Student Perceptions and Understanding of Client-Therapist Interactions Within the Inpatient Acute Care Environment: Qualitative Study

Lorna M. Hayward, Kristin C. Greenwood, Matthew Nippins, Alicia Canali

Background. Physical therapists practicing in inpatient acute care settings in the United States work in a 21st century health care system that requires professional competence in clinical reasoning and decision making. For doctor of physical therapy (DPT) students, the development of confidence in the patient evaluation and the professional skills necessary for managing the inpatient environment can be challenging.

Objective. The study’s purpose was to understand whether the early exposure of students to inpatient settings informed their understanding of the thought processes and actions of experienced clinicians during client interactions.

Design. A qualitative design was used.

Methods. Thirty-three DPT students working in inpatient settings were recruited from 15 unique inpatient hospital (acute care and rehabilitation) facilities with a convenience sampling technique. Reflective data were collected for 1 month with clinician-facilitated discussion boards.

Results. Four themes emerged: environment, communication, evaluation, and client-therapist interaction. The themes informed a conceptual model depicting the observation by DPT students of factors that influenced interactions between clients and experienced clinicians in inpatient settings. Reflection on the what, the how, and the why that informed clinical decisions enabled students to recognize the situated nature of evaluation and treatment approaches.

Limitations. The use of a sample from 1 year of a DPT program at one university reduced the generalizability of the results.

Conclusions. Limited research has examined student perceptions of the interactions of experienced clinicians with clients in inpatient acute care settings. More research is needed to understand the impact of exposing students to the thoughts and actions of therapists working in such settings earlier within DPT curricula.
Health care delivery in the United States continues to experience a professional evolution in response to the challenges of escalating costs, decreased length of stay (LOS), complexity of patients’ conditions, and demands for more efficient and cost-effective practice. Physical therapy in inpatient acute care settings, in particular, has evolved in response to the transformation of the US health care system. With projections of a longer life span, greater inpatient care resources will be required to manage chronic disease processes. The Medicare Readmissions Reduction Program, in which hospitals are not reimbursed for readmissions within 30 days of discharge, requires that physical therapists play a pivotal role in discharge planning. Questions posed to physical therapists and educators of physical therapist students should focus on whether they are prepared, are efficient enough, and have the skills necessary to manage inpatient acute care and inpatient rehabilitation practices.

To contend with these changes, physical therapist education has evolved to the clinical doctorate as the entry-level professional degree with the goal of promoting more advanced clinical decision making. Clinical decision making is particularly relevant in inpatient settings in which patients have complex conditions and hospital stays are short. For this investigation, the inpatient settings included acute care and rehabilitation facilities that were hospital based and provided treatment for patients who were acutely ill and had medically complex conditions. Other contemporary proposals for change include exposing students to practice earlier (before clinical education) within the doctor of physical therapy (DPT) education process. Leaders in physical therapy assert that “early patient exposure in genuine clinical environments provides students with the critical skills necessary for future professional practice.”

Examination of the literature reveals a paucity of research delineating the role of physical therapists in inpatient settings. In a nationwide study, the knowledge, skills, and behaviors of physical therapists working in acute care settings were examined. The study described acute care practitioners as professionals who possess “depth and breadth” of knowledge for patients who are acutely ill “across the life span and multiple body systems.” Therapists practicing in acute care settings must possess the clinical reasoning skills to evaluate patients with unstable medical conditions, consider surgical interventions, collaborate and communicate with other health care professionals, and use an evidence-based approach for customizing treatment. Other studies described the work of physical therapists practicing in acute care settings as creating an optimal plan of care and making appropriate discharge considerations, with a focus on “examinations, goals and interventions related to function.” Like studies conducted in the United States, studies conducted in Sweden and Australia showed that in acute care settings, clinical reasoning requires the ability to dynamically integrate medical information with physical therapy knowledge in a fast-paced, complex environment that requires rapid decision making and excellent communication.

A skill that contributes to the development of clinical reasoning and the refinement of clinical decision making is reflection. Clinicians who are experts continually engage in self-assessment and reflection to promote thinking about practice, which advances their clinical reasoning skills. This thinking is different from that of novices (including students), who rely on external sources of information, such as medical charts, for clinical decision making. Although clinicians who are experts also draw on external sources, they predominantly make decisions using “directive factors,” including observation and interpretation of patient presentation in situ. However, what truly distinguishes experts from novices is their ability to reflect “in action,” or in the process of patient care, and adjust a plan while engaged in treatment. It has been recommended that physical therapist educators advance students’ development of reflective skills and ability to self-assess their actions.

Experiences occur within a particular context, such as the inpatient clinic, which is governed by cultural elements, facts, rules, and principles. Thus, learning within a context is critical for the development of knowledge pertaining to a specific professional field. Currently, a paucity of pedagogical tools exists to assist educators in discovering how students’ thinking informs action within the clinical context. Few qualitative studies have investigated novice physical therapists’ development of clinical reasoning in inpatient settings, and, to our knowledge, none have examined student recognition and understanding of the clinical reasoning of experienced physical therapists. The purpose of this research was to examine whether preclinical exposure of DPT students to inpatient settings influenced their developing recognition and understanding of the thought processes and actions exhibited by clinicians who were experienced. We sought to determine the factors that were perceived by students to affect clinical decision making in clinicians who were experienced.
Method

Design
A descriptive qualitative thematic content analysis with general inductive technique was used. Four faculty members from a single program collected, interpreted, and analyzed the written reflections of 33 DPT students during preclinical experiences at 15 distinct inpatient hospital (acute care and rehabilitation) settings.

Academic Setting
The setting was a large urban institution whose philosophy embraces practical, experience-based learning. Central to the philosophy is cooperative education (co-op), in which a student alternates periods of classroom study with full-time employment related to career interests. For this research, co-op served as preclinical exposure. The DPT curriculum is 6 years (3 plus 3 model), with 80 to 120 students per class. Students complete 2 6-month co-op assignments, one in the first professional year of the program and one in the second professional year. While in co-op, DPT students are employed full-time as physical therapy aids. The benefit of co-op is that students are exposed early in the curriculum to different clinical settings. Students gain professional experience while employed as aides and observe the operations of the workplace. Upon return to the academic environment, students incorporate their observations into classroom assignments. In the third professional year, students engage in 32 weeks (8 weeks/12 weeks/12 weeks) of full-time clinical education, the goal of which is the transitioning of students to independent health care professionals.

Participants
One hundred eight students in the second professional year of the DPT program and scheduled for co-op during the spring semester of 2012 were offered the opportunity to participate. Thirty-three students volunteered and were placed by one investigator (A.C.) at inpatient clinical locations of their choice. Eighteen students were placed at 10 unique acute care hospital settings; 4 of these students were placed at one acute care facility, 3 students were placed at another facility, and 2 students were placed at 3 facilities each. Fifteen students were placed at 5 unique rehabilitation centers; 11 of these students were placed at one large facility (Tab. 1). Multiple clinical sites and participants ensured a larger and more representative sample.

As a mechanism for documenting student reflection and promoting communication with their peers about preclinical experiences, 3 online communities of practice (CoPs) were created. Communities of practice enable students to work collectively on shared learning goals, such as observing clinical decision making of licensed clinicians (Tab. 2). We allocated our 33 participants to 3 groups of 11 using a purposive sampling strategy to ensure that each CoP contained students from both rehabilitation and acute care placements. The students assigned to non-inpatient settings also were purposively placed in separate CoPs.

The Northeastern University Office of Institutional Compliance classified the project as exempt because it examined the impact of an instructional technique. However, we took additional steps to maintain ethical practice in research and to protect participants. First, the students were informed that study participation would not affect their co-op employment status. Second, a student’s grade in co-op was awarded by a clinical supervisor who was not an investigator. Third, participation in the study was voluntary, and there was no academic penalty for withdrawal. However, students who participated were excused from one assignment taught by 2 investigators (K.C.G. and M.N.) the semester they returned from co-op. Finally, to maintain student, patient, and inpatient facility confidentiality, all data were de-identified for reporting of the results.

Procedure and Data Collection
All 108 students were introduced to the patient/client management model of the American Physical Therapy Association’s Guide to Physical Therapist Practice (Guide) twice before co-op. The first time was in a course taught in year 2 of the program. The study procedure (Fig. 1) began in a combined lecture/laboratory course that prepared students for working as physical therapy aides. They were instructed in the acute phases of the 4 practice patterns and taught how to apply the Guide framework to clients with inpatient diagnoses.

During their 6-month inpatient co-op assignments, the participants worked 40 hours per week as physical therapy aides with direct, line-of-sight supervision by therapists. Because the participants were working in geographically diverse locations, communication within the CoPs transpired virtually with Blackboard (Blackboard Inc, Washington, DC) online discussion board technology. The discussion boards were located on a course website that all participants could access.

At month 1, the participants and their clinical supervisors were reminded via e-mail about the study and informed that data collection would commence at the beginning of month 3. During month 4 (Fig. 1). Month 4 was selected for observation because 3 months are needed for an individual to acclimatize to a work environment. Also, at project comple-
tion, the participants would have 2 months of co-op remaining to further integrate their learning.

Data on student observations of an experienced clinician’s evaluation of a single patient were collected. The students documented their reflections on their observations and communicated with peers within their CoPs using the discussion boards. To focus student observations, we created 4 discussion threads (one per week) and posted the questions on each CoP’s discussion board (Appendix). The questions provided intentional scaffolding to guide student reflections. For 3 consecutive weeks, 4 to 6 additional questions were added to build on the observations of week 1 (Appendix). All discussion boards were facilitated by a DPT acute care clinician (J.P.) who was a credentialed clinical instructor. This

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*Of the 33 participants, 26 were female (F) and 7 were male (M); the mean age was 22.75 years (SD=1.9). Of the 33 practice settings, 18 were unique acute care facilities and 15 were unique rehabilitation facilities; the mean number of licensed beds was 333 (SD=292.9).
clinician used her expertise to extend student thinking and answer questions about their observations. The same patient was considered throughout the 4-week assignment to allow the students to think deeply about and process their observations. The students were instructed to take notes during the initial examination and to document the patient’s history for future reference. They also had access to the patient’s medical records throughout the 4-week assignment. The students were free to discuss the examination with their clinical supervisors; however, we did not measure the quality or outcome of the interaction in any way.

Upon return to the classroom from co-op, the students took another course taught by 2 of the authors (K.C.G. and M.N). During this course, the students were instructed in the process illustrated in Figure 2, which is based on the Guide9 and current literature.14,15,17,18,26

Table 2.
Composition of Communities of Practice (CoPs)

<table>
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<tr>
<th>CoP</th>
<th>CoP 1 (n=11)</th>
<th>CoP 2 (n=11)</th>
<th>CoP 3 (n=11)</th>
<th>Total (N=33)</th>
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<td>No. of unique facilities</td>
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Figure 1.
Timeline for date collection. CoP=community of practice, co-op=cooperative education.
Data Reduction and Analysis

Discussion thread transcripts collected from the 3 CoPs were analyzed with an inductive analytical technique. We used an iterative approach to data analysis. After each week, all of us independently read the discussion thread transcripts several times to gain an overall understanding of student reflections about patient evaluations conducted by experienced physical therapists (Fig. 1). Memos were created by the first author (L.M.H.) after each round of data collection to summarize her reflection and perspective on emergent findings. The first author and the entire research team collectively discussed the memo content after each round of data collection. The memos were used to help us document, clarify, and make sense of our insights regarding the content documented by the students in their CoPs.

For each round of data analysis, we used open coding to independently analyze the discussion threads. We collaborated to progress from open coding of the data by use of content analysis to categorizing and identifying principal patterns that emerged from the data. During content analysis, raw data were organized into patterns with codes that we developed to group data with similar meanings. Then, with axial coding, the resulting patterns were collapsed into major categories that best summarized the data at a higher level. Our discussions and considerations led to the preliminary identification of 4 core themes into which most categories and patterns fit.

Various strategies were used to maintain the consistency, rigor, and trustworthiness of the data. Triangulation was used to ensure data consistency and trustworthiness and included collecting data from 2 sources: student discussion threads and investigator memos. For data to be valid, researchers must acknowledge, suspend, and expose existing beliefs or biases about the topic under study. Two of the investigators (K.C.G. and M.N.) are acute care clinicians and teach clinical decision making. They shared their existing beliefs and biases about inpatient acute care practice with the other 2 investigators. The biases and prejudices were reviewed by L.M.H. and A.C., who were neither acute care practitioners nor involved in teaching courses before co-op. For reducing researcher bias, the CoPs were facilitated by an acute care practitioner who was not involved in the research study. In addition, themes were illustrated with rich, thick descriptions. Finally, the primary data sources were the discussion threads obtained directly from the participants.

Results

A model describing student observations and perceptions of the factors affecting the thinking and actions of experienced clinicians during inpatient clinical interactions was generated (Fig. 3). The model was informed by the 4 themes that emerged from the data. For every theme, quotes representing each CoP and both clinical settings were used to support the results and illustrate the similarity of student reflections.

Theme 1: Influence of Complex Environment on Clinical Decision Making

The inpatient environment described by the students was characterized as medically involved, fluctuating, interprofessional, and fast-paced, with time constraints. The complexity of a patient’s condition affected a therapist’s evaluation, treatment approach, or both.

The patient had a significant past medical history that included osteopenia, migraines, multiple myeloma status post stem cell transplant and chemotherapy, and high blood pressure. As a result, the therapist was very careful with the questioning part of the evaluation; she constructed it in a way that was calm, not very intrusive.
A remarkable environmental quality noted by most of the students was the fast pace, which limited the time available for establishing a professional relationship with the patient in the acute care setting. However, the students still found it important to develop rapport.

There is limited time to build a relationship and get to know the patient on a more personal level. I made a conscious effort to make connections with patients in a short amount of time. (CoP 2: acute care hospital)

One strategy for managing time constraints in an acute care hospital was to gather the evaluation history from the medical chart before seeing the patient. Another factor was that patients, regardless of the setting, were seen by many different health care professionals. With multiple practitioners involved, it was important to review the chart prior to treatment to share vital information.

In a hospital setting there are many different health professions working together, and it is important for everyone to share information. This is why the chart review before an evaluation is critical. (CoP 3: acute care hospital)

Because of time limitations, most therapists structured their evaluations toward maximizing return to function and rapid discharge to either home or rehabilitation.

The important questions in the evaluation were the ones that focused on the patient’s function at baseline and what impairments brought the patient to the hospital for this stay and their home environment. These questions were important and greatly affect the decision-making process of the inpatient PT [physical therapist] evaluation. In the hospital setting, our goal is to get the patient out of the hospital as quickly as possible for various reasons... (CoP 2: acute care hospital)

Theme 2: Advantages, Challenges, and Alternative Forms of Client-Provider Communication

Excellent communication was noted as being critical for establishing trust in the therapeutic relationship. Therapists used many strategies, including verbal and nonverbal techniques, to communicate with patients.

I believe that communication can really determine the effectiveness of the PT [physical therapist] evaluation, and it starts at the beginning of the session. Communication with the team members prior to the evaluation allows the PT to enter the room with a more complete understanding of the patient. Communication with the patient and the patient’s family is vital and will allow for a smoother and more thorough evaluation. (CoP 1: acute care hospital)

Characteristics of professional communication identified included a calm demeanor, professional presence, and active listening to clearly hear patients’ concerns.

The therapist that performed the evaluation was very calm and professional. She paid attention to everything the patient told her and made sure to reassure the patient and explain what she was going to test and why she was going to test it before putting her hands on the patient. (CoP 2: rehabilitation hospital)

Challenges observed included issues related to culture, foreign language, working with family members, and patients with aphasia or cognitive disability.

I encounter the language barrier every day at acute care hospital X! We have the luxury of interpreter services, but they aren’t always available for evaluation and treatments. I have learned several ways to act out what I would like the patient to do during the sessions and have learned some key words in different languages. (CoP 3: acute care hospital)

Others noted therapists using creative strategies and alternative forms of communication.

Some alternative forms of communication that I have seen used with patients unable to verbalize are Boardmaker [Mayer-Johnson, Pittsburgh,
Theme 3: Mental Preparation for Evaluation and Treatment
Observing patient-provider interactions, the students learned strategies to mentally prepare for an evaluation or treatment. Many students documented the importance of evaluating cognitive status in advance of treatment to promote patient safety, goal setting, and treatment effectiveness.

I think the most important questions that are asked right away are orientation questions. If the patient does not know where they are or the date, you will not get an accurate history. (CoP 3: acute care hospital)

Other observations were: having a plan in advance of evaluating or treating a patient and the ability to be flexible.

I learned the importance of having a plan before entering the patient’s room, although it’s also important to be prepared for that plan to change, depending on the patient. I watched the therapist systematically tackle this evaluation, and she was extremely effective in creating a general overall picture. The therapist also reviewed the case after the evaluation and planned to gather additional information using tests and measures to use with future treatments. (CoP 2: acute care hospital)

One student observed that an order existed for the interaction.

A specific detail that I had never picked up on my previous observations was the order in which the supine therapeutic exercise was performed, with distal muscle groups being activated first and proximal hip musculature being activated last. The final exercise before asking the patient to sit at the edge of the bed was supine hip abduction. This was performed last because it’s the exercise that most mimics getting out of bed via moving the legs toward the edge of the bed. (CoP 2: acute care hospital)

Theme 4: Client-Physical Therapist Interactions in Inpatient Settings
Through written reflection, the students documented their thoughts about and observations of client-physical therapist interactions. The students articulated that although a systems review is holistic, the various pieces that comprise the interaction are interconnected.

I’ve noticed that the PT’s [physical therapist’s] questions during the evaluation start off as general “yes/no” but then turn into more specific ones. For example, if the patient’s discharge plan is to go home, questions about stairs always come up. If the patient replies “yes,” then more specific questions will arise, such as how many, any railings, how many to the bedroom, and so on. . . . (CoP 3: acute care hospital)

One skill displayed by experienced therapists was the ability to seamlessly integrate subjective and objective questions and intertwine evaluation and treatment elements within a single patient interaction.

There was an order to the tests and measures . . . beginning with the strength and ROM [range of motion] assessment allowed the PT [physical therapist] to gauge the patient’s abilities, limitations, and pain levels. The PT could then comfortably move to functional assessment, where she asked the patient to sit up and took her vitals, explaining she wanted to monitor how her body adjusted to positional changes and how her heart reacted to activity. She then asked the patient to stand up and walk using a rolling walker. During the walk, the PT asked about the patient’s living situation and prior level of function. During the conversation, the PT observed the patient’s antalgic gait due to her hip pain. By dispersing the subjective questioning and history taking throughout the evaluation, the PT saves time and is better received by the patient. (CoP 1: acute care hospital)

Thinking about what they observed while a therapist conducted an evaluation or treatment session enabled...
the students to connect the dots between how the therapist worked and why it was important. As illustrated in the following quote, the students noted that experienced clinicians used good observation skills, which informed the problem-solving process.

It is important to note how the PT [physical therapist] looked at the way the patient walked into the clinic. By noticing that the patient was hunched over, the PT knew to look for tight hip flexors. It is a safe guess that tight hip flexors could have contributed to the fall that led to a hip fracture. As a therapist it is important to remember that we should not just treat the problem. In this case, a patient with a hip fracture, we should also be treating what could be contributing to the injury to prevent it in the future—in this case, tight hip flexors. (CoP 1: rehabilitation hospital)

Discussion
The purpose of this qualitative investigation was to understand which factors observed by DPT students during inpatient preclinical experiences (co-op) influenced their understanding of client-therapist interactions. Four themes emerged from the data: environment, communication, evaluation, and client-therapist interaction. The themes informed a framework depicting student observations and perceptions of experienced therapists interacting with clients in inpatient settings (Fig. 3).

Regarding the aim of the research, through reflection, our students documented that client-therapist interactions were influenced by many factors (Fig. 3). One factor was the impact of the context of a clinical environment on a therapist’s approach to efficiently and effectively working with patients. The qualities attributed to the inpatient environment included medical complexity, fast pace, interprofessional nature, and focus on discharge. As supported by the theme 1 quotes, the level of medical complexity required therapists to be calm, to respond quickly to medical status changes, and to exhibit empathy. To contend with time constraints due to heavy case loads, discharge focus, and a fast pace, therapists targeted their evaluations toward maximizing return to function and facilitating discharge to home or rehabilitation. The need for physical therapists to possess skills for managing high-risk and fast-paced environments is supported by the literature on clinical decision making in acute care settings. Learning within a context is critical for the development of knowledge that pertains to a specific professional field. Research supports the notion that when students observe or practice a new skill within a context, they will either consciously or unconsciously adopt the behavior and norms of the workers within that environment. The majority of didactic (classroom) approaches separate knowing from doing and present knowledge devoid from relevant context. Greater knowledge retention occurs when students are actively engaged in the learning process within a social or physical context.

Communication is influenced by the inpatient environment because the time for establishing rapport with patients is compressed or challenging because of the complexity of patients’ conditions. The inpatient setting has the potential for fragmented care because of time constraints in acute care settings, heavy patient case loads, competition of multiple providers for time, and the acute illness of patients in such settings. These environmental qualities present challenges to the establishment of effective patient-provider communication.

The complexity of patients’ conditions required the matching of communication approaches to a patient’s medical status. The therapists observed used a variety of subtle tactics, such as letter boards, to interact with patients who were nonverbal. Research maintains that experienced therapists are skilled at focusing on the verbal and nonverbal characteristics of patient-therapist interactions while integrating hands-on care.

Environment and communication shaped a therapist’s actions during the evaluation. The theme 3 data supported the need for assessing a patient’s cognitive orientation at each encounter. The students observed that if a patient was not cognitively oriented, then history taking, safety, goal setting, and treatment effectiveness would be impaired. The students recognized that the therapists had a mental plan or scaffolding in place for an evaluation before entering a patient’s room. The students observed this organized thought process unfold as the therapists followed a logical order for their actions—data collection and decision making. The sequence of treatment for a patient progressed both logically and functionally (eg, you have to sit
before you can stand) and maximized safety.

Another notable component was that although therapists possessed an evaluation plan, they also had to be flexible because of the fluctuating inpatient environment and the complexity of a patient’s medical status. Adapting to change and management of uncertainty are important skills for therapists working in the inpatient environment. The students observed clinical decision making being influenced by inpatient situational contexts and demands that affected communication and interpretation of the presentation of patients. Experienced clinicians are better at reflecting in action and adjusting treatment while working with patients.

With regard to inpatient-client-physical therapist interactions, the theme 4 data supported student observations of evaluations occurring within and influenced by the characteristics of an inpatient context. The examination tempo used by the therapists included progressing from holistically oriented questions about a patient’s status to targeted questions. These findings are supported by those of Masley et al., who described 2 forms of decision making: micro and macro. Macro-level decision making focuses on goal setting and discharge planning (“the big picture”), whereas micro-level decision making encompasses the steps within a treatment.

The therapists were skilled at intertwining subjective questioning and objective questioning during patient care. Balancing objective information and subjective information in the evaluation process has been documented for master clinicians working in orthopedic settings. Finally, the students noted that the therapists routinely integrated examina-

tion and treatment approaches during a single patient encounter. Research maintains that experienced clinicians “skillfully plan, implement activities and use their time sensibly.”

The students observed how a clinician conducted an evaluation, which contained a sequence of steps that informed the clinical decision-making process, and why the steps were important. They noticed individual parts within a systems review and how the steps were interconnected. The students observed experienced clinicians’ decision making and reflected on the what, how, and why behind action.

Inexperienced therapists do not typically possess a system for collecting, organizing, prioritizing, and interpreting data about patients. Novices characteristically experience difficulty integrating data related to patients’ conditions and rely on external sources to confirm their thinking. Reflection on the thinking of experienced therapists enabled the students to document and think about their observations, process their thoughts among a group of peers, and recognize the refinement of the decision making of experienced clinicians. With more experience, an individual views a situation more holistically and applies past learning to new experiences. In addition, knowledge becomes contextualized; the situation, patient, or environment shapes the learning that is relevant for the clinician. Observations within the inpatient acute care context provided an opportunity for our students to recognize the clinical reason for the clinician. The clinician’s context influenced their reflections, enabling the students to focus on different aspects of their inpatient experiences.

Limitations and Future Research

This work has several limitations. The main one is that our students observed 1 patient examination and did not observe the patient temporally. This factor reduced the opportunity to determine whether and how the content of the students’ reflections might have evolved with additional observations. However, the discussion thread data provided baseline information regarding how a cohort of DPT students thought about their observations of experienced clinicians evaluating and treating patients within inpatient settings. In addition, the students viewed how their thinking compared with that of their peers.

Another limitation is that the model was implemented with 33 students at a single university during one co-op experience. The small number of students, single university, and single co-op limited the generalizability of the results to other DPT programs and clinical experiences. In addition, most of the facilities were located in New England or New York, and inpatient practice may vary by geographic region. However, a strength is that the 33 students were dispersed over 15 distinct inpatient or rehabilitative hospital settings. The facilities ranged in size from 30 to 950 beds, with an average size of 333 beds, and 5 hospitals had medical school affiliations.

All participants were in the second professional year of an entry-level DPT program and were placed in 6-month co-op assignments. The structure of this DPT program has unique features because of co-op and entry-level status and may not reflect the education or experience level of
students attending other accredited DPT programs. In addition, the placement of co-op in the second professional year of a DPT curriculum is unlike other innovative clinical education experiences.

A final possible limitation is student self-selection bias. Students interested in inpatient care may choose co-op in an acute care or rehabilitation setting and may be different from their peers in some way not accounted for by us. However, all students in the DPT program are required to participate in an inpatient experience, which may include placement in one of the following settings: rehabilitation, skilled nursing facility, nursing home, long-term care, acute care, and home care. Acute care placements nationwide are in short supply; therefore, alternative options for student inpatient experiences are needed.5,7,54

A potential area for future research is longitudinal exploration that tracks students’ development of clinical reasoning over the course of a DPT program. Development could be examined in the classroom, at clinical placements, and once students have entered the field as professionals. Longitudinal research that incorporates one-on-one interviews and observation by researchers of students working in acute care settings could allow for deeper exploration of how clinical thinking evolves over time.

Conclusion

Opportunities for clinical observation earlier in a DPT curriculum is an innovative strategy for exposing students to the thinking of experienced clinicians. To our knowledge, no qualitative studies have explored student recognition and understanding of the thinking and actions of physical therapists working in inpatient settings.

Our research was implemented with 33 students at a single university during one preclinical experience (co-op) involving a variety of inpatient practice locations. Reflection within a CoP served as a method for illuminating student observations about the factors that affect client-therapist interactions (Fig. 3) and for sharing of learning with peers. Our students noted that the clinical decisions of experienced therapists were influenced by the characteristics of the inpatient environment, which they described as medically complex, fast-paced, interprofessional, and discharge focused.2 In addition, excellent communication, both verbal and nonverbal, was identified as essential for gaining patient trust and for effective client-therapist interactions.

Both the environment and communication approaches influenced a therapist’s mental preparation for an evaluation. Although a therapist may have had a plan before treating a patient, flexibility was a critical skill. During interactions, the students observed the experienced clinicians skillfully plan, integrate objective questioning and subjective questioning, and incorporate treatment approaches with evaluation.

This research explored how contextualized learning experiences offered to students early in a DPT program can serve as a method for improving student perceptions of clinical preparedness.10–15 More research is needed to decipher the factors comprising inpatient practice to enable educators to better prepare DPT students for work in clinics and subsequent independent practice as a professional.

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Appendix.
Discussion Thread Questions by Week

Welcome to week 1 of the online discussion module! During week 1, we are going to examine the subjective history and chart/medical record review portion of the physical therapist evaluation. Our goal is to have you think about why therapists are asking what they are asking. Here are the questions for week 1.

1. What do you think were the important questions in the history taking, and what questions led to other questions?
2. Why did you think those questions were important to ask?
3. What did you learn from thinking about this example, and what will you do with the learning in the future as a physical therapist student?
4. Respond to at least 3 other students’ experiences with the subjective history. Share your thoughts on the other students’ responses and any different thoughts you may have of that case.

Welcome to week 2! There were a lot of very nice discussions and posts last week regarding the patient history. This week, we are going to progress with the evaluation and discuss how the therapist you observed obtained objective data from the patient in the form of tests and measures. More specifically, we will look at the systems screen/review. Here are the questions for week 2.

1. For the same evaluation you observed last week, describe the systems review (cardiopulmonary, integumentary, musculoskeletal, and neurological) that you observed in the evaluation. If a screen was not directly observed or formally done, how could this information be obtained via questioning or functional observation?
2. What parts of the systems review led to additional tests and measures?
3. Why do you think the systems review is an important (or unimportant) aspect of the evaluation you observed?
4. What did you learn about this particular aspect of the evaluation (systems review), and what will you do with the learning in the future as a physical therapist student and eventually a physical therapist?
5. Respond to at least 3 other students’ experiences.

Welcome to week 3! The critical thinking that you all have displayed the first 2 weeks has been tremendous. This week, we are going to look beyond the systems review and talk about tests and measures. The great part about this week is that some of the work with your guiding questions has already been done in your original document. Here are the questions for week 3.

Consider the systems review discussion from last week and the subjective history discussion from week 1. Please look at the answers to the original guiding questions, revise them from your original document, and then post the revised answers.

1. What questions led to specific tests and measures in the examination?
2. Was the order of the tests important and why?
3. Did certain tests lead to other tests during the examination?
4. Did the tests and measures observed confirm or refute the physical therapy diagnosis? Please explain.
5. What did you learn about this particular aspect of the evaluation (tests and measures), and what might you do with the learning in the future as a physical therapist student and eventually as a physical therapist?

6. Respond to at least 3 other students’ experiences.

Welcome to our fourth and final week of discussion! The level of discussion and critical thinking continues to be quite good throughout the groups. Excellent job! This week we would like to focus on wrapping everything up together with identifying impairments and coming up with a physical therapist diagnosis. Here are the questions for week 4.

Consider the subjective history, systems review, and tests and measures discussions from prior weeks.

1. What impairments and functional limitations were identified in your observed evaluation, and how was each impairment identified (subjective history, systems review, or tests and measures)?

2. What was the primary impairment in your observed evaluation? Please include your reasoning behind why this was the primary impairment.

3. In your words, what was the physical therapist diagnosis (practice pattern)?

4. If you had to choose one thing that was the most important to work on in your treatment session, what would it be?

5. What did you learn about this particular aspect of the evaluation (impairments, functional limitations, and diagnosis), and what will you do with the learning in the future as a physical therapist student and eventually a physical therapist?

6. Respond to at least 3 other students’ experiences.