 1993). The authors listed the following advantages to the collaborative model: (a) the students could problem solve together; (b) the students could use each other as resources; (c) decreased responsibilities of CI; and (d) there was a decrease in the number of superficial questions asked by students.

Solomon and Sanford (1993) listed the following as possible disadvantages to the collaborative model: (a) having two students present continuously may be stressful; (b) evaluation and feedback must be given to each student independently; (c) in the home environment the collaborative model was difficult to organize; (d) in the home setting there wasn't any other discipline that the CI could have the students observe and learn from to allow the CI time to get things done; (e) in the home setting, there were times when the environment was too crowded to accommodate the added student; (f) the full benefits of this model may not be realized if the students do not work together; and (g) this model may not be appropriate for the less experienced student. Due to the disadvantages listed above, Solomon and Sanford did not conclude that the collaborative model was a viable alternative for clinical education in the home care setting (1993). Solomon and Sanford's work is useful for this study because it identifies advantages and disadvantages to the collaborative model and indicates a setting where the collaborative model may not be appropriate.

Grisetti (1993) described an alternative model for part-time clinical education in the Journal of Physical Therapy Education. The model is a form of the collaborative model and is titled the planned small-group experience (PSGE). PSGE is designed so that during the first semester of the physical
therapy program, three to four students go to a site with specific objectives, and one CI leads them. The students spend half of one day at each of the four sites. Different groups are formed for each rotation to ensure that the same people are not always working together. The students are allowed to work together in the completion of the objectives but each student turns in his or her own objectives at the completion of the program. The author cited the following as benefits of this model: (a) this model decreased the problem of finding part-time affiliations; (b) decreased pressure on CIs because they could take students at days and times that were convenient for the CI; (c) the need for individual assignments was reduced due to the format of the program and number of students at each placement; (d) decreased competition for sites; and (e) the CIs found the structured format clarified the tasks to be accomplished. The students and clinicians evaluated the program favorably, and Old Dominion University has used this program for the past four years (Grisetti, 1993).

Several factors may account for the difference in success between the PSGE model and Solomon and Sanford's study. The different clinical settings in which the models were used, the type of affiliation (part-time or full-time), and the number of students for each clinical instructor could all have affected the level of success each model demonstrated. Both of these models gave valuable insight as to how the organization, settings, and length of time in the clinical environment may effect the success of the collaborative model for clinical education.

Declute and Ladyshewsky (1993) did a study to determine if physical therapy students who participated in a collaborative clinical education placement would differ in clinical competence from students who participated in a traditional placement (one student per clinical instructor).
The University of Toronto had sixty-four senior students doing eight, four-week, full-time affiliations of which thirty-eight students were given 2:1 placements (Declute & Ladyshewsky, 1993). The students with the 2:1 placements were paired according to their academic background and grade point average in an effort to decrease any potential problems or differences in student performance. A form called the Evaluation of Clinical Competence was used to evaluate the clinical competence of the students after their affiliations. The clinical competence scores addressed the following seven subgroups: patient evaluation, program planning, implementation of treatment, communication with patient/family, communication and management skills, documentation, and professional behavior. The results of this study demonstrated that the students from the 2:1 placement achieved higher scores in all of the categories described. The authors suggested the collaborative model would serve the following two purposes: (a) enhance clinical competence; and (b) increase the number of students that could go to each site, therefore allowing a greater number of students to be accepted into physical therapy programs. The authors concluded that the collaborative model is a viable alternative to the traditional model (Declute & Ladyshewsky, 1993).

Declute and Ladyshewsky's study was used for full-time affiliations and was determined to be successful as a collaborative placement. The PSGE model, described by Grisetti, is used for part-time affiliations and is successfully being used. The successful results of the collaborative model in part-time and full-time affiliations may suggest that it is not the type of affiliation that determines how successful the model is, but that other factors such as the preparation of the CI, the setting, organization, and implementation of the model may effect the level of its success.
Michael Emery (1983) formed a Student-Staffed Clinic (SSC) to determine if they could maintain the quality of their clinical education program while accommodating more students with the same number of CIs. The SSC operated for one semester, two days a week during off peak hours of the day (late afternoon to early evening). Six CIs and twelve senior physical therapy students participated in this study. The investigators surveyed the patients, CIs and students after the experience to determine the effectiveness of the model, the time unit productivity (24 units/day/staff physical therapist) and adherence to standards for documentation. The outcome of this experience was found to be positive by all the parties involved. The researchers concluded that this model met the clinical education objectives and exceeded the department's standards for quality assurance, patient care, productivity, documentation and student supervision, as well as patient satisfaction. The Medical Center Hospital of Vermont's physical therapy clinical education program has continued to use the Student-Staffed Clinic model.

The Student-Staffed Clinic (SSC) above and the planned small-group experience (PSGE) model as described by Grisetti, are both forms of the collaborative model that are currently being used for part-time affiliations. In contrast, the two models are designed differently and the number of days in which the students are in the clinical environment is different. These similarities and differences may indicate that the collaborative model can be organized in different ways and still be successful.

Tiberius and Gaipman (1985) did a study to determine what the advantages and disadvantages of the 1:1 and 2:1 models were and if any advantages of the 2:1 model have been overlooked. They also wanted to obtain the student's evaluation of the experience and to determine if there
were any strategies that a Cl could use to overcome the disadvantages of the 2:1 model. The experiment consisted of seven weeks of part-time clinical affiliations with ten occupational therapy students who were randomly selected to participate in each of the clinical education placements. The investigators independently interviewed and surveyed the students and CIs at the end of the affiliation. The results indicated that the CIs saw a balance between advantages and disadvantages of the 2:1 model but were unable to identify all of the benefits of the 2:1 model identified by the students. The authors listed the following as benefits of the 2:1 model as described by the students and the university: (a) emotional support from the other student; (b) students received added help in learning; (c) students had opportunity to discuss concerns; (d) students received feedback from each other; (e) a decrease in the number of superficial questions asked by the students; (f) the students were able to test ideas on one another; (g) the students were able to compare their performances; (h) the students were given the opportunity to work on their interaction skills; (i) the students were able to learn how to be sensitive to each others needs; and (j) the students learned how to express themselves better.

A disadvantage the authors found was that nonproductive competitiveness was experienced when students were compared by the Cl, when one student dominated the experience, and when students did not share ideas or give constructive feedback. The authors also listed the following as disadvantages to the 2:1 model: (a) difficulty sharing patients; and (b) dependency of one student on another.

Tiberius and Gaiptman concluded that the 2:1 placement model could be a viable alternative to the traditional model, however that it would take greater planning to implement. The authors suggested that the increased
number of students per CI may not be the issue, but that perhaps, it is the implementation of supervision strategies to help CIs handle the increased number of students that may determine its success.

The results of the study by Tiberius and Gaitman are consistent with the studies described above. Their study was used for occupational therapy students, and the 2:1 model was found to be successful by the authors. This indicates that the collaborative model may be useful for clinical education programs of professions other than the physical therapy profession.

Richard Ladyshewsky (1993) did a pilot study to determine the satisfaction of students and CIs with the 2:1 (student:CI) placement model of clinical education. Thirty-eight senior physical therapy students and nineteen clinical instructors participated in the four week, full-time affiliation. The investigators did not inform the students that their placements may be a 2:1 placement until after they chose their affiliation site. Academic background and cumulative grade point average were used to match the students. The clinical affiliations were in the orthopedic, neurologic and cardiorespiratory settings.

Through the use of a questionnaire, Ladyshewsky found that CIs of different specialty areas reported different levels of ease in implementing this model. The inpatient orthopedic affiliations had the easiest time implementing the program, whereas the neurology and cardiorespiratory CIs found the model to be equally difficult or more difficult to implement than the 1:1 model (Ladyshewsky, 1993). Sixty-eight percent of the CIs found this model to fulfill the students' learning objectives and to be a better learning experience than the 1:1 model. The overall impression of seventy-eight percent of the students was that of good-to-outstanding. The author found the following to be factors that would affect the success of this model: (a)
pairing students who are at different levels could be a concern; (b) a lack of patient load or variety could alter the student's impression of the experience; (c) finding CIs to participate in this model could be difficult; (d) the practice setting could influence the success of the model; (e) how well the CIs delegate their patients, could play a role in how stressful this model would be for them; (f) with patients waiting to be seen and the shortage of staff, administrators may be reluctant to free up staff for this purpose; and (g) CIs must be sure that comparisons made between students do not affect their evaluation (Ladyshewsky, 1993). The author concluded that the 2:1 placement model is a viable alternative to the traditional model.

The results of Ladyshewsky's study were consistent with Solomon and Sanford's study in that the practice setting in which the collaborative model is used may have an influence on how successful it is found to be. In Ladyshewsky's study, it was the cardiorespiratory and neurology settings in which the collaborative model was less successful, and with Solomon and Sanford's study, it was the home care setting. Ladyshewsky indicated that the CIs from the neurology and cardiorespiratory settings maintained the majority of their case loads. Ladyshewsky also concluded that better case load delegation may eliminate some of the implementation issues of the 2:1 model for different practice settings (1993). By delegating the majority of the case load to the students, the CI has more time to supervise treatment and facilitate learning. The home care setting may have space limitations which may explain why the collaborative model was less successful here. This information is valuable because it identifies the settings where the collaborative model may not be a better alternative to the traditional model.

Drench and Toot (1993) performed a pilot study in 1985 on a type of collaborative model called the Academic-Clinical Faculty Exchange Model. In
this model a faculty member from the university supervised six physical therapy students on their clinical affiliation and served as their CI, while two clinicians went to the university and served as instructors. The students began their clinical affiliations at different times throughout Northeastern University's winter and spring quarters. The university and affiliation site did not exchange money using this model.

The students completed two surveys at the end of the affiliation; one to evaluate the experience and one to evaluate the clinical instructor. The students were evaluated through the use of the clinical evaluation form. Drench and Toot designed three additional questionnaires which the ACCE, center coordinator for clinical education (CCCE), and the students completed at the end of the experience. The investigators used the questionnaires to evaluate the exchange model further. Also, the ACCE, CCCE, participating staff at the affiliation center, CI and students all participated in formal interviews in order to learn their perceptions of the experience along with any concerns and benefits they may have experienced.

The results of this study were positive and indicated that this model was, at minimum, equally as effective as the 1:1 model for improving clinical competency. The students increased their clinical competence and growth through this experience and believed the supervision met their needs over eighty percent of the time. The authors suggested that because the hospital was involved in the model, the "guest-in-house" syndrome may have been reduced. This syndrome was described in the article as what may be experienced by the ACCE, CIs and CCCEs when physically or socially on the other's "turf." The authors found that this model takes a lot of communication and commitment from the academic and clinical faculty.
The authors found this model to be a viable alternative to the traditional clinical education model, of one student per clinical instructor.

Each of the studies that have been cited gives new insight as to the effectiveness of the collaborative model. As demonstrated by the Student-Staffed Clinic, the Planned Small-Group Experience, and Tiberius and Gaiptman's study, the collaborative model may be designed differently for part-time clinical affiliations and still be successful. Declute and Ladyshewsky's study, Drench and Toot's study along with Ladyshewsky's study all demonstrated that the collaborative model may be used successfully for full-time clinical affiliations as well as part-time. Solomon and Sanford's study and Ladyshewsky's study both helped identify settings in which the collaborative model may not be the ideal model to be used for clinical education; the home care, cardiorespiratory and neurology settings. Overall, the collaborative model in clinical education has several advantages and may be a viable alternative to the traditional model.

The studies described above provide valuable information for this study because they identify different methods of applying the collaborative model, as well as some advantages and disadvantages to it's application. There are, however no studies identifying how many schools are using this model, and if it meets the schools objectives for clinical education. It is also not known if using the collaborative model has decreased the challenge of placing students into the clinical environment for clinical affiliations. This lack of information can be a strength and weakness to this study. The weakness being that there is little with which to compare the design and results of this study. The strength is that the results of this study will provide new information that may assist schools in finding alternative ways of providing clinical education.
CHAPTER 3
METHODS

This study was designed to determine if physical therapy schools are assigning two or more students to a clinical instructor in addition to, or instead of, the traditional method of one student per clinical instructor and if Academic Coordinators of Clinical Education (ACCEs) find these collaborative methods to be effective in achieving the objectives for clinical education as set by the university. In order to accomplish this a survey was conducted of the ACCEs of all the accredited physical therapy schools in the United States of America as given by the American Physical Therapy Association (APTA) in the 1993 Directory of Physical Therapy Education Programs and the December 1993 Educational Programs Bulletin. A total of 130 subjects were surveyed. The researchers believed that a mailed survey was the most efficient and unbiased way to reach all of these subjects based on time and money involved.

Survey questions addressed demographic information about the school and the ACCE, utilization of collaborative and traditional clinical education methods as to when, how many, and how often, and the effectiveness of these methods in obtaining the objectives for clinical education set by the university (see Appendix B). Each survey was assigned a number for the purpose of anonymity, and that number was used throughout the study.

The researchers received approval of the survey from the Human Subjects Review Committee at Grand Valley State University before it was sent to the subjects. Prior to data collection, a pilot survey was conducted with four programs to determine the validity and reliability of the research
tool. All four schools surveyed responded to the pilot study. From the information they provided, minor changes were made to the final survey. Data from the pilot surveys was not used in the results.

Surveys were mailed on October 3, 1994. Subjects were given two weeks to complete the survey. After that time, reminder postcards were sent to those thirty-seven ACCEs who had not responded. Four additional weeks were allowed for late surveys, after which time (November 21, 1994), no other surveys were accepted. A high return rate was expected since the sample consisted of physical therapy educators who are directly affected by the shortage of clinical education sites.

Data was entered into MYSTAT for Macintosh Computers. Frequencies and percentages were calculated and rounded to the nearest whole number to obtain descriptive, statistical results. This method of analysis allowed the investigators to accurately describe the utilization and effectiveness of collaborative clinical education techniques as viewed by the ACCEs.
CHAPTER 4

RESULTS

Subject and Demographic Information

One-hundred-thirty surveys were sent. Four surveys composed the pilot study and that data was excluded from the results. Of the remaining 126 surveys, 114 surveys were received before the deadline for a return rate of 90%. Only one survey was unusable because a majority of the questions were left blank. Therefore, 113 of the ACCEs surveyed provided usable data for analysis.

Sixty-six percent of ACCEs who responded had from 0-2 or 3-5 years of experience in their current position, and 85% held a Masters Degree as shown in Figure 1 and Figure 2.

Figure 1: Number of Years as ACCE

![Chart showing number of years as ACCE]
Of the physical therapy schools represented by respondents 57% offered entry level Masters programs while 48% offered Bachelors programs as shown in Figure 3.

Respondents were asked to categorize their program by the number of years spent in general, pre-professional course work and the number of years spent in the professional part of the program. These results are summarized in Table 1.
Table 1
Number of Years Spent in General Course Work and Professional Program

<table>
<thead>
<tr>
<th>General course work</th>
<th>Professional course work</th>
<th>Percent of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 years</td>
<td>2 years</td>
<td>28%</td>
</tr>
<tr>
<td>2 years</td>
<td>3 years</td>
<td>13%</td>
</tr>
<tr>
<td>3 years</td>
<td>2 years</td>
<td>6%</td>
</tr>
<tr>
<td>3 years</td>
<td>3 years</td>
<td>13%</td>
</tr>
<tr>
<td>4 years</td>
<td>2 years</td>
<td>12%</td>
</tr>
<tr>
<td>4 years</td>
<td>1 years</td>
<td>0%</td>
</tr>
<tr>
<td>Other</td>
<td>-</td>
<td>26%</td>
</tr>
<tr>
<td>no response</td>
<td>-</td>
<td>1%</td>
</tr>
</tbody>
</table>

Respondents presented a variety of alternative formats in the “other” category for this question with pre-professional course work ranging from 1 year to 4 years and professional course work ranging from 2 to 5 years.

Most of the programs represented by the respondents (55%) accepted 30-39 or 40-49 students in 1994 with 8% accepting more than 80 (see Figure 4).
When asked how many sites their schools currently affiliate with the ACCEs reported a range of responses from 25 to 700 sites. Figure 5 further defines this data.

Utilization of the Collaborative Model of Clinical Education

When asked to report all models of clinical education used, 100% of the ACCEs reported using the traditional model of one student to one clinical
instructor. In addition, 80% reported using the sharing model, one student to two clinical instructor, and 73% reported using the collaborative model of two students to one clinical instructor. Table 2 further describes the results.

Table 2

<table>
<thead>
<tr>
<th>Placement Model</th>
<th>Percent of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>(students : clinical instructors)</td>
<td>using each model</td>
</tr>
<tr>
<td>1:1</td>
<td>100%</td>
</tr>
<tr>
<td>1:2</td>
<td>80%</td>
</tr>
<tr>
<td>2:1 collaborative</td>
<td>73%</td>
</tr>
<tr>
<td>2:1 non-collaborative</td>
<td>48%</td>
</tr>
<tr>
<td>&gt;2:1 collaborative</td>
<td>6%</td>
</tr>
<tr>
<td>&gt;2:1 non-collaborative</td>
<td>2%</td>
</tr>
</tbody>
</table>

Note: For the remainder of the paper the 2 (or more) students : 1 CI collaborative model for clinical education will be referred to as the collaborative model.

Five of the seven respondents who reported using the greater than 2 students to 1 CI collaborative method of placement also reported using the 2 student to 1 CI collaborative method while two of the seven did not. Therefore, these two respondents were added to the total number of respondents using the collaborative model, bringing that total to 75%.

Those who did not use the collaborative model were asked why they did not use it. The majority answered that unwilling clinical instructors (CIs)
were the reason. Table 3 further describes this data. Seven respondents answered this question even though they did use the collaborative model. Perhaps their responses indicate why they are unable to use this model more frequently. Those seven responses were included in the results in Table 3.

Table 3

<table>
<thead>
<tr>
<th>Reasons Given For Not Utilizing Collaborative Placements</th>
<th>Percent of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>unwilling clinical instructors</td>
<td>65%</td>
</tr>
<tr>
<td>never considered it</td>
<td>12%</td>
</tr>
<tr>
<td>not viable, does not meet objectives for affiliation</td>
<td>9%</td>
</tr>
<tr>
<td>no need for more sites</td>
<td>6%</td>
</tr>
<tr>
<td>unwilling students</td>
<td>3%</td>
</tr>
<tr>
<td>no response</td>
<td>15%</td>
</tr>
</tbody>
</table>

The remaining questions only pertained to the 75% who use collaborative placements for clinical education. However, five ACCEs who did not report using collaborative placements responded to the remaining questions regarding utilization of this method. Some wrote on their surveys that they had previously used or were beginning to use this model. All responses were analyzed as follows.

In order to determine how much the collaborative model was utilized by these schools, questions were asked regarding length of time the model had been in use and percentage of placements that used the model. Seventy-five percent of respondents had only used the model for two or fewer years
(see Figure 6), and 88% of respondents reported that collaborative placements made up only 1 to 10% of the total clinical education placements (see Table 4).

**Figure 6: Experience With Collaborative Placements**

![Figure 6: Experience With Collaborative Placements](image)

**Table 4**

<table>
<thead>
<tr>
<th>Collaborative placements</th>
<th>Percent of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-10%</td>
<td>88%</td>
</tr>
<tr>
<td>11-25%</td>
<td>9%</td>
</tr>
<tr>
<td>26-50%</td>
<td>1%</td>
</tr>
<tr>
<td>51-75%</td>
<td>0%</td>
</tr>
<tr>
<td>&gt;76%</td>
<td>0%</td>
</tr>
<tr>
<td>no response</td>
<td>1%</td>
</tr>
</tbody>
</table>
Eighty-eight percent of respondents who used collaborative placements used them in 4-8 week affiliations (Figure 7), and 96% of collaborative affiliations were full-time in nature (Figure 8).

Figure 7: Length of Collaborative Affiliations

Figure 8: Utilization of Collaborative Placements: Full-time vs. Part-time
Further questions regarding the utilization of collaborative placements revealed that the majority of students placed on these affiliations were either on intermediate (77%) or final (88%) affiliations. See Figure 9.

Figure 9: Utilization of Collaborative Placements by Affiliation

Also, 58% of the programs surveyed reported that they did not match students based on strengths, weaknesses, or academic background for collaborative placements. Thirty-seven percent reported that they did match their students for these placements, and 4% failed to respond to this question.

Figures 10 and 11, respectively, address the settings and types of affiliations most frequently used with collaborative clinical education placements.
Effectiveness of Collaborative Placements in Clinical Education

Ninety-five percent of respondents reported that collaborative placements met the objectives for clinical education set by their schools. None of the respondents reported that collaborative placements failed to meet their schools' objectives for clinical education. Four percent of respondents elected not to answer this question.
The majority of respondents (69%) reported that at the completion of collaborative placements the competency of participating students was equal to that of students completing traditional 1:1 affiliations (see Table 5). Twenty-two percent did not answer this question and commented that they were unable to make such a judgment.

Table 5

**Competency of students after completing a collaborative placement.**

<table>
<thead>
<tr>
<th>Competency after collaborative placement</th>
<th>Percent of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>higher than that of students completing 1:1 affiliations</td>
<td>7%</td>
</tr>
<tr>
<td>equal to that of students completing 1:1 affiliations</td>
<td>69%</td>
</tr>
<tr>
<td>less than that of students completing 1:1 affiliations</td>
<td>2%</td>
</tr>
<tr>
<td>no response</td>
<td>22%</td>
</tr>
</tbody>
</table>

When questioned as to whether using the collaborative model has allowed their schools to accept more students into their programs, 96% of respondents reported that it has not, and 3% failed to respond to this question.

**Ease of Placement When Utilizing Collaborative Model of Clinical Education**

All ACCEs surveyed were asked how they would rate the difficulty of placing students on clinical affiliations regardless of placement model used. The majority (75%) reported that they found it “somewhat difficult.” Figure 12 further describes the results of this question.
The 75% of ACCEs who reported using the collaborative placement model were asked what the result of using this model was on the relative ease or difficulty of placing students on clinical affiliations. The majority (69%) reported that they found no change in the difficulty of placing students since they had been using this model, and 24% reported decreased difficulty placing students (Figure 13).
The main reason given for not using collaborative placements was unwilling clinical instructors (see Table 3). ACCEs who do use the collaborative model reiterated this point. When asked if they had difficulty finding willing clinical instructors to participate in collaborative placements, 81% reported that they did. Figure 14 further describes the results.

**Figure 14: Is it difficult to find willing CIs to participate in collaborative placements?**
When asked if they prepared clinical instructors to facilitate collaborative placements 73% of the responding ACCEs reported that they did. Only 25% reported that they did not prepare their clinical instructors, and 2% failed to respond to the question. The method used to prepare clinical instructors varied among respondents. The majority of respondents reported using workshops, conferences, consortiums, inservices, or continuing education courses to prepare clinical instructors for collaborative placements. Providing written information, references lists, or informational video tapes to clinical instructors prior to affiliations was another method of preparation. The ACCEs who responded also reported using in-person and telephone discussions as well as site visits to help prepare clinical instructors. Finally, establishing networks with other clinical instructors who had previously used collaborative placements successfully and soliciting post-affiliation feedback from clinical instructors were two other methods given.

When asked to comment on the satisfaction of clinical instructors after participating in a collaborative placement 14% did not comment, again reporting that they did not feel they could make a judgment on this issue. However, 85% of respondents reported that clinical instructors' satisfaction after a collaborative placement was increased or not changed from previous levels. Only 1% found CI satisfaction to be decreased (see Figure 15).
Figure 15: CI Satisfaction with Collaborative Placements

![Bar chart showing satisfaction levels with collaborative placements.]

- 47% increased satisfaction
- 37% no change in satisfaction
- 14% decreased satisfaction
- 1% no response

Comments by Respondents

Thirty-one percent of all respondents wrote comments on the surveys. Some reported that they or their sites were very concerned and cautious about using collaborative placements for clinical education, although they did not present their reasons. However, the majority of respondents reported successful use of collaborative placements and very positive student feedback. One ACCE reported that after a collaborative placement, students felt that they had learned more than on traditional affiliations (one student to one clinical instructor).

Some reported that collaborative learning, in general, was very beneficial and that it was utilized in other areas of the academic program as well as the clinical portion. One respondent did not know if "matching" students for collaborative placements was necessary. "Students need to work in different settings with all different personalities, and they must learn to collaborate with those different from themselves."
Several comments were made regarding specific utilization of the collaborative model. This model may not be so new, as one respondent reported going on a collaborative placement consisting of six students and one clinical instructor as a student ten years ago. Another respondent reported using a five student to two clinical instructor placement in the acute care setting. Others reported that based on their successes with collaborative models they would be expanding the use of this model in out-patient orthopedics and acute care settings, placing students on initial as well as final affiliations.

One ACCE reported sending 30 pairs of students on collaborative placements this past year. The students volunteered for these placements and were allowed to pick their partners. The feedback from this was very positive and next year this program will be sending 60 pairs of students on collaborative affiliations. A benefit of collaborative placements as seen by one respondent (who is in need of 12-15 sites for an upcoming affiliation) is that it would help accommodate more students in fewer facilities and allow the school to build stronger relationships with those facilities.

Respondents reported that success of the collaborative model depended on several things, including the objectives of the clinical site and the students. As one respondent reported, if the objectives of the clinical site were short term and centered around problem solving goals then student and clinical instructor satisfaction increased. If the students' objectives were to become independent then collaborative placements work well. Other reported necessities for the success of the collaborative model were strong administrative support and willing, skilled clinical instructors.

Most who gave comments reported that it was not the job of the ACCE or the school to dictate how many students went to each site. The sites
themselves decided how many students they would accept for each rotation and, therefore, what models of clinical education would be used. Many respondents reported that their primary obstacle to the utilization of this model was reluctant clinical instructors. As one ACCE reported, there is a “common thread of belief” that having two students would be more difficult. This respondent stated that once these reluctant clinical instructors tried the collaborative model, 75% liked it and found it to be no more difficult than the traditional model of one student to one clinical instructor.

A great need was reported by many respondents for education of the CCCEs, CIs, and the managers of the clinical sites. Caseload delegation was the primary topic respondents felt that the site staff needed to be educated on to ensure success of the collaborative model and satisfaction of all involved. Another need seen by respondents was the need to expand the collaborative model in areas such as pediatrics to fulfill the school's objectives and the students' interests. One ACCE reported that the greatest need for placements resides in in-patient acute and in-patient rehabilitation settings. This ACCE found that the greatest resistance to collaborative models was in the in-patient acute care setting. The respondent attributed this to the unpredictability of this setting in regards to scheduling patients and staff and early discharge of patients.

In general, the respondents who commented on their surveys were very positive about their experiences with the collaborative model, and they reported trying to expand its utilization. They made it clear, however, that the sites, not ACCEs, made the decision as to what placement model was used. The major obstacle to the utilization of this model was unwilling CIs. The respondents reported that education of the site staff was vital to the success of the model.
CHAPTER 5
DISCUSSION

This study was designed to address three questions. The first question addressed the extent to which physical therapy schools are using the collaborative model for clinical education. Analysis of responses indicates that 75% of physical therapy schools are using the collaborative model. The second question addressed the effectiveness of the collaborative model in meeting the objectives set by the schools for clinical education. Responses indicate that the collaborative model meets the objectives set by the schools. None of the respondents (0%) answered that it did not meet their objectives. The final question addressed the effect that the collaborative model has had on the number of available sites and, therefore, the ease of student placement. Twenty-four percent of respondents reported decreased difficulty of student placement with the use of the collaborative model.

Utilization of the Collaborative Model for Clinical Education

The majority of respondents (75%) use the collaborative model for clinical education. However, 88% of those who use the model are not using it extensively (only 1-10% of all clinical placements). Most of the respondents (75%) have been using it for less than two years. This brings up an interesting question. Why is the collaborative model not being used more frequently and extensively? Responses to specific questions as well as written comments on the survey indicate that unwilling clinical instructors are the main reason. Eighty-one percent of respondents to this study reported difficulty finding CIs to participate in the collaborative model. This is consistent with Ladyshewsky
(1993) who stated that finding CIs to participate in this model could be difficult and viewed it as a potential disadvantage of the collaborative model.

A comment made frequently by respondents was that the site, not the ACCE, determines the type of clinical placement. Also, respondents reported that site education regarding implementation strategies for the collaborative model and complete CI caseload delegation are vital to the success of the collaborative model, as well as the satisfaction of the CI. Most of the respondents (73%) who use the collaborative model for clinical education prepare their clinical instructors for these placements. The methods used in preparing the CIs vary. The literature indicates the need for CI education as well as some specific topics to address. Tiberius and Gaipman (1985) suggested that CI education about implementation of supervision strategies for the collaborative model may aid in its success. DeClute and Ladyshewsky (1993) suggested that CI preparation could play a role in the success of the model. Ladyshewsky (1993) also indicated that how well CIs were able to delegate their patients to the students could play a role in how stressful this type of placement may be for the CI. The results of our study and the literature suggest that education of the CI, the CCCE, and the site management is vital to the success and utilization of the model.

Some variables about students placed on collaborative affiliations were also addressed by this study. The majority of respondents who use the collaborative model reported using it with students in their intermediate (77%) and/or final (88%) affiliations. However, it is also used widely in initial affiliations (45%). The literature also shows the collaborative model to be used successfully with all levels of students (Emery, 1983; Grissetti, 1993; Ladyshewsky, 1993). This suggests that the collaborative model can be used effectively with all levels of physical therapy students.
Most of the ACCEs who reported using the collaborative model (58%) do not match students on the basis of strengths, weaknesses or academic background for collaborative placements. Thirty-seven percent match their students based on these criteria. The literature indicates that the collaborative model can be successful in either situation. DeClute and Ladyshewsky (1993) found the collaborative model to be effective when students were matched based on academic background and grade point average to prevent potential problems or differences in student performance. However, other studies cited in the literature review did not indicate matching student on any basis and found the collaborative model to be effective (Drench & Toot, 1993; Emery, 1983; Solomon & Sanford, 1993; Tiberius & Gaipman, 1985). In the comment section of our survey one respondent reported using the collaborative model to place 30 pairs of students who were allowed to choose their own partners. This placement technique was so successful that this year the ACCE will be placing 60 pairs of students using the same method. Another respondent felt that matching was unnecessary as students need to learn to work in different settings with all different personalities, and they need to learn to collaborate with those different from themselves. The results of our study concur with the literature in suggesting that matching students for collaborative placements may be beneficial, although not necessary, for the success of the collaborative model. Further research on student matching using a control group of non-matched students in collaborative clinical placements is indicated.

In our study, the use of the collaborative model was also examined in regards to nature, length, and type of placement, as well as setting. Most collaborative placements (96%) were full-time while only 25% were part-time in nature. The literature showed the collaborative model being used
successfully in both part-time (Emery, 1983; Grisetti, 1993; Tiberius & Gaiptman, 1985) and full-time affiliations (DeClute & Ladyshewsky, 1993; Drench & Toot, 1993; Ladyshewsky, 1993). Most of respondents (88%) report using the collaborative model in 4-8 week placements. However, this may be the most common length of affiliation in general. The relevance of length of affiliation is questionable to the success of the model. The literature implies that the length and nature (part-time or full-time) of the affiliation do not impact the success of the model.

The ACCEs who use the collaborative model reported using it most frequently in the following settings: in-patient rehabilitation (84%) and acute (74%) and out-patient care (63%). These numbers are significant when compared to the other settings: home health (4%) and school (9%). Although it appears that the collaborative model is used less in the school and home health settings, these settings may not be commonly used with any model of placement. However, Soloman & Sanford (1993) found that the collaborative model was not successful in the home health setting for several reasons as reported in the literature review.

The most common types of placement used with the collaborative model are neurological (87%) and orthopedic (76%) while fewer reported using the collaborative model in cardiopulmonary (23%) and pediatric placements (26%). Again it is not known what the overall percentage of these specific types of placements are. Ladyshewsky (1993) reported that the collaborative model was less successful in cardiopulmonary and neurological settings. He attributed his findings to the lack of case load delegation by the CIs and not the type of placement used. Ladyshewsky also reported successful use of the collaborative model in orthopedic placements. Research on the
utilization of the collaborative model in pediatric placements is indicated as there is nothing in the literature on this type of placement.

One respondent in our study commented that the collaborative model needs to be expanded to include other environments such as pediatrics. The respondent stated that this was necessary to fulfill the schools' need to place students in different environments and to satisfy the students' interests in other areas of physical therapy. From our study, the success and efficacy of the collaborative model with different settings and types of affiliations cannot be determined. However, the success of the collaborative model could be inferred in those settings and types of affiliations that were reportedly used more than others. Further research needs to be done to determine which settings and types of placements are most conducive to the use of the collaborative model.

Effectiveness of Collaborative Placements in Clinical Education

The second area addressed by our survey pertained to the effectiveness of the collaborative model in obtaining the objectives set by the universities for clinical experience. Ninety-five percent of the respondents found the collaborative model to be effective in meeting their objectives for clinical education. None of the respondents reported that the collaborative model did not meet their objectives. Several respondents commented on their success with the collaborative model. Comments on our survey also indicate that students are very satisfied with collaborative placements and that their personal learning objectives are met with the use of this model.

Emery (1983) found the collaborative model to not only meet the objectives for clinical education but to exceed the department's standards for quality assurance, patient care, productivity, documentation, student
supervision, and patient satisfaction. Although Solomon and Sanford (1993) did not recommend the use of the collaborative model in the home care setting, the students participating in the collaborative placements found that their objectives were met. Also, 68% of CIs participating in Ladyshewsky's study reported that the collaborative model fulfilled the students' learning objectives (1993). According to the results of our study and the literature, the collaborative model can successfully meet the educational objectives for clinical affiliation.

To further define the effectiveness of the collaborative model, the clinical competency of the participating students was examined. The majority of respondents reported that the clinical competency of students participating in collaborative placements was equal to (69%) the clinical competency of students participating in traditional placements (one student to one clinical instructor). A large percentage of respondents (22%) elected to leave this question blank. Some comments made on the survey indicate that the respondents are reluctant to make a judgment on this issue due to lack of objective data. Drench and Toot (1993) found that the collaborative model was, at a minimum, as effective as the traditional model in improving clinical competence of students. DeClute and Ladyshewsky (1993) found that students participating in collaborative placements had higher clinical competency scores than students participating in the traditional model. According to the results of our study and the literature review, the collaborative model is at least as successful as the traditional model in developing students' clinical competency.
Ease of Placement When Utilizing Collaborative Model of Clinical Education

The results of our study indicate that, for most respondents, utilization of the collaborative model either decreases (24%) or does not change (69%) the difficulty of placing students in the clinical environment. This information could be beneficial to those ACCEs who have difficulty placing their students and are reluctant to try the collaborative model for fear it will increase their burden. Perhaps the difficulty of placing students would be even further decreased if the collaborative model was used more frequently and more extensively than was found by this study. This is a potential area for further research.

The decrease in difficulty of placement found by our study is consistent with the literature. Grisetti (1993) found the collaborative model to decrease the problem of finding part-time affiliations. DeClute and Ladyshewsky (1993) found that the collaborative model would allow an increased number of students to go to each site and, therefore, allow a greater number of students to be accepted into physical therapy programs. However, none of the respondents from our study reported that the use of the collaborative model has allowed them to admit more students into their physical therapy programs. Again, this could be due to the low percentage of placements that are collaborative (1-10%) as found by our study. Perhaps the collaborative model is not used extensively enough to effect a change in the number of students schools are able to admit. Although, there are several factors that play a role in the number of students admitted, the effect of the collaborative model on student admission is an area that needs to be studied further.
Limitations and Implications for Further Research

One limitation of this study is that the results are based on the subjective opinion of the ACCEs. The objectivity of responses is unclear especially regarding the effectiveness of the model and clinical competency of students. This is expressed by the number of ACCEs who were reluctant to answer those questions. Another limitation is our basic assumption that the ACCEs determine whether or not the affiliations are traditional or collaborative. Sometimes the decision to use the collaborative model is made by the site with or without prior knowledge of the ACCE. Therefore, the extent of utilization of the collaborative model is determined by more parties than were surveyed. A future study surveying the CCCEs and/or CIs may further describe why the collaborative model is not used more extensively.

As this is a descriptive study, cause and effect relationships regarding the effects of the collaborative model cannot be established. This may be better accomplished by further research. We did not attempt to fully identify the specific ways in which the respondents utilized the collaborative model. For further research, it may be beneficial to describe the methods of utilization of the collaborative model in order to establish specific protocols for collaborative clinical education that are successful. This would assist other schools that are beginning to use the collaborative model and those already using it to do so more effectively and extensively. Further research is also indicated to examine the effectiveness of the traditional model as well as other non-collaborative models for clinical education. These methods are being used but their effectiveness has not been proven.
Conclusion

In summary, this study indicates that the collaborative model is a viable model for clinical education as it meets the objectives set by the universities and is effective in establishing students' clinical competence. The collaborative model is used effectively with all levels of students from initial affiliation to final affiliations and with part-time and full-time placements. Matching students for collaborative placements does not appear to impact the success of the model. Certain settings and types of affiliations are used more frequently with the collaborative model. Also, use of this model does not increase difficulty of placing students.

Now that the extent of usage and effectiveness of the collaborative model are known more schools can use this model and know its benefits. Unwillingness of CIs, CCCEs, and site managers limits the use of the collaborative model. Site staff may not fully understand the goals and implications of this model. Therefore, site education about the purpose and implementation of the collaborative model is indicated. Education may increase utilization of the collaborative model and make the experience successful and satisfying for all involved. Future identification of successful protocols for using the collaborative model may also increase effective use of the model.
REFERENCES


APPENDIX A

Cover Letters
Dear Academic Coordinator of Clinical Education:

I am writing you on behalf of two Physical Therapy students from Grand Valley State University in Allendale, Michigan. As a requirement for completion of a Masters of Science degree, these students are doing research which focuses on the utilization of collaborative models for clinical education (two or more students to one clinical instructor) as well as the effectiveness of this model as seen by ACCE's. With the increase in demand for physical therapists there is a need to admit more students to physical therapy programs. In order to facilitate this, ACCE's need to maximize the number of clinical education placements without compromising the effectiveness of these placements.

You have been chosen to participate in the pilot of this survey because of your position as ACCE. The students have made the assumption that because of your position you are actively involved in placing students in clinical sites as well as following up on their progress on these affiliations. If they have assumed incorrectly, please forward the enclosed questionnaire to the appropriate individual at your earliest convenience.

Please complete the survey and feel free to make comments on anything you find ambiguous or confusing to help these students improve their survey. Because you are in the pilot group for this survey the information you provide will not be used in the study. However, your input will help to establish the validity and reliability of the survey, and it will be greatly appreciated.

Thank you in advance for your prompt response and participation in this study. Please complete and return the questionnaire in the enclosed envelope by September 16, or at your earliest convenience.

Thank you again for your help,

Sincerely,

Jane Toot PT, Ph.D.
Director of Physical Therapy
Grand Valley State University

You may direct any questions or comments to the above address or call Sandie Marston at (616) 774-2198 or Sally Talbot at (616) 667-1744.
Dear Academic Coordinator of Clinical Education:

I am writing you on behalf of two Physical Therapy students from Grand Valley State University in Allendale, Michigan. As a requirement for completion of a Masters of Science degree, these students are doing research which focuses on the utilization of collaborative models for clinical education (two or more students to one clinical instructor) as well as the effectiveness of this model as seen by ACCE's. With the increase in demand for physical therapists there is a need to admit more students to physical therapy programs. In order to facilitate this, ACCE's need to maximize the number of clinical education placements without compromising the effectiveness of these placements.

You have been chosen to participate in this survey because of your position as ACCE. The students have made the assumption that because of your position you are actively involved in placing students in clinical sites as well as following up on their progress on these affiliations. If they have assumed incorrectly, please forward the enclosed questionnaire to the appropriate individual at your earliest convenience.

By completing and returning the enclosed questionnaire, you are giving your consent for the students to include the information you provide in their study. Reports and subsequent studies will not discuss individual responses but will include only group data. The questionnaires have been numbered to ensure confidentiality. Furthermore, numbering will facilitate data collection by allowing the students to send follow-up reminders without identifying the facilities that have already responded.

Thank you in advance for your prompt response and participation in this study. Please DO NOT place your name or the name of your institution anywhere on this questionnaire. Please complete and return the questionnaire in the enclosed envelope by October 17, 1994 or at your earliest convenience.

Thank you again for your help,

Sincerely,

Jane Toot PT, Ph.D.
Director of Physical Therapy
Grand Valley State University

You may direct any questions or comments to the above address or call Sandie Marston at (616) 774-2198 or Sally Talbot at (616) 667-1744.
APPENDIX B

Questionnaire
Utilization of Collaborative Clinical Education Placements
Marston and Talbot Thesis, Grand Valley State University

1. How long have you been Academic Coordinator of Clinical Education at this facility?
   a. 0-2 yrs
   b. 3-5 yrs
   c. 6-8 yrs
   d. >8 yrs

2. What is your highest degree earned?
   a. Bachelors
   b. Masters
   c. Doctorate

3. What type of degree does your program offer? (check all that apply)
   a. Certificate
   b. Bachelors
   c. Masters, entry level

4. How many years of your program are spent in general coursework and how many years are spent in the professional program?
   a. 2 yrs general and 2 yrs professional
   b. 2 yrs general and 3 yrs professional
   c. 3 yrs general and 2 yrs professional
   d. 3 yrs general and 3 yrs professional
   e. 4 yrs general and 2 yrs professional
   f. 4 yrs general and 1 yr professional
g. other. Please describe________________________________________________________

5. How many students did your program accept in 1994?
   a. <30
   b. 30-39
   c. 40-49
   d. 50-59
   e. 60-69
   f. 70-79
   g. >80

6. How many sites do you currently affiliate with?______________________________

7. How would you rate the difficulty of placing students for clinical affiliations?
   a. very difficult
   b. somewhat difficult
   c. not difficult

8. What placement model(s) do you use for clinical affiliations? (Check all that apply)
   a. 1 student : 1 clinical instructor
   b. 2 students : 1 clinical instructor, collaborative (students work together)
   c. 2 students : 1 clinical instructor, non-collaborative (students do not work together)
   d. 1 student : 2 clinical instructors
   e. >2 students : 1 clinical instructor, collaborative
   f. >2 students : 1 clinical instructor, non-collaborative
9. If you do not use 2 (or more) students: I clinical instructor, collaborative placements, what is the main reason?
   a. never considered it
   b. unwilling clinical instructors
   c. no need for more sites
   d. not viable, does not meet our objectives for affiliation
   e. unwilling students
   f. N/A we use 2:1 collaborative placements

* If you do not use 2 (or more) students: I clinical instructor, collaborative placements then you have completed the survey. Thank you, and please feel free to make comments on this model of clinical education placement or this study on the back side of the survey.

* If you do use 2 (or more) students: I clinical instructor, collaborative placements please continue with the survey.

10. If you use 2 (or more): I collaborative placements, how long have you used them?
    a. __ < 2 yrs
    b. __ 2-5 yrs
    c. __ 6-8 yrs
    d. __ > 8 yrs

11. In the past year, what percentage of your placements have been 2 (or more): I collaborative?
    a. __ 1-10%
    b. __ 11-25%
    c. __ 26-50%
    d. __ 51-75%
    e. __ > 76%

12. Do you prepare clinical instructors in how to facilitate 2 (or more): I collaborative placements?
    a. yes. How? _________________________________________________________
    b. no

13. How long are the affiliations for which you use the 2 (or more): I collaborative placement methods?
    (check all that apply)
    a. __ 1 wk. or less
    b. __ 2-3 wks.
    c. __ 4-8 wks.
    d. __ > 8 wks.

14. Do you use the 2 (or more): I collaborative placement model for clinical education for (check all that apply):
    a. __ full time affiliations (40 hours per week)
    b. __ part time affiliations

15. In what setting do you use 2 (or more): I collaborative placements?
    a. __ in-patient rehabilitation
    b. __ in-patient acute
    c. __ out-patient
    d. __ home health
    f. __ school
16. What type of affiliation do you use 2(or more):1 collaborative placements? (check all that apply).
   a. orthopedic
   b. neurological
   c. cardiopulmonary
   d. pediatric

17. At what level are the students whom you place in 2(or more):1 collaborative affiliations? (check all that apply)
   a. initial affiliation
   b. intermediate affiliation
   c. final affiliation

18. When you place students in 2(or more):1 collaborative affiliations, do you match them by strengths, weaknesses, and/or academic background?
   a. yes
   b. no

19. Has using 2(or more):1 collaborative placements allowed you to take more students into your program?
   a. yes
   b. no

20. At the completion of a 2(or more):1 collaborative affiliation the overall competency of the involved students is:
   a. higher than competency of students completing 1:1 affiliations
   b. equal to the competency of students completing 1:1 affiliations
   c. less than the competency of students completing 1:1 affiliations

21. Do these 2(or more):1 collaborative placements meet the objectives set by your university for clinical education?
   a. yes
   b. no

22. Which of the following have you found to be the result of using 2(or more):1 collaborative placements? (check one)
   a. increase satisfaction of clinical instructors
   b. no change in satisfaction of clinical instructors
   c. decrease satisfaction of clinical instructors

23. Which of the following have you found to be the result of using 2(or more):1 collaborative placements? (check one)
   a. decrease difficulty placing students
   b. no change in difficulty placing students
   c. increase difficulty placing students

24. Do you have difficulty finding willing clinical instructors to participate in 2(or more):1 collaborative placements?
   a. yes
   b. no

Thank you for taking the time to complete this survey. Please feel free to use the back of the page to write additional comments about your experience with, or opinion on, the collaborative placement model of 2 or more students with 1 clinical instructor.
APPENDIX C

Reminder Cards
Dear Academic Coordinator of Clinical Education,

Recently you should have received a survey questionnaire regarding the two students to one clinical instructor model of clinical education. If you have already completed and sent back the questionnaire, please disregard this reminder. Otherwise, if you could find the time to respond, your input would be greatly appreciated in validating this study.

Thank you for your participation in our research. Your time and help are greatly appreciated.

Sincerely,
Sandie Marston and Sally Talbot
Graduate Students, Grand Valley State University