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Title: ***Identifying Student and Clinical Instructor Perceptions Regarding the Implementation of a 2:1 Collaborative Clinical Education Model for Physical Therapist Assistant Students at Gateway Technical College***

The accompanying research report is submitted to the **University of Wisconsin-Stout**, **Graduate School** in partial completion of the requirements for the

Graduate Degree/ Major: **Master of Science Degree/Career and Technical Education**

Research Advisor: **Deanna Schultz, Assistant Professor**

Submission Term/Year: **Summer 2016**

Number of Pages: **61**

Style Manual Used: American Psychological Association, 6th edition

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Zingelman, Megan E. ***Identifying Student and Clinical Instructor Perceptions Regarding the Implementation of a 2:1 Collaborative Clinical Education Model for Physical Therapist Assistant Students at Gateway Technical College***

Abstract

This study identified student and clinical instructor perceptions regarding the implementation of the 2:1 collaborative clinical education model. Gateway Technical College PTA students most commonly utilize the 1:1 traditional model of clinical education where one student is paired with one clinical instructor. Due to continued challenges in healthcare, alternate models of clinical education are being explored. One of these models is the collaborative 2:1 model where two students are paired with one clinical instructor. The 2:1 model has been met with varying amounts of both support and resistance. In order to identify existing perceptions, two surveys were crafted based on a literature review on aspects of the 2:1 model for clinical education. PTA students and clinical instructors agreed that the 2:1 model increased student clinical confidence and provided increased learning opportunities. However, respondents had concerns regarding challenges with student personality differences, variances in learning styles, limited clinic space, and increased stress for clinicians. Both students and clinical instructors did not believe the 2:1 model improved the quality of clinical education, and the majority of clinicians preferred the traditional 1:1 model. PTA students preferred the 1:1 model but would be willing to try the collaborative model in future clinical placements.

Acknowledgments

I would like to thank my husband and children for their support over the past few years while I took on the challenge of achieving a graduate degree. I would also like to thank my advisor Deanna Schultz for her guidance. Finally, I thank my coworker from Gateway Traci Gotz for her support while pursuing this degree.

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Chapter I: Introduction

Physical therapist assistants (PTA) are immersed in a healthcare environment where there is rapid change and increased challenges. In addition, the demand for physical therapist assistants in the workplace continues to grow. According to the Bureau of Labor Statistics (2015), due to the healthcare needs of an aging population, the employment of PTA professionals is expected to increase by 40% from 2014-2024. It is paramount that students emerging from physical therapist assistant programs are prepared to meet these challenges by demonstrating a solid foundation of practical clinical skills that are necessary to perform patient treatment interventions.

Physical therapist assistants are employed in a variety of medical settings including hospitals, clinics, schools, skilled nursing facilities, industrial settings, homes, and sports training facilities (American Physical Therapy Association [APTA], 2012b). Physical therapist assistants directly provide physical therapy services and interventions to patients under the direction of a physical therapist. These interventions include strength training, range of motion, therapeutic exercise, balance and coordination, gait training, modalities, and patient education with the goal of improving patient function (APTA, 2012b). In order to begin the process of applying patient treatment skills in an appropriate and effective manner, students participate in clinical placements to apply knowledge in clinical settings while working alongside a physical therapy professional. Providing clinical opportunities allows students to master skills performance, apply academic coursework, demonstrate competence, and instill the confidence needed to succeed after program graduation.

At Gateway Technical College in Kenosha, Wisconsin, the PTA students complete three clinical rotations that are specifically chosen to give each student exposure to various physical

therapy settings. During student clinical rotations, every PTA student will be placed in an outpatient setting as well as a skilled nursing facility or hospital setting. Students are placed at a healthcare facility and paired with a professional mentor, or clinical instructor, who is a licensed physical therapist (PT) or physical therapist assistant (PTA). During these rotations, students work directly with healthcare professionals to master skills that are necessary for patient care in clinical settings.

The traditional educational clinical model consists of a 1:1 ratio between student and clinical instructor (CI). In this model, students spend varying amounts of time performing self-directed learning or observation, and work alongside one clinical instructor (Roberts et al., 2009). Although the 1:1 model is commonly used in PTA clinical education, staff shortages, decreased experience levels of clinical instructors, limited availability of clinical rotations in certain specialized settings, and increased CI productivity demands have had a profound effect on the available number of physical therapy clinical sites (Triggs Nemshick & Shepard, 1996).

An innovative alternative model of clinical education is the collaborative 2:1 clinical education model. The collaborative model involves two students being supervised by a single clinical instructor during which the CI delegates appropriate amounts of his/her caseload to the students, and focuses on facilitating learning between the students while maintaining patient supervision (Strohschein, Hagler, & May, 2002). The 2:1 model is an emerging idea in clinical education, and is met with varying amounts of both enthusiasm and resistance. There are many perceived advantages and disadvantages to the adoption of a 2:1 collaborative clinical education model by both students and clinical instructors. Students are able to put their academic knowledge and skills into action during clinical rotations, but without clinical instructor and student commitment, the implementation of the collaborative 2:1 clinical education model could

foster frustration and the decreased willingness of clinical professionals to participate in clinical educational opportunities (Moore, Morris, Crouch, & Martin, 2003). Without the knowledge of student and clinical instructor perceptions, appropriate clinical education models cannot be implemented in an effective manner that provide enriching experiences for both the student and the clinical professional.

Statement of the Problem

The acquisition of strong clinical skills is a vital component of PTA education. By participating in clinical education opportunities, students can work directly with patients and apply skills learned in the classroom under the direct supervision of a PT or PTA. Due to the changing nature of healthcare and the increased demands on healthcare staff, the ability of educational institutions to find high quality clinical sites for student placement is challenging. The majority of clinical placements at Gateway Technical College utilize the traditional 1:1 model, but there is a growing interest in the implementation of the 2:1 model for clinical education. The 2:1 model has been met with varying amounts of both support and resistance by students and clinicians, and has not been widely used by the PTA students at Gateway Technical College. By identifying student and clinical instructor existing perceptions towards the 2:1 clinical education model, information can be discovered that may uncover barriers towards effective clinical model implementation.

Purpose of the Study

Clinical placements must be designed and implemented in ways that will facilitate learning within a model that will accommodate both the student and the clinical instructor to ensure a positive and enriching clinical experience. This study will identify student and clinical instructor perceptions towards the implementation of the 2:1 collaborative model. The results of

this study will be used to execute the appropriate clinical education models for the PTA students and associated clinical instructors at Gateway Technical College.

Research Questions

This research seeks to answer the following questions:

1. What are the existing perceptions regarding the implementation of the 2:1 collaborative clinical education model for the students enrolled in the PTA program at Gateway Technical College?
2. What are the existing perceptions regarding the implementation of the 2:1 collaborative clinical education model for the clinical instructors mentoring PTA students from Gateway Technical College?

By identifying student and clinical instructor perceptions towards the model, it will provide insight into how clinical education can be designed to most effectively maximize student placement opportunities and provide enriching clinical education opportunities.

Importance of the Study

Important implications of this study are the following:

1. Identification of student and clinician perceptions towards the use of the 2:1 clinical education model is necessary in order to orchestrate placements that are mutually beneficial for the PTA student and the clinical professional. While participating in clinical opportunities, students learn how to transfer their academic skills into practical clinical skills. Novice students build competence by working with a clinical instructor and by "seeking feedback from others about their knowledge, skills, and attitudes towards professional practice" (Ladyshewsky, 2010, p. 77). Clinical experiences should be positive and enriching learning experiences for both the

student and clinical instructor. Clinical education placements facilitate student critical thinking, problem solving, and the application of academic coursework in a real-world setting, but the model utilized needs to be perceived as effective and beneficial by the student and clinical instructor since they are key in determining success of the placements (Moore, Morris, Crouch, & Martin, 2003). If the clinical education model being implemented is not favored by the PTA student or clinical instructor, it may foster negative feelings and result in a less than optimal clinical experience for the student and clinical professionals. This study will identify existing perceptions towards the 2:1 collaborative model which could facilitate a progressive change in the delivery of clinical education.

2. The study may open the door to enable a greater number of students to experience quality clinical educational experiences by improving access. Educational institutions are often finding it difficult to locate a sufficient number of quality clinical sites to host PTA students as changes in healthcare delivery can lead to a lack of clinical sites (Ingram & Roesch, 2012). If there are favorable perceptions towards the use of the 2:1 collaborative clinical education model from clinical staff and students, it may improve access to clinical sites for PTA students at Gateway Technical College. Through the exploration of alternative models, clinical access may be improved while ensuring the quality of student educational opportunities (Moore, Morris, Crouch, & Martin, 2003). Improving access and providing students with a 2:1 collaborative experience may increase student clinical opportunities, facilitate acquisition of competent clinical skills, foster peer learning, and ultimately build a stronger profession.

Limitations of the Study

Potential weaknesses of this study may be the following:

1. Inability to generalize: This study specifically looked at perceptions for Gateway Technical College PTA students and their associated clinical instructors in physical therapy settings. The data that was collected will not be transferrable to PTA programs at other technical colleges. In addition, the data collected cannot be generalized to apply to other healthcare programs at Gateway Technical College such as dental assistant, nursing, or surgical technology.
2. Availability of 2:1 opportunities: Since the traditional clinical education model is the 1:1 model, opportunities for participation in the 2:1 model are limited. All students and clinical instructors that participated in the survey did not have direct experience utilizing this clinical model, which may impact perceptions.

Definition of Terms

The following terms will be referenced throughout the research and this study. In order to provide consistency, the following definitions are outlined.

1:1 Clinical education model. An educational model where one student is supervised individually by one clinical educator (O'Connor, Cahill, & McKay, 2012).

2:1 Collaborative clinical education model. An educational model where two students are supervised by one clinical educator (O'Connor, A., Cahill, M., & McKay, E. A., 2012).

Clinical education. An organized, supervised experience at a local healthcare facility that is coordinated through the academic coordinator at Gateway Technical College. During this experience, the physical therapist assistant student works with a professional clinician while practicing clinical skills.

Clinical instructor. A clinical instructor (CI) is a professional in the field of physical therapy that has graduated from an accredited PT or PTA program and has been working in the field as a clinician at least one year. One year of clinical experience with demonstrated clinical competence is preferred as the minimum criteria for serving as a CI. Individuals should also be evaluated on their abilities to perform CI responsibilities (American Physical Therapy Association [APTA], 2012a).

Interprofessional education. When two or more professions (i.e PTA, nursing, OT, speech pathology) learn about, from, and with each other to effectively collaborate to deliver patient-centered care (American Speech Language Hearing Association, 2016).

Peer coaching. Peer coaching is a process through which two or more professional colleagues work together to "reflect on current practices; expand, refine, and build new skills; share ideas; teach one another; conduct classroom research; or solve problems in the workplace" (Robbins, 1991).

Physical therapist. Physical therapists (PT) are healthcare professionals that have the most specialized education to help people restore and improve motion. Physical therapists today are required to complete a graduate degree - either a masters or clinical doctorate - from an accredited education program (American Physical Therapy Association [APTA], 2015).

Physical therapist assistant. A physical therapist assistant (PTA) must successfully complete an associate degree from an accredited PTA program at a technical or community college, college, or university. PTA graduates must pass the national examination for licensing/certification/regulation in most states to practice. PTAs work under the direction of a physical therapist (APTA, 2012b).

Productivity. In the realm of physical therapy, productivity is the measurement of an employees' ability to deliver revenue-generating services to clients (Advance Healthcare Network, 2001).

Methodology

In order to gather data regarding PTA student and CI perceptions towards the implementation of the 2:1 collaborative clinical education model, two surveys were administered for completion. There was one survey tool for the PTA students, and one for the clinical instructors. The surveys were administered by way of a Google survey tool, and the data was compiled from the responses received. Once the survey results were collected, the data was analyzed using descriptive statistics.

Chapter II: Literature Review

The direct application of academic skills is imperative for physical therapist assistants entering the workforce. Physical therapist assistant students obtain this valuable experience through clinical rotations during various points of their academic programming. Due to growing demands on healthcare providers such as greater workload expectations, reduced time allotted for clinical education, and an increased number of students entering clinical education, there is often a shortage of clinical site placements as well as a reluctance to participate in alternative clinical education models (American Speech Language Hearing Association, 2008). The purpose of this study was to identify existing student and clinical instructor perceptions towards the implementation of the 2:1 collaborative clinical education model.

In order to address the research questions presented, a review of literature was performed. The following review of literature will provide background on PTA clinical education, illustrate various clinical education models, describe the theory-base behind the research, and identify positive and negative aspects to adopting and implementing the 2:1 collaborative clinical education model that impact student and clinical instructor willingness to implement the 2:1 model. The results of the literature review are presented in this chapter.

Physical Therapist Assistant Educational Requirements

Physical therapist assistants (PTA) are immersed in a healthcare environment where there is rapid change and increased challenges. In addition, the demand for physical therapist assistants in the workplace is projected to increase 40% between 2014 and 2024 (Bureau of Labor Statistics, 2015). Physical therapist assistants must meet these challenges by providing a solid foundation of practical clinical skills that are necessary to perform patient treatment interventions.

Professional skills, a strong educational foundation, critical thinking, and the ability to self-evaluate actions and attitudes are important characteristics in building competent physical therapy professionals (Strohschein, Hagler, & May, 2002). Clinical education in which students engage in learning is the best mechanism in which these skills can be taught and refined (Strohschein, Hagler, & May, 2002). According to Ladyshewsky (2010), learning is a social process and students learn how to transfer their training from the academic setting to the clinical setting through feedback and interaction with clinical instructors and peers.

To work as a PTA, an individual must graduate with an associate degree from an accredited PTA program at a technical college (APTA, 2012b). In addition, PTA program graduates must pass a national licensure examination in forty-eight states and the District of Columbia (APTA, 2012b). The physical therapist assistant program at Gateway Technical College is an accredited, two year associate degree program in the state of Wisconsin (Wisconsin Physical Therapy Association, WPTA, 2015). Each program has a state-aligned curriculum and offers clinical practice opportunities for students prior to program graduation.

At Gateway Technical College in Kenosha, Wisconsin, the PTA students complete three clinical rotations that are specifically chosen to give each student exposure to various physical therapy settings. Students complete 96 hours of clinical practice for Clinical 1, 160 hours of clinical practice for Clinical 2, and 320 hours of clinical practice for Clinical 3 (Gateway Technical College, 2015). Each student is placed at a healthcare facility and paired with a professional mentor, or clinical instructor (CI), who is a licensed physical therapist (PT) or PTA. The PTA students at Gateway Technical College are placed in an inpatient or skilled nursing facility as well as an outpatient facility over the course of their three clinical experiences (Gotz,

2016). There may also be experiences available in aquatics, pediatrics, school, or industrial settings, but opportunities vary each semester based on clinical options.

Clinical Education Models

In addition to learning in an academic environment, physical therapist assistant students are given the opportunity to apply learned skills in a clinical setting. This hands-on learning can take place in various forms, but most commonly utilizes a traditional 1:1 clinical model. According to Ladyshewsky (2010), "The challenge for health science students and new graduates, when entering clinical practice, is to transfer their knowledge and practice from the academic environment to the clinical environment" (p. 77). The traditional clinical education model consists of a 1:1 ratio between student and clinical instructor (O'Connor, Cahill, & McKay, 2012). In this model, students spend varying amounts of time performing self-directed learning or observation, and work alongside one clinical instructor (Roberts et al., 2009). This clinical professional may be a physical therapist or a physical therapist assistant with at least one year of experience that demonstrates clinical competence and a willingness to work with students to develop skill acquisition (APTA, 2012a). Clinical instructors are also encouraged to complete the American Physical Therapy Association (APTA) Clinical Instructor Education and Credentialing Program, however it is not a requirement as a CI to hold this credential (APTA, 2012a).

An innovative alternative model of clinical education is the collaborative 2:1 clinical education model. The 2:1 model is not the normative clinical education model being utilized in allied health programs, but this cooperative learning experience fosters the development of skills through improved communication, reflective skills, and ultimately clinical competence (Dawes & Lambert, 2010). The collaborative model involves two students being supervised by a single

clinical instructor during which the CI delegates appropriate amounts of his/her caseload to the students, and focuses on facilitating learning between the students while maintaining patient supervision (Strohschein, Hagler, & May, 2002). According to Ladyshewsky (1995), "This model encourages peer-based teaching and mutual problem solving. The CI functions as a facilitator, supervisor, and coach, with the students providing the bulk of patient care" (p. 54).

Advantages and disadvantages of the 1:1 model. Clinical education has traditionally utilized the 1:1 model in PTA programs. Even though this model has been implemented as the normative means of student placement, it has both advantages and disadvantages associated with its use.

Researchers Moore, Morris, Crouch, & Martin (2003) conducted a study that involved clinical educators and students participating in both 1:1 and 2:1 clinical placement models. Following the placements, interviews were conducted and the researchers identified advantages and disadvantages of the models. Some of the identified advantages for the 1:1 model included increased opportunities for students and clinical instructors to directly observe one another, work closely together and exchange feedback, establish a close working relationship, and accurately assess student strengths and weaknesses. Advantages noted in other literature included increased time for individual evaluation and not having to share resources with another student during the clinical placement (Ladyshewsky, 1995). According to additional research, the 1:1 model has also been found to present less organizational challenges to clinical instructors and facilities when compared to the 2:1 model (O'Connor, Cahill, & McKay, 2012).

The study by Moore, Morris, Crouch, & Martin (2003) also identified some potential disadvantages to the 1:1 model that were communicated through the interviews conducted. These reported disadvantages included the lack of peer learning opportunities, lack of peer

support when alone on a clinical placement, and the inability to practice techniques or share ideas with other student peers. In addition, reliance on the 1:1 model may limit the ability of academic institutions to provide a variety of clinical opportunities to students (Ladyshewsky, 1995).

Advantages and disadvantages of the 2:1 model. Similar to the traditional 1:1 model, the 2:1 clinical model presents advantages and disadvantages.

Students that participate in collaborative clinical placements may perform better on clinical skills when compared to traditional 1:1 placements. A study that compared clinical competency scores of physiotherapy students in a peer-centered placement versus a traditional individual placement, found significantly higher clinical competency scores for all performances measured in the peer-centered placements (Higgs, Jones, & Christensen, 2008). Peer coaching also resulted in stronger clinical reasoning skills when compared to an individual learning placement (Higgs, Jones, & Christensen, 2008).

In a study by Ladyshewsky (2002), physiotherapy students were separated into two groups. Each group was given the task of examining a simulated patient with a rotator cuff tear. The students in the first group completed the task individually, and the students in the second group completed the simulated patient task in a peer coaching environment. The peer coaching group demonstrated significantly improved results in terms of clinical reasoning, communication skills, history taking, and clinical performance when compared to subjects in the individual group (Ladyshewsky, 2002). According to Ladyshewsky (2002), "By incorporating more peer coaching in clinical education environments, it is possible to influence the clinical performance and reasoning of novices in a positive manner, thus enhancing the development of clinical competency" (p. 17).

Peer-based, collaborative learning can also lead to higher levels of problem solving and clinical competence (Ladyshewsky, 1995). In a study by Dawes and Lambert (2010), the authors found that clinical instructors reported the 2:1 model resulted in increased student competence in patient treatment, communication, and professional behaviors. These are desirable skills that may ultimately lead to a stronger healthcare profession of physical therapist assistants.

Research has identified that the 2:1 collaborative model encourages students to take on more responsibility for their individual learning, and encourages peer-based learning and problem solving (Ladyshewsky, 1995). Clinical experiences utilizing the 2:1 clinical model promote the development of clinical skills through the cooperation and interaction between peers which is strongly linked to cognitive growth (Ladyshewsky, 2010). The model also fosters independence and encourages less reliance on supervisory staff (Triggs Nemshick & Shepard, 1996). Although there are advantages to peer feedback, it is important to note that frequent peer interaction does not diminish the importance of feedback from the clinical instructor or experts in the field (Ladyshewsky, 2010).

Students that participate in peer coaching during clinical education, develop more confidence as they have the freedom to discuss and explore treatment options and new ideas with their peers, without the fear of feeling intimidated by a mentor or supervisor (Higgs, Jones, & Christensen, 2008). Clinical rotations can understandably be very stressful for novice physical therapist assistant students. Students who are participating in the 2:1 model where they have regular interaction with a peer, benefit from the ability to communicate with another student. Novice students often report stress as they are afraid of making mistakes, creating any kind of discomfort for the patient, or wasting the patient's or clinical instructors time (Ladyshewsky, 2010). As a result of peer support, students that are working together can discuss patient care

ideas in ways that are easily understood, and they can motivate each other to seek out new knowledge to improve patient outcomes in a non-threatening environment (Ladyshewsky, 2010).

Peer interaction in a 2:1 model enables the students to share knowledge, ask questions, and problem solve in a non-threatening manner. A collaborative clinical education model encourages active discussion between students, which enables students to share ideas and explore viable treatment options in an open environment. This peer collaboration allows for the free exchange of ideas, and students benefit from the value of peer to peer feedback (Ladyshewsky, 2010). Collaboration and dialogue facilitated through the 2:1 model enhances clinical education and allows for problem solving and reflection (Strohschein, Hagler, & May, 2002).

Healthcare today is encouraging the practice of interprofessional education in which two or more professions (i.e. PTA, nursing, OT, speech pathology) learn about, from, and with each other to effectively collaborate to deliver patient-centered care (American Speech Language Hearing Association, 2016). In addition, PT and PTA staff rarely work in isolation in clinical settings. These healthcare professionals rely on peer support and collaboration to achieve patient goals (Triggs, Nemshick, & Shepard, 1996). Collaborative clinical education embodies the concept of working together with other healthcare professionals with the goal of providing quality patient care. According to Menken (2011), "There has been a realization that patients benefit from teams that mutually respect one another, effectively communicate, collaborate together, and coordinate patient care" (paragraph 3). Clinical education that encourages students to collaborate with other students as well as other professionals in the healthcare environment will develop the skills that are necessary to provide more coordinated and effective patient care.

In physical therapy practice today, clinicians are required to meet certain productivity standards for patient care each day. Productivity expectations and demands for physical therapy clinicians result in limited time for student education (Ingram & Roesch, 2012). When identifying positive components to the 2:1 model, Currens & Bithell (2003) report that clinical productivity may in fact be increased when the student and CI work as a team with combined productivity. When more students can be assigned to a clinical site, that site may actually benefit from increased productivity (Strohschein, Hagler, & May, 2002). Research on clinical education productivity states that, "For the most part, studies in physical therapy provide evidence that clinical education programs lead to net productivity benefits for the institution" (Ladyshewsky, Barrie, & Drake, 1998, p. 1291). Dawes and Lambert (2010), report that even though clinical instructors may reduce their workload when mentoring students, the ultimate productivity gains during the student placement compensated for this reduction. In addition, this compensation was greater when students were participating in the 2:1 model compared to the 1:1 model.

The 2:1 model can help to address clinic staffing shortages, especially in student final rotations where they are performing at levels that are approaching entry-level skill acquisition. It also exposes more students to potential employment options, and employers are be able to hire competent students upon program graduation (Triggs Nemshick & Shepard, 1996).

The 2:1 model develops team-building and critical thinking skills through peer-learning that will facilitate student success as a PTA, but there may also be negative aspects to the model. According to Ladyshewsky (1995), disadvantages of this model such as increased time for evaluation, setting of objectives, managing different learning styles, differences in rapport

between the CI and the students, and the need to share scarce resources can potentially increase the work load for the CI and influence the overall productivity of the supervisor-student team.

Students participating in a 2:1 model may perceive that they will be given less patient care opportunities because they have to share the experience with another student. Dawes and Lambert (2010) collected interview data from clinicians on various topics regarding the utilization of the 2:1 model. The clinicians interviewed worked with students in allied health professions, and reported that they felt students were given equal opportunities to carry out objectives, but reported that it was sometimes challenging to provide consistent, individual feedback (Dawes & Lambert, 2010). These challenges could lead to student and clinical instructor dissatisfaction with the clinical placement.

Dawes and Lambert (2010) also addressed some potential issues with peer learning. Clinical instructors reported in their interviews that caution was required to make sure that students weren't sharing inaccurate information. Although there is a value to peer interaction and problem solving, the value is questionable if inaccurate information is being shared between the students.

Students inherently have different personalities, different learning styles, and various personal strengths and weaknesses which could result in increased challenges for a clinical instructor. The 2:1 model could allow students to fall below their full potential if they feel they can rely on the other student they are paired with to shoulder the majority of the work (O'Connor, Cahill, & McKay, 2012). A more passive student may count on a stronger or more outgoing student to take charge and make necessary patient care decisions. According to researchers, students have reported that in a 2:1 model they felt they were assessed as a group,

and didn't receive as much individual feedback, which caused some dissatisfaction with the collaborative model (O'Connor, Cahill, & McKay, 2012).

Personality differences can also be problematic with the collaborative model, as one student may be more outgoing or it may be challenging to fulfill the needs of both students if they possess variances in skill sets (Curren & Bithell, 2003). In addition, students could struggle with personality clashes or feel as if they are competing with their peer (Moore, Morris, Crouch, & Martin, 2003).

Clinical instructors play a vital role in the experience that the students have during clinical placements. These clinical instructors take on increased responsibilities when accepting a student, and the idea of mentoring two students at one time may sound overwhelming. Dawes and Lambert (2010), gathered interview data from clinical instructors (practice educators) in the allied health professions. The research uncovered that the anticipated stress and impact that the 2:1 model would impose significantly affected the desire to participate in the model. Many clinicians anticipated a high level of stress associated with this model, and did not wish to be involved in the 2:1 model. According to Dawes & Lambert (2010), "Success of this model appears to depend more on the attitude and approach of the practice educator and the support from colleagues to manage students and other workplace duties than it did to profession or clinical setting" (p. 20).

Diffusion of Innovation Theory

The Diffusion of Innovation theory was developed by E.M. Rogers in 1962 and is one of the oldest social science theories (Boston University School of Public Health, 2016). The Diffusion of Innovation theory is based on the premise that new ideas and innovations gain popularity and are adopted over time as the ideas become more socially accepted (Boston

University School of Public Health, 2016). The adoption of these new ideas and innovations is not automatic. Instead, it is a gradual process that is fostered by awareness of the innovation, and is able to be tested and observed by others. Once others can see the relative advantage of the innovation, the idea will begin to be implemented across a larger population.

The Diffusion of Innovation theory can be applied to the adoption of a 2:1 collaborative clinical education model. The 1:1 model is rooted strongly in tradition and has been the primary standard for which clinical education has been designed. Although this model has yielded successful development of clinical skills, there is an opportunity to adopt more innovative and flexible clinical models to meet the demands for student clinical placements (Currens & Bithell, 2003). When considering the Diffusion of Innovation theory in terms of clinical education models, alternate models may be more likely to be implemented once more clinicians participate and have positive learning experiences. By observing advantageous results and expanding awareness, more clinicians may increase their willingness to adopt a clinical education model beyond the traditional model. This study aims at identifying existing perceptions held by PTA students at Gateway Technical College and associated Clinical Instructors in order to determine what factors may be serving as barriers to implementing the 2:1 model.

Summary of Literature

Students are able to transfer academic skills into hands-on practical experiences while participating in clinical placements. Due to healthcare changes and demands, alternate models such as the 2:1 collaborative model are being explored.

Upon review of the literature, advantages and disadvantages were identified for the 1:1 and the 2:1 clinical education models. According to research, the 1:1 model presented advantages that included increased opportunities for students and clinical instructors to directly

observe one another, exchange feedback, establish a close working relationship, and accurately assess student strengths and weaknesses. Advantages of the 2:1 model included increased student clinical confidence, improved problem solving skills due to peer collaboration and peer-based teaching, and increased exposure to interprofessional education.

Both of the models presented some challenges as well. Disadvantages of the 1:1 model included the lack of peer learning opportunities, lack of peer support when alone on a clinical placement, and the inability to practice techniques or share ideas with other student peers. Some of the potential disadvantages of the 2:1 model included clinical instructor stress and workload demands, lack of clinic space, student concerns about sharing clinical opportunities, and managing differences in personalities and learning styles.

The Diffusion of Innovation theory was also studied in order to understand how the theory could be applied to the adoption of the 2:1 collaborative model. The implementation of the 2:1 model may be a gradual process that will be more readily accepted once more clinicians and students participate in the 2:1 model and have positive learning experiences.

Upon completion of the literature review regarding the utilization of the 2:1 collaborative clinical education model, this researcher designed PTA student and clinical instructor surveys to gather data on existing perceptions towards the use of the model. The questions for the survey were crafted based on the advantages and disadvantages that were reflected in the literature review.

Chapter III: Methodology

Clinical placements are designed and implemented in ways that will facilitate learning within a model that will accommodate both the student and the clinical instructor to ensure a positive and enriching clinical experience. The purpose of this study was to identify existing student and clinical instructor perceptions towards the implementation of the 2:1 collaborative model. The research questions that guided this study were:

1. What are the existing perceptions regarding the implementation of the 2:1 collaborative clinical education model for the students enrolled in the PTA program at Gateway Technical College?
2. What are the existing perceptions regarding the implementation of the 2:1 collaborative clinical education model for the clinical instructors mentoring PTA students from Gateway Technical College?

The following chapter outlines the research design, subject selection and description, instrumentation, data collection procedure, and the process for analyzing the data collected.

Research Design

The research design for this study was descriptive, non-experimental, and utilized survey methodology. A survey was developed to gather data regarding student and clinical instructor perceptions towards the implementation of the 2:1 collaborative clinical education model in physical therapy education. The independent variable in this study was the 2:1 clinical education model. The dependent variables were the perceptions that the student and clinical instructors possessed towards the utilization of the 2:1 clinical education model, and included factors such as productivity expectations, clinical reasoning, skills attainment, patient care opportunities, and

peer learning. These factors were incorporated into the survey instrument that was issued to the participants.

Subject Selection and Description

The participants for this study were the students enrolled in the Clinical 1 PTA 524-147 and Clinical 3 PTA 524-151 during the spring 2016 semester courses at Gateway Technical College and their respective clinical instructors for their clinical placements. All clinicians were employed at various physical therapy facilities in Southeastern Wisconsin and Northeastern Illinois. All of the clinical facilities held current Clinical Affiliation Agreements with Gateway Technical College.

The sample for this study was chosen because they were directly participating in PTA clinical education at Gateway Technical College. The students surveyed had participated in clinical education placements, and had first-hand experience with clinical education models. Not all students had participated in the 2:1 model, but all students had existing perceptions regarding the model based on their current understanding of the model. The clinicians surveyed had worked directly with the PTA students, and had worked with the various clinical education models as well. Both the students and clinical instructors had valuable feedback and insights to offer regarding their perceptions of clinical education models.

Instrumentation

A survey was used to gather data on existing student and clinical instructor perceptions towards the implementation of the 2:1 collaborative clinical education model. Two separate survey tools were designed by this researcher, one for the physical therapist assistant students and one for the clinical instructors. The survey consisted of a number of statements regarding the use of the 2:1 collaborative clinical education model in physical therapy education, and the

subjects responded using the 1-4 scale as follows: 1=strongly disagree, 2= disagree, 3= agree, 4=strongly agree. The statements represented the variables being measured and identified. There was also an optional open-ended space where students and clinicians could offer any additional comments or perceptions towards the model that may not have been addressed in the constructed survey questions.

Data Collection Procedures

In order to begin the process of data collection, an email was sent to all PTA students who were enrolled in 2016 PTA Clinical 1 and PTA Clinical 3, along with their clinical instructors, requesting their participation in a survey regarding the 2:1 collaborative clinical education model. The email included an implied consent form (Appendix A), which explained the procedure for study participation. By opening the link to the survey, the participants indicated their voluntary consent to participate in the research. Each subject freely determined their willingness to participate by choosing to respond to the survey questions or declining.

Following the receipt of the implied consent form, all 2016 PTA Clinical 1 and PTA Clinical 3 students and their respective clinical instructors were emailed a link to the online survey (PTA and CI surveys can be found under appendix B and appendix C respectively). Upon opening the Google survey link, the participants were able to read brief instructions on how to complete the survey. The participants were asked to thoughtfully respond to the proposed questions regarding the 2:1 model utilizing the 1-4 scale which was explained with clear instructions as to the value and meaning of each number on the rating scale. The sample population was told that participation was voluntary and confidential. There was no means of tracing responses back to a specific subject participation.

The survey subjects were given a preferred date of completion for the research study of three weeks following delivery of the survey tool. The researcher monitored completion of the survey and reached out with follow up email communication to ensure an acceptable rate of return. After the completion date was reached, the researcher compiled the online survey results in order to begin the process of data analysis.

Data Analysis

The survey data collected was analyzed using descriptive statistics. Once the survey results were collected, the data was compiled showing the distribution of responses. The data received was analyzed to show percentages for each response for both the student and clinical instructor surveys. The optional open-ended responses were also analyzed and grouped together into common themes and perceptions. The Google survey tool compiled all responses, and did not individually identify any participants. No names were required on the surveys, and there was no identifiable information collected; only aggregated data is reported.

Limitations

Potential weaknesses of this study may include the following:

- Sample size: The sample size was limited to students that were currently enrolled in the PTA program at Gateway Technical College along with their clinical instructors. Due to varying class size, the total number of students surveyed were from various cohorts from PTA Clinical 1 and PTA Clinical 3. As a result, the rate of survey completion and return was effected by the sample size.
- Availability of 2:1 opportunities: Since the traditional clinical educational model is the 1:1 model, opportunities for participation in the 2:1 model are limited. All

students and clinical instructors that participated in the survey did not have direct experience utilizing this clinical model, which may have impacted perceptions.

- Methodology: The survey was administered via email accounts. Since the instrument was not issued in a central location at one specific time, the researcher depended on individual email responses to complete the survey which may have impacted the rate of return. All potential subjects were sent an advance email addressing the upcoming survey and encouraged voluntary, confidential participation. There were also follow-up emails to remind participants to complete the survey tool.

Chapter IV: Results

The purpose of this study was to identify existing student and clinical instructor perceptions towards the implementation of the 2:1 collaborative model in physical therapist assistant education. Following a thorough review of literature, two specific surveys were designed to identify PTA student and clinical instructor perceptions towards the utilization of the 2:1 collaborative clinical education model. The PTA students and clinical instructors completed different surveys on which some questions were shared and others were unique to either the clinician or student population. By identifying student and clinical instructor perceptions towards the 2:1 clinical education model, common themes were identified as positive and negative responses to answer the following research questions:

1. What are the existing perceptions regarding the implementation of the 2:1 collaborative clinical education model for the students enrolled in the PTA program at Gateway Technical College?
2. What are the existing perceptions regarding the implementation of the 2:1 collaborative clinical education model for the clinical instructors mentoring PTA students from Gateway Technical College?

The survey results were compiled and are presented in the chapter.

Demographics

Regarding the clinical instructor survey, the data collected was provided by 13 clinical instructors who were associated with Gateway Technical College during the spring 2016 semester. The clinical instructors who responded to the survey possessed varying years of experience with 41.7% having 11-15 years of experience and 25% having greater than 16 years of experience as a physical therapy professional. The clinicians were from a variety of health

care settings, with 81.8% of the respondents working in an outpatient setting, 27.3% in a skilled nursing facility, and 18.2% in inpatient or acute care. Some of the clinical instructors surveyed worked in more than one physical therapy setting. The clinical instructors also yielded an abundance of clinical mentorship experience with 25% having 2-4 students, 41.7% having 5-10 students, and 33.3% having greater than 10 students. All clinical instructors who responded had prior experience mentoring students, as this was not the first student placement for any respondent. Although the clinical instructors surveyed had many years of clinical experience and knowledge, 66.7% of the respondents had not worked with a student utilizing the 2:1 model in their professional careers to date.

The physical therapist assistant students also completed a survey specific to their experiences. There were 19 PTA students who responded to the survey. All of the PTA students surveyed were enrolled in the PTA Clinical 1 and PTA Clinical 3 courses at Gateway Technical College in the spring of 2016. Of the PTA student respondents, 78.9% had participated in a clinical placement in an outpatient setting, 42.1% participated in an inpatient rehab or acute care setting, 57.9% participated in a placement at a skilled nursing facility, and 21.1% had a placement in a pediatric clinical environment. Out of the 19 PTA students who completed the survey, only 15.8% had participated in the 2:1 model during one or more of their clinical placements. It is worth noting that students who were enrolled in PTA Clinical 3 in the spring of 2016 had already completed 2 prior clinical placements, and the PTA Clinical 1 students had just completed their initial clinical experiences. Therefore, the PTA Clinical 3 students would have responded with more than one placement environment for clinical settings.

Item Analysis

The PTA students and the clinical instructors responded to survey questions that were developed to identify perceptions towards the use of the 2:1 model. The survey consisted of questions that addressed the 2:1 model and factors identified in the literature such as learning styles, student personalities, clinical space, the development of critical thinking skills, the acquisition of learning experiences, and willingness to participate in a 2:1 clinical experience. The data was compiled and analyzed to identify commonalities, themes, and items that received a majority of either positive or negative responses.

Research question 1. What are the existing perceptions regarding the implementation of the 2:1 collaborative clinical education model for the students enrolled in the PTA program at Gateway Technical College?

PTA students who responded to the survey offered valuable insight into existing perceptions regarding the utilization of the 2:1 model. As only 15.8% of students surveyed participated in the 2:1 model during a clinical placement, 47.4% responded that they would like to learn in a collaborative clinical education model (Table 1). In addition, 55.5% agreed that they prefer the 1:1 traditional model but would be open to participating in the 2:1 model.

Table 1

Physical Therapist Assistant Student Selected Survey Responses Regarding the 2:1 Model

(n = 19)

Survey Question	Strongly Disagree	Disagree	Agree	Strongly Agree
Increased student confidence with peer support	5.3%	21.1%	47.4%	26.3%
Increased learning opportunities with peers	10.5%	21.1%	26.3%	42.1%
Share ideas and peer collaboration	0.0%	0.0%	47.4%	52.6%
Limits available opportunities for student	21.1`%	26.3%	31.6%	21.1%
Limits exposure to experiences	10.5%	15.8%	52.6%	21.1%
Builds problem solving skills greater than 1:1	5.3%	52.6%	15.8%	26.3%
Non-threatening environment to problem solve	5.3%	36.8%	26.3%	31.6%
Challenging with personality differences	5.3%	10.5%	36.8%	47.4%
Challenging with different learning styles	5.3%	0.0%	31.6%	63.2%
Improves clinical education quality over 1:1	10.5%	52.6%	31.6%	5.3%
Builds stronger clinical reasoning skills over 1:1	5.3%	52.6%	15.8%	26.3%
Depends of phase of clinical	15.8%	15.8%	36.8%	31.6%
Would prefer the 2:1 model	26.3%	36.8%	26.3%	10.5%
Prefer 1:1 but open to try 2:1 model	5.6%	38.9%	33.3%	22.2%

PTA students surveyed had some positive perceptions towards the 2:1 model. Over 73% of the students agreed or strongly agreed that the 2:1 model fostered increased student confidence in the clinic setting due to peer support, and over 68% of the students agreed or strongly agreed that the 2:1 model provided increased learning opportunities due to peer coaching and interaction. All student respondents (100%) agreed or strongly agreed that the 2:1

model was an effective way to share ideas and work collaboratively with a peer for the acquisition of clinical skills.

PTA students expressed some concerns and disagreements regarding the 2:1 model as well. Over 84% of students either agreed or strongly agreed that personality differences could cause challenges between students, and 94.8% agreed or strongly agreed that different learning styles between students could result in increased challenges on a clinical experience.

PTA students were also concerned about having limited exposure to patients and patient care experiences when having to share with another student. Students responded that 73.7% agreed or strongly agreed that the 2:1 model resulted in each individual student getting limited exposure to patients and experiences. The challenge of being consistent with student opportunities and limiting patient care experiences was an expressed concern for the student respondents.

In addition to the constructed survey questions, students were given the opportunity to provide any additional comments or feedback in the form of an open-ended question regarding the 2:1 model. Two students commented that they believed the 2:1 model promoted teamwork that would ultimately benefit patients, as healthcare professionals need to work together to provide quality patient care. These two students responded that they felt the benefits of the 2:1 model outweighed any possible disadvantages. One student commented that the 2:1 model, "would better promote teamwork which is more beneficial to the patient regarding their individual treatment." One student also commented that "if done in Clinical 1, it may inspire more confidence."

Five students provided open-ended feedback that addressed various concerns about the utilization of the 2:1 model. The feedback involved issues regarding conflicting learning styles

and anxiety about being compared to their peer counterpart. If one student was learning at a different pace, there was a concern that there could be tension between the students. One student may be frustrated that the other student is holding them back, which could foster some negative feelings and decreased collaboration. There was a fear that there would be competition between the students, and that a student might be afraid to ask their clinical instructor a question due to a feeling that they would be judged or compared to their student peer. One student respondent wrote the following: "It's hard enough to work with a clinical instructor sometimes, and then if you throw another student in the mx I could see it becoming a difficult rotation." Another student wrote: "I would always feel like I was in competition with the other student, and I would be afraid to ask certain questions in fear of being judged by the other student."

The most common perception that students presented involved the possibility of having limited opportunities in the 2:1 model. Three students felt that they may not be able to see as many patients because they had to share patients on the daily schedule with the clinical instructor. One student responded in the following manner: "There are only so many patients in a day. I would be afraid of not getting enough one-on-one, hands-on time with patients when you have to share the load."

A student expressed that it could especially be problematic in a Clinical 3 final placement where students are expected to be entry-level upon completion of the rotation. If patient caseloads needed to be shared or limited, the student felt as if it might not be possible to carry an appropriate caseload or schedule. One of these students also expressed that the clinical experience would be inconsistent when involving two students working together.

Research question 2. What are existing perceptions regarding the implementation of the 2:1 collaborative clinical education model for the clinical instructors mentoring PTA students from Gateway Technical College?

Clinical placements can't take place without the support, cooperation, and expertise of professionals in the field that volunteer to serve as clinical instructors. As a result, having knowledge of the perceptions of clinical instructors towards the utilization of the 2:1 model is very important. The clinical instructors surveyed responded similarly to the PTA students in regards to improving student confidence in the clinic setting due to peer support and increasing learning opportunities due to peer interaction. Almost 85% of clinical instructors agreed or strongly agreed that the 2:1 model fostered increased student confidence, and 69% agreed or strongly agreed that the 2:1 model increased learning opportunities due to peer coaching and interaction (Table 2).

Table 2

Clinical Instructor Selected Survey Responses Regarding the 2:1 Model

(n = 13)

Survey Question	Strongly Disagree	Disagree	Agree	Strongly Agree
Increased student confidence with peer support	0.0%	16.7%	61.5%	23.1%
Increased learning opportunities with peers	7.7%	23.1%	38.5%	30.8%
Less reliant on clinical staff /peer interaction	0.0%	30.8%	61.5%	7.7%
Limits available opportunities for student	0.0%	38.5%	46.2%	15.4%
Limits exposure to experiences	15.4%	15.4%	53.8%	15.4%
Builds problem solving skills greater than 1:1	7.7%	46.2%	38.5%	7.7%
Non-threatening environment to problem solve	7.7%	15.4%	53.8%	23.1%
Challenging with personality differences	0.0%	7.7%	69.2%	23.1%
Challenging with different learning styles	7.7%	7.7%	46.2%	38.5%
Positively affect quality of clinical education	8.3%	33.3%	33.3%	25.0%
Higher level of stress for CI	8.3%	8.3%	50.0%	33.3%
Greater amount of work for CI	7.7%	15.4%	38.5%	38.5%
Challenging due to limited clinical space	7.7%	15.4%	53.8%	23.1%
Negatively affects productivity	8.3%	33.3%	25.0%	33.3%
Depends of phase of clinical	0.0%	15.4%	23.1%	61.5%
Willing to try the 2:1 model	38.5%	15.4%	23.1%	23.1%

The students and clinical instructors also responded similarly to factors that might negatively impact their opinion of the 2:1 model. Just like the PTA students surveyed, 73.7% of clinical instructors agreed or strongly agreed that the 2:1 model could limit student opportunities

as well as result in each individual student getting limited exposure to patients and experiences. In addition, clinical instructors felt strongly that personality differences and conflicting learning styles between students can serve as a challenge. For the clinical instructors, 92.3% agreed or strongly agreed that personality differences between students could be challenging and problematic, and 84.7% agreed or strongly agreed that different learning styles between students would result in increased challenges in the clinical setting.

Working with a student in the clinical setting is time consuming. Clinicians surveyed agreed or strongly agreed at a rate of 83.3% that the 2:1 model would cause a higher level of stress, and 77% responded that the 2:1 model would provide a greater amount of work when compared to the 1:1 model. Clinical space was also an issue as 76% of clinical instructors agreed or strongly agreed that the 2:1 model was challenging due to limited clinical space available.

Finally, 66.7% of clinical instructors surveyed had never worked with a PTA student utilizing the 2:1 model and 76.9% preferred to work with students using the traditional 1:1 clinical model. Out of those surveyed, 53.9% disagreed or strongly disagreed that they would be willing to try the 2:1 model in the future. However, 46.2% agreed that they could benefit from additional training before attempting the 2:1 model.

Clinical instructors were also given the opportunity to provide an open-ended response regarding their perceptions towards the utilization of the 2:1 model for PTA clinical education. Some clinical instructors felt that varying learning styles and the pace of individual learning could make it difficult to mentor two students at once. One clinician responded, " Our clinic did try this once a few years ago and it was a lot more work for the CI to oversee both students and provide the education that both needed, which varied based on past experiences and knowledge."

Two clinical instructors felt that the 2:1 model was not beneficial to the patient, as patients prefer one-on-one, personal treatment sessions with their physical therapist or physical therapist assistant. These clinicians felt that the 1:1 interaction between the therapist and the patient was extremely valuable, and it would be intimidating to possibly have three clinicians working with one patient. In addition, one clinical instructor expressed concern about clinic space being limited for extra students. Finally, one clinical instructor stated that it would take effort on the part of the academic institution to pick students that complement each other and work well together to ensure that the students and the CI are benefiting from the clinical experience.

Chapter V: Discussion, Conclusion and Recommendation

The purpose of this study was to identify existing student and clinical instructor perceptions towards the implementation of the 2:1 collaborative model in physical therapist assistant education. The acquisition of strong clinical skills is a vital component of PTA education. While on a clinical experience, students work directly with patients and apply skills learned in the classroom under the direct supervision of a PT or PTA. The majority of clinical placements at Gateway Technical College utilize the traditional 1:1 model, but there is a growing interest in the implementation of the 2:1 model for clinical education. By identifying student and clinical instructor existing perceptions towards the 2:1 clinical education model, information can be discovered that may uncover barriers towards effective clinical model implementation.

This research study was designed to answer the following questions:

1. What are the existing perceptions regarding the implementation of the 2:1 collaborative clinical education model for the students enrolled in the PTA program at Gateway Technical College?
2. What are the existing perceptions regarding the implementation of the 2:1 collaborative clinical education model for the clinical instructors mentoring PTA students from Gateway Technical College?

The research design for this study was descriptive, non-experimental, and utilized survey methodology with the goal of collecting data on PTA and clinical instructor perceptions towards the 2:1 clinical education model. The participants for this study were the students enrolled in the Clinical 1 PTA 524-147 and Clinical 3 PTA 524-151 courses during the spring 2016 semester at Gateway Technical College and their respective clinical instructors for their clinical placements.

Two surveys were designed to gather data from the sample populations. One survey was developed for the PTA students and the other survey was developed for their associated clinical instructors. Each survey consisted of questions that the respondents answered on a 1-4 scale. The survey consisted of questions that addressed the 2:1 model and factors such as learning styles, student personalities, clinical space, the development of critical thinking skills, the acquisition of learning experiences, and willingness to participate in a 2:1 clinical experience. In addition, there was an optional open-ended question where students and clinical instructors could offer any additional comments or feedback regarding clinical education models.

Upon completion of the surveys, the data was compiled and analyzed to find themes and commonalities from participant responses. The responses were also compared between the PTA students and clinical instructors, and analyzed in relationship to the current literature that was reviewed. The results were used to identify existing perceptions towards the 2:1 model in order to facilitate effective and beneficial clinical placements for both PTA students and clinical instructors. This chapter includes a discussion of the research findings, conclusions, and further recommendations.

Discussion

The first research question that this study addressed was identifying PTA student perceptions regarding the implementation of the 2:1 clinical education model. Findings suggested that PTA students believed the 2:1 model provided increased learning opportunities due to peer coaching and interaction, and enabled students to be more confident in the clinical setting. Research by authors Ladyshewsky (2010) and Higgs, Jones, & Christensen (2008) showed a link between peer clinical collaboration and the development of increased confidence. Students that worked with peers in a clinical setting, reported increased confidence and they

were able to share ideas with peers in a non-threatening environment. Students in the Gateway Technical College PTA program work frequently with students in the classroom and lab, which may make the collaborative model a familiar way to interact with peers and can provide a sense of comfort. Findings in this study reflected the research as 76.9% of PTA students agreed or strongly agreed that the 2:1 model would provide a non-threatening environment for learning, and 84.6% agreed or strongly agreed that the 2:1 model could foster increased clinical confidence with peer support.

Results also showed that PTA students expressed some concerns regarding collaborating with a peer who had personality differences or variances in learning styles. This concern was in line with researchers Curren & Bithell (2003) and O'Connor, Cahill, & McKay (2012), as there were challenges present when students possessed varying personalities and learning styles. Gateway Technical College PTA students surveyed in this research agreed or strongly agreed at 94.8% that different learning styles between students could be a concerning challenge on a clinical experience.

PTA students surveyed also had concerns about having limited exposure to patients and patient care experiences when having to share with another student on a clinical. This student perception and concern was addressed by researchers Dawes & Lambert (2010) who discussed the difficulty in delivering consistent experiences when more than one student is involved in a clinical placement.

In contrast to what was found in the literature, the PTA students surveyed disagreed that the 2:1 model helped to build stronger clinical reasoning skills when compared to the 1:1 model. Research by Ladyshewsky (1995 and 2002) found that students accomplished higher levels of clinical reasoning and problem solving in a collaborative environment with peer interaction.

Students surveyed also disagreed that the 2:1 model improved the quality of PTA clinical education when compared to the 1:1 model. These results could be due to the overall limited number of students who have directly participated in the 2:1 model at this time.

Based on the student respondents surveyed, even though a limited number of students had participated in the 2:1 model up to this point in their clinical education, almost half would like to learn in a collaborative clinical education environment. In addition, the majority of students surveyed agreed that they believed they preferred the 1:1 traditional model but would be open to participating in the 2:1 model in the future. Students in the PTA program at Gateway Technical College were open to learning more about this alternate clinical education model, and would be interested in working with a peer in a collaborative environment.

The second research question that this study addressed was identifying clinical instructor perceptions regarding the implementation of the 2:1 clinical education model. Study findings revealed that clinical instructors surveyed responded similarly to the PTA students in regards to improving student confidence in the clinic setting due to peer support and increasing learning opportunities due to peer interaction. The clinical instructors also responded similarly to the students regarding factors that might negatively impact their opinion of the 2:1 model. Just like the PTA students surveyed, the majority of clinical instructors agreed that the 2:1 model could limit student opportunities as well as result in each individual student getting limited exposure to patients and experiences. In addition, clinical instructors surveyed felt strongly that personality and conflicting learning styles between students can serve as a challenge with clinical education.

Survey results showed that clinical instructors anticipated a higher level of stress while mentoring two PTA students at once, which was consistent with the research performed by Dawes and Lambert (2010). These researchers gathered interview data from clinical instructors

in the allied health professions and discovered that the anticipated stress and impact that the 2:1 model would impose significantly affected the desire to participate in the model. Many clinicians anticipated a high level of stress associated with this model, and did not wish to be involved in the 2:1 model. There were also concerns about limited clinical space, and the possibility of overwhelming the patient with too many clinicians participating in a treatment session. In addition, clinicians felt strongly that mentoring two students would result in an increased amount of work which could make it challenging to monitor learning objectives and appropriately evaluate both students.

Finally, over half of clinical instructors surveyed had never worked with a PTA student utilizing the 2:1 model, and the majority of these clinicians believed that they preferred to work with students utilizing the traditional 1:1 clinical model. These results could be reflective of the lack of direct clinical experience with the 2:1 model by a large number of the clinical staff surveyed. Out of the clinical respondents, the majority disagreed that they would be willing to try the 2:1 model in the future. However, clinicians agreed that they could benefit from additional training before attempting the 2:1 model.

Conclusions

Based on study findings, the following conclusions were drawn:

- Both PTA students and clinical instructors believe that there is value to the collaborative clinical education model, but only a small percentage of students and clinical instructors have actually participated in the model. It is apparent that the limited exposure to this model has resulted in a hesitation to implement the model. There is a certain amount of anticipated stress and concern regarding the model which may discourage the students and clinical instructors from participating due to entering

unknown territory. Anticipation over increased stress and workload may prevent clinicians from utilizing the model, and PTA students also possess perceptions that may make the 2:1 model unappealing in some aspects. Providing training to PTA students and clinical instructors on strategies to successfully implement the 2:1 model could help to minimize anticipated stress and concern. In addition, by providing information on current research regarding clinical education models to the students and clinical instructors, an informed decision can be made towards the choice of clinical education models.

- Students and clinicians surveyed disagreed that the 2:1 model improved the quality of PTA clinical education when compared to the 1:1 model. The Diffusion of Innovation theory suggests that acceptance of an idea may occur as the result of awareness and experience. When considering the Diffusion of Innovation theory in terms of clinical education, alternate clinical models may be more likely to be implemented once more clinicians and students are aware of the model and participate in these alternate learning experiences. In this study, very few students had actually participated in a clinical experience utilizing the 2:1 model, so their current perceptions were not based on actual experience. However, students surveyed were open to the idea of the 2:1 model and clinicians agreed that more education was needed prior to implementation. If more students and clinical instructors are willing to forge ahead with this innovative model, there is the potential to increase willingness to adopt a clinical education model beyond the traditional 1:1 model. If students and clinicians have positive experiences with the 2:1 model, there may be increased support towards the 2:1 model as a valuable clinical option. This would

result in more clinicians and students requesting to work and learn in a collaborative clinical environment.

- Interprofessional education is a growing initiative within the larger scope of healthcare delivery. The goal of interprofessional behaviors is to work closely with professionals from all departments in order to deliver patient-centered care that is efficient and coordinated. Through the implementation of a 2:1 collaborative clinical education model, PTA students would get early experience in working in a manner that utilized interprofessionalism.

Recommendations

Based on the findings and conclusions of this study, the following recommendations have been formulated.

It is recommended that training be provided to PTA students and clinical instructors regarding how to structure 2:1 clinical placements to ensure that all students receive quality clinical experiences. The training could take place in the academic setting for the students, and the Academic Coordinator of Clinical Education from the academic institution could individually mentor and help guide any clinical instructors who are interested in trying the model. This educational training should include expectations for the clinical and an understanding of how the model is facilitated in order to eliminate any confusion or misconceptions. Clinical instructors would be trained to shift their role to more of a coach or facilitator, and would learn how to encourage peers to work together to problem solve and work collaboratively. Students would be educated on how to work with a peer to problem solve, communication strategies, and how to work collaboratively with peers in order to most effectively perform patient care tasks. In order to tailor training to fit the specific needs of students and clinical instructors, a future survey or

interview could be conducted to gather additional information regarding the educational needs required for the utilization of the collaborative model.

A concern held by both PTA students and clinical instructors involved the challenge of mentoring two students with different or conflicting personalities and learning styles. A recommendation for this area of concern would need to take place at the level of the academic institution. Individuals are not able to pick their co-workers, so there may always be some source of conflict with personalities and learning styles. However, it would be recommended that the PTA academic clinical coordinator work diligently to place complementary students together in a clinical facility. Even though each student will have specific strengths and weaknesses that are unique, students that are chosen to participate in a 2:1 placement should be able to work well together to facilitate a positive learning experience.

Academic institutions are increasingly challenged by the task of finding adequate clinical placements for students in healthcare environments. Students in academic programs are the future of the profession, and will serve as colleagues for current physical therapists and physical therapist assistants. A recommended future area of research could look at identifying the reasons why practicing physical therapists and physical therapist assistants may be reluctant to mentor a student. This research could explore the factors that may be deterring clinicians from serving as clinical instructors, and identify potential changes that could be implemented to increase participation in clinical education.

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Appendix A: Consent Form

Consent to Participate In UW-Stout Approved Research

Title: Identifying Student and Clinical Instructor Perceptions Regarding the Implementation of a 2:1 Collaborative Clinical Education Model for Physical Therapist Assistant Students at Gateway Technical College

Investigator: Megan Zingelman PT, ACCE
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Research Sponsor: Deanna Schultz
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Description: This study will identify student and clinical instructor perceptions towards the implementation of the 2:1 collaborative model for PTA education. The research will be carried out by issuing electronic, confidential surveys to both PTA students and their clinical instructors. As a participant in this study, you will respond to presented statements based on a 4 point scale. There will also be an option for you to provide additional feedback on the utilization of the 2:1 model. Once the data is collected, the responses will be analyzed in order to identify perceptions towards the implementation of the 2:1 collaborative model.

Risks and Benefits: There is minimal risk associated with this research. You will be able to confidentially respond to the survey questions. For the PTA students, the survey is not associated with the assignment of course grades and is not a course requirement to participate. The data gathered is used for the sole purpose of this research study.

Time Commitment and Payment: No monetary compensation will be issued for participation in this study. The time commitment required should take approximately 5-10 minutes to complete.

Confidentiality: Participation in this study will be confidential. Your name will not be included on any documents, and I do not believe that you can be identified from any of this information**.**

Right to Withdraw: Your participation in this study is entirely voluntary. You may choose not to participate without any adverse consequences to you. You have the right to stop the survey at any time, but any partial submissions will be removed from the study. However, should you choose to participate and later wish to withdraw from the study, there is no way to identify your anonymous document after it has been turned into the investigator. If you are participating in an anonymous online survey, once you submit your response, the data cannot be linked to you and cannot be withdrawn.

IRB Approval: This study has been reviewed and approved by The University of Wisconsin-Stout's Institutional Review Board (IRB). The IRB has determined that this study meets the ethical obligations required by federal law and University policies. If you have questions or concerns regarding this study please contact the Investigator or Advisor. If you have any questions, concerns, or reports regarding your rights as a research subject, please contact the IRB Administrator.

Investigator: ***Megan Zingelman***
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Statement of Consent: By completing the following survey that can be accessed through the link provided, you agree to participate in the project entitled, Identifying Student and Clinical Instructor Perceptions Regarding the Implementation of a 2:1 Collaborative Clinical Education Model for Physical Therapist Assistant Students at Gateway Technical College.
Thank you for your participation.

Appendix B: PTA Student Survey Instrumentation

Identifying Student and Clinical Instructor Perceptions Regarding the Implementation of a 2:1 Collaborative Clinical Education Model for Physical Therapist Assistant Students at Gateway Technical College

Thank you for taking the time to participate in my research through UW Stout. My research topic involves identifying student and clinical instructor perceptions about the implementation of the 2:1 collaborative clinical education model in PTA education. Your clinical knowledge and experience is critical to my research. Your participation in this survey is voluntary, and all responses will be kept confidential. You may stop the survey at any time, but any partial submissions will be removed from the study results. By continuing with the survey, you will be consenting to study participation. I hope that you will consider contributing to this study by providing honest survey responses. Thank you for your time, and if you have any questions please feel free to contact me at 262-564-2290 or zingelmanm@gtc.edu.

1:1 Clinical Education Model. An educational model where one student is supervised individually by one clinical instructor.
2:1 Collaborative Clinical Education Model. An educational model where two students are supervised by one clinical instructor.

Please answer the following statements regarding the 2:1 clinical education model on the 1-4 scale, and circle your desired response

1= strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree

For questions 1-12, please respond to the following prompt using the 1-4 scale noted above.

I believe the 2:1 model…

---

1. fosters increased student confidence in the clinic setting

1 2 3 4

2. provides increased learning opportunities due to peer coaching and interaction

1 2 3 4

3. limits the opportunities available for the student PTA

1 2 3 4

4. builds of problem solving skills greater than the 1:1 model

1 2 3 4

5. helps to build stronger clinical reasoning skills compared to the 1:1 model

1 2 3 4

6. provides a non-threatening environment to problem solve with peers

1 2 3 4

7. can be challenging when managing student personality differences

1 2 3 4

8. can be challenging if the students have different learning styles

1 2 3 4

9. improves the quality of PTA clinical education compared to the 1:1 model

1 2 3 4

10. fosters competition between peers

1 2 3 4

11. results in each individual student getting limited exposure to patients and experiences

1 2 3 4

12. allows students to share ideas and collaborate on treatment interventions with a peer

1 2 3 4

13. The success of the 2:1 model depends on the phase of the student clinical (clinical 1, 2, or 3)

1 2 3 4

14. The success of the 2:1 model depends on the type of facility (inpatient, outpatient, SNF, peds, acute)

1 2 3 4

15. If available, I would prefer a clinical placement with the 2:1 model

1 2 3 4

16. I prefer the 1:1 model, but I would be open to trying the 2:1 model

1 2 3 4

17. I prefer to only participate in clinical rotations utilizing the 1:1 traditional model

1 2 3 4

18. In the space provided, please offer any additional comments you may have regarding the implementation of the 2:1 collaborative clinical education model including any perceived advantages or disadvantages, any concerns or observations, or any specific training needs that would be requested.

_____
_____
_____
_____
_____
_____

19. Type of clinical facility that you have participated in for clinical placements: Please mark all that would apply for your clinical experiences at this time.

☐ Outpatient
☐ Inpatient Rehab/Acute Care
☐ Skilled Nursing Facility
☐ Pediatrics
☐ Specialty clinic/other

20. As a student, I have participated in the 2:1 model

☐ yes
☐ no

21. As a student, I have not participated in the 2:1 model but I would like to learn in this collaborative model during a clinical placement

☐ yes
☐ no

Thank you for your participation in the study. Your contribution is appreciated.

Appendix C: Clinical Instructor Survey Instrumentation

Identifying Student and Clinical Instructor Perceptions Regarding the Implementation of a 2:1 Collaborative Clinical Education Model for Physical Therapist Assistant Students at Gateway Technical College

Thank you for taking the time to participate in my research through UW Stout. My research topic involves identifying student and clinical instructor perceptions about the implementation of the 2:1 collaborative clinical education model in PTA education. Your clinical knowledge and experience is critical to my research. Your participation in this survey is voluntary, and all responses will be kept confidential. You may stop the survey at any time, but any partial submissions will be removed from the study results. By continuing with the survey, you will be consenting to study participation. I hope that you will consider contributing to this study by providing honest survey responses. Thank you for your time, and if you have any questions please feel free to contact me at 262-564-2290 or zingelmanm@gtc.edu.

1:1 Clinical Education Model. An educational model where one student is supervised individually by one clinical instructor.
2:1 Collaborative Clinical Education Model. An educational model where two students are supervised by one clinical instructor.

Please answer the following statements regarding the 2:1 clinical education model on the 1-4 scale, and circle your desired response

1= strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree

For questions 1-18, please respond to the following prompt using the 1-4 scale noted above.

I believe the 2:1 model…

---

1. fosters increased student confidence in the clinic setting due to peer support

   1 2 3 4

2. provides increased learning opportunities due to peer coaching and interaction

   1 2 3 4

3. limits the opportunities available for the student PTA

   1 2 3 4

4. builds problem solving skills greater than the 1:1 model

   1 2 3 4

5. has a negative impact on productivity when compared to the 1:1 model

1 2 3 4

6. provides a non-threatening environment for peers to problem solve together

1 2 3 4

7. can be challenging when managing student personality differences

1 2 3 4

8. can be challenging if the students have different learning styles

1 2 3 4

9. positively affects the quality of PTA clinical education

1 2 3 4

10. fosters competition between peers

1 2 3 4

11. results in each individual student getting limited exposure to patients and experiences

1 2 3 4

12. enables students to be less reliant on clinical staff and more reliant on peer interaction

1 2 3 4

13. presents a higher stress level for the CI and facility

1 2 3 4

14. presents the CI with a greater amount of work compared to the 1:1 model

1 2 3 4

15. negatively affects the quality of PTA clinical education that can be provided at my facility

1 2 3 4

16. is challenging due to limited clinical space

1 2 3 4

17. fosters interprofessional education greater than the 1:1 model

1 2 3 4

18. allows for the development of critical thinking skills between peers

1 2 3 4

19. The success of the 2:1 model depends on the phase of the student clinical (clinical 1, 2, or 3)

1 2 3 4

20. The success of the 2:1 model depends on the type of facility (inpatient, outpatient, skilled nursing facility, pediatrics, acute)

1 2 3 4

21. As a CI, I prefer the traditional 1:1 model

1 2 3 4

22. As a CI, I would be willing to try the 2:1 model

1 2 3 4

23. As a CI, I feel I would need additional training before attempting the 2:1 model

1 2 3 4

24. In the space provided, please offer any additional comments you may have regarding the implementation of the 2:1 collaborative clinical education model including any perceived advantages or disadvantages, any concerns or observations, or any specific training needs that would be requested.

_____
_____
_____
_____
_____
_____
_____

25. As a clinical instructor, I have worked with students utilizing the 1:1 model

☐ yes
☐ no

26. As a clinical instructor, I have worked with students utilizing the 2:1 model

☐ yes
☐ no

27. Years of clinical experience: Please check the appropriate box below

☐ 1-5 years
☐ 6-10 years
☐ 11-15 years
☐ 16+ years

28. Type of clinical facility:

☐ Outpatient

☐ Inpatient Rehab/Acute Care

☐ Skilled Nursing Facility

☐ Pediatrics

☐ Specialty clinic/other

29. Approximate number of students you have mentored as a CI: Please check the appropriate box below

☐ This was my first student

☐ I have had 2-4 students

☐ I have had 5-10 students

☐ I have had greater than 10 students

Thank you for your participation in the study. Your contribution is appreciated.