EARLY CLINICAL EXPOSURE IN PEDIATRIC AND ORTHOPEDIC SETTINGS AMONG PHYSICAL THERAPY STUDENTS: A PHENOMENOGRAPHIC STUDY WITH IMPLICATIONS FOR CURRICULUM ENHANCEMENT

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This study explored how fourth-year Bachelor of Science in Physical Therapy (BSPT) students understood their early clinical exposure (ECE) in pediatric and orthopedic settings and identified implications for curriculum enhancement. A qualitative phenomenographic research design was employed involving nine purposively selected students from San Pablo Colleges who completed ECE during Academic Year 2024–2025. Data were collected through individual semi-structured interviews lasting approximately 40–60 minutes, guided by the Objective–Reflective–Interpretive–Decisional (ORID) framework. Interviews were audio-recorded, transcribed, and analyzed through familiarization, condensation, comparison, grouping, category refinement, labeling, and construction of an outcome space. Transcript verification, peer debriefing, and research adviser consultation supported the analysis. Five categories of description emerged: skill acquisition, emotional adaptation, professional identity formation, preparation for internship and practice, and insight for curriculum enhancement. Participants understood ECE as an opportunity to apply theoretical knowledge, adapt interventions to individual patient needs, manage uncertainty, appreciate the responsibilities of physical therapists, and prepare for future clinical placements. They also identified the need for earlier and broader clinical exposure, more consistent supervisory feedback, and stronger preparation for documentation and patient management. The findings indicated that students understood ECE not merely as practical skills training but as a multidimensional educational experience involving technical, emotional, professional, and curricular considerations. The study concluded that students' conceptions provided context-specific evidence for reviewing clinical preparation, supervision, feedback, and placement opportunities, although improvements in clinical competence and patient outcomes were not objectively measured.

Keywords: *early clinical exposure, physical therapy education, phenomenography, clinical learning, professional identity, curriculum enhancement*

Introduction

Early clinical exposure (ECE) is an important component of physical therapy education because it introduces students to authentic patient care before full clinical internship. Although classroom and laboratory instruction provide the theoretical and technical foundations of rehabilitation practice, clinical encounters expose students to the complexities of patient needs, communication, professional responsibilities, and therapeutic decision-making. Understanding how students interpret these encounters is essential for identifying meaningful learning experiences and improving clinical education.

Experiential learning provides a foundation for integrating theoretical instruction with practical experiences. Smith and Crocker (2017) emphasized the importance of experiential approaches in entry-level physical therapy education, particularly in connecting academic knowledge with clinical practice. Such experiences allow students to encounter situations that may not be fully represented in classroom demonstrations, including differences in patient abilities, treatment tolerance, communication needs, and responses to interventions.

Pediatric and orthopedic settings offer distinct clinical learning opportunities. Pediatric rehabilitation requires developmentally appropriate communication, individualized activities, and sensitivity to children's behavior and participation. Orthopedic rehabilitation involves assessment of movement limitations, pain management, therapeutic exercise, and appropriate patient handling. Scott et al. (2021) highlighted the relevance of domain-specific experiential learning in pediatric physical therapy education, particularly in relation to students' self-efficacy. These considerations suggest that early exposure may contribute to students' understanding of the varied demands of rehabilitation practice.

Clinical learning also involves interactions among students, patients, and clinical educators. Delany and Bragge (2009) emphasized the importance of examining both student and educator perspectives in understanding clinical learning. Students' accounts may reveal challenges involving uncertainty, confidence, patient communication, and professional expectations that are not adequately captured through placement hours or procedural requirements alone.

Within San Pablo Colleges, efforts to strengthen teaching and learning provide an institutional context for examining ECE. Lunar and Eala (2023) identified teaching and learning as important areas for educational innovation, while Lunar and Lugo (2025) examined students' assessments of their learning environment and highlighted opportunities for improving institutional support and facilities. These findings emphasize the relevance of incorporating student perspectives into curriculum development.

The present study was anchored in phenomenography, which examines the qualitatively different ways individuals understand or experience a particular phenomenon. Marton (1981) explained that phenomenography focuses on variations in conceptions within a group rather than identifying a single universal experience. This perspective is particularly appropriate for ECE because students may interpret the same educational activity differently, emphasizing technical skills, emotional adjustment, professional identity, or preparation for future practice.

Previous institutional research also provided methodological relevance. Lunar (2023) employed phenomenography to examine volunteer student-teachers' experiences, while Lunar and Ronsairo (2012) used the ORID framework to facilitate reflection on service-learning experiences. These studies demonstrated the usefulness of examining how learners interpret authentic educational encounters.

Despite the recognized importance of experiential learning, limited context-specific evidence has described how physical

therapy students in a Philippine higher education institution conceptualize their early exposure across pediatric and orthopedic settings. Understanding these conceptions may help identify aspects of clinical education requiring greater preparation, supervision, feedback, and curricular attention.

Accordingly, this study explored the qualitatively different ways fourth-year BSPT students at San Pablo Colleges understood their ECE during Academic Year 2024–2025. Specifically, it sought to identify categories of meaning, describe their relationships within an outcome space, and determine implications for curriculum enhancement.

Methods

The study employed a qualitative phenomenographic research design to examine the different ways fourth-year Bachelor of Science in Physical Therapy students understood their early clinical exposure in pediatric and orthopedic settings. It was conducted within the BSPT program of San Pablo Colleges in San Pablo City, Laguna, Philippines, and focused on students who completed ECE during Academic Year 2024–2025. Nine participants were selected through purposive sampling based on their completion of exposure in both settings, enrollment in the program, willingness to participate, provision of informed consent, and ability to communicate in English or Filipino. Students who had not completed the required exposure, were not enrolled during the data collection semester, or declined participation were excluded. Data were collected through individual face-to-face semi-structured interviews using a researcher-developed interview guide organized according to the Objective–Reflective–Interpretive–Decisional (ORID) framework. The guide elicited descriptions of clinical activities, emotional responses, interpretations of learning, perceptions of professional responsibilities, preparation for internship, and recommendations for curriculum enhancement. Field experts reviewed the interview guide for clarity, relevance, and appropriateness before data collection. Interviews were scheduled

according to participants' availability, lasted approximately 40–60 minutes, and were audio-recorded with permission. Probing questions were used to clarify responses and obtain detailed descriptions. Recordings were transcribed, and participants reviewed their transcripts to confirm the accuracy of their statements. Data analysis involved repeated reading of transcripts, identification and condensation of significant statements, comparison of similarities and differences, grouping of related meanings, refinement and labeling of categories, and construction of an outcome space representing the collective variation in students' conceptions. Participant review of interpretations, peer debriefing, and research adviser consultation supported the analytical process. The study obtained research adviser approval and permission from appropriate institutional authorities before recruitment. Participants received information concerning the study's purpose, voluntary participation, confidentiality, and right to withdraw. Informed consent was obtained before interviews, and participant codes P1–P9 were used to protect identities during reporting. The source manuscript did not identify a formal research ethics committee approval number.

Results And Discussion

The analysis of the nine participants' narratives generated five interrelated categories of description: skill acquisition, emotional adaptation, professional identity formation, preparation for internship and practice, and insight for curriculum enhancement. These categories represented the different ways students understood the educational significance of early clinical exposure in pediatric and orthopedic settings. They reflected an expansion of students' awareness from immediate clinical activities to broader considerations of professional preparation and curriculum development.

Early Clinical Exposure as Skill Acquisition

The first category described ECE as an opportunity to connect classroom knowledge and laboratory skills with actual patient management. Participants reported observing and assisting in therapeutic exercises, positioning, mobility activities, play-based interventions, and other physical therapy procedures. Their accounts emphasized that clinical learning involved more than remembering techniques; it also required recognizing individual differences and adapting activities to patients' conditions and responses.

One participant explained:

"I realized that every patient is different even if they have the same case and prognosis. Every child also has a unique personality and different ways of playing." (P3)

This statement illustrated how exposure helped students recognize the importance of individualized rehabilitation. Participants understood that patients with similar conditions could differ in physical abilities, behavior, tolerance, and therapeutic needs.

The findings were consistent with Smith and Crocker (2017), who emphasized experiential learning as an approach to connecting academic preparation with practical clinical responsibilities. They also related to Scott et al. (2021), whose work highlighted the relevance of domain-specific experiential learning in pediatric physical therapy education.

The findings suggested that ECE provided opportunities for students to appreciate the complexity of patient-centered interventions. However, the interviews did not independently establish whether participants could accurately select, perform, or modify interventions without supervision.

For curriculum enhancement, the results supported strengthening case-based instruction, supervised clinical demonstrations, and reflective discussions that help students

connect theoretical principles with individualized patient management.

Early Clinical Exposure as Emotional Adaptation

The second category reflected students' understanding of ECE as a process of adjusting to the emotional and interpersonal demands of clinical practice. Participants described nervousness, uncertainty, fatigue, and discomfort during initial patient encounters. These experiences were particularly evident when students interacted with unfamiliar patients or encountered individuals who were hesitant to participate in treatment.

One participant recalled:

"I was overwhelmed because it was the first time and it was scary. It was also a nerve-wracking experience because I'm not particularly comfortable speaking to new people." (P3)

Another participant described encountering patients who refused treatment or were reluctant to be handled because of pain. This experience highlighted the importance of patience, empathy, trust, and sensitivity to patient preferences.

These findings indicated that students understood clinical exposure not only as an opportunity to perform rehabilitation activities but also as a setting in which they needed to manage their own emotions while responding appropriately to patients.

Delany and Bragge (2009) emphasized the importance of understanding students' and clinical educators' perceptions of learning during clinical placements. The present findings complemented this perspective by demonstrating that emotional adjustment and patient interaction formed meaningful components of students' learning experiences.

The findings suggested that clinical preparation should include therapeutic communication, patient-centered interaction, strategies

for responding to treatment refusal, and appropriate management of patient discomfort.

Clinical supervisors may also provide structured reflection and feedback after challenging encounters to help students process uncertainty and strengthen their understanding of professional communication.

However, the participants' accounts did not establish that repeated exposure automatically reduced anxiety or produced measurable improvements in emotional resilience.

Early Clinical Exposure as Professional Identity Formation

The third category described how ECE contributed to students' understanding of the responsibilities and purposes of physical therapy practice. Participants recognized that rehabilitation involved more than improving physical performance or reducing symptoms. They increasingly associated the profession with promoting independence, confidence, participation, mobility, and meaningful daily function.

One participant explained:

"It showed me that the role of a PT is not only to improve physical abilities and reduce pain, but also to help build confidence, improve participation, movement, and daily function through proper assessment, treatment, education, and supportive interventions." (P9)

This statement reflected a broader understanding of rehabilitation as a patient-centered profession concerned with functional independence and quality of life.

The findings were compatible with the experiential learning perspective discussed by Smith and Crocker (2017), particularly the importance of connecting practical encounters with the development of professional understanding.

They also resonated with Lunar (2023), whose phenomenographic inquiry among volunteer student-teachers demonstrated how authentic educational experiences could prompt reflection on professional responsibilities and the relationship between theory and practice.

Although the two studies involved different professional disciplines, both illustrated the importance of examining how learners assign meaning to practical experiences.

The findings suggested that ECE offered opportunities for students to reflect on the values and responsibilities associated with becoming physical therapists.

For curriculum enhancement, reflective journals, guided case discussions, and supervised patient interactions may help students connect clinical activities with the broader purposes of rehabilitation.

Nevertheless, the study described students' perceptions of professional identity and did not formally measure changes in professional behavior, ethical competence, or identity development.

Early Clinical Exposure as Preparation for Internship and Practice

The fourth category reflected students' understanding of ECE as preparation for subsequent clinical placements and professional responsibilities. Participants described becoming more familiar with clinical routines, patient interactions, and the expectations associated with physical therapy practice.

One participant stated:

“I’m grateful to have an early exposure because I was able to use the experience and knowledge during internship and I was not culture-shocked during the first rotation.” (P5)

Another participant emphasized that ECE encouraged improvement in communication, hands-on skills, understanding of different conditions, and confidence in interacting with patients.

These findings indicated that students perceived ECE as a useful transition between classroom-based preparation and the greater responsibilities of clinical internship.

The findings were consistent with the educational rationale for experiential learning discussed by Smith and Crocker (2017). They also complemented Delany and Bragge (2009), who examined learning and teaching experiences during initial clinical placements.

Importantly, participants' accounts reflected perceived readiness rather than objectively demonstrated competence. The study did not include pre-exposure and post-exposure assessments, clinical performance ratings, or comparative measures of internship outcomes.

For curriculum enhancement, the findings supported incorporating structured pre-internship orientation, documentation exercises, simulated patient encounters, and supervised clinical tasks.

These activities may help students become familiar with clinical expectations before assuming more extensive internship responsibilities.

Early Clinical Exposure as Insight for Curriculum Enhancement

The fifth category demonstrated how students used their clinical experiences to identify areas requiring improvement in the BSPT curriculum. Participants recommended earlier and broader clinical exposure, additional opportunities for practical learning, improved access to equipment, stronger preparation for documentation, and more consistent supervisory feedback.

One participant specifically recommended:

"More feedback from the staff." (P1)

Another emphasized:

"It should be extended and prepare future interns for real clinical experience such as note-taking." (P3)

A third participant proposed expanding exposure beyond pediatric and orthopedic settings:

"I would recommend including other specialty areas such as community-based, neurologic, and geriatric physical therapy to broaden students' clinical experience." (P9)

These recommendations indicated that students valued clinical exposure while recognizing limitations in its duration, scope, preparation, and supervision.

The findings were consistent with Delany and Bragge (2009), who emphasized the importance of considering student and clinical educator perspectives in clinical education. They also related to Lunar and Lugo (2025), whose assessment of the learning environment at San Pablo Colleges highlighted opportunities for improving facilities and institutional support.

Furthermore, Lunar and Eala (2023) identified teaching and learning as an institutional priority for educational innovation, providing a relevant context for reviewing clinical exposure arrangements.

The findings suggested that curriculum enhancement should address not only the number of clinical exposure hours but also the quality of learning opportunities, availability of feedback, preparation before placements, and diversity of clinical settings.

However, students' recommendations did not establish that extending exposure hours or adding placements would necessarily improve clinical competence. Any proposed curricular revision

would require consideration of supervision capacity, academic workload, clinical site availability, and patient safety.

Relationships Among the Five Categories of Description

The phenomenographic analysis organized the five categories into an outcome space representing the collective variation in students' understandings of ECE.

The categories reflected an expansion in the focus of students' awareness. Skill acquisition emphasized learning clinical activities and adapting them to patient needs. Emotional adaptation concerned managing uncertainty and developing appropriate patient interactions. Professional identity formation involved understanding the broader purposes and responsibilities of physical therapy. Preparation for internship and practice connected early experiences with subsequent clinical expectations. Curriculum enhancement extended reflection toward identifying improvements in educational preparation and clinical learning opportunities.

These categories were related but conceptually distinguishable. For example, recognizing the purpose of rehabilitation was different from feeling prepared to undertake internship responsibilities. Similarly, managing emotional uncertainty was not equivalent to acquiring clinical skills, although both could occur during the same patient encounter.

This interpretation was consistent with Marton (1981), who described phenomenography as an approach to identifying variations in how individuals understand a phenomenon.

The outcome space therefore provided a conceptual representation of students' different understandings of ECE rather than a fixed developmental sequence. The study did not establish that every student progressed through all five categories or that each broader conception necessarily included the preceding categories.

The findings suggested that a comprehensive ECE curriculum should recognize the multiple dimensions of clinical learning rather than focus exclusively on procedural competence.

Implications for Physical Therapy Curriculum Enhancement

The findings identified several priorities for reviewing the BSPT curriculum at San Pablo Colleges.

First, preclinical preparation may be strengthened through case orientation, therapeutic communication exercises, safe patient handling, and documentation practice. Pediatric preparation should include developmentally appropriate interaction and strategies for responding to differences in children's behavior and participation.

Second, clinical supervision may be improved through regular feedback, guided reflection, and clearer expectations regarding students' responsibilities during exposure. These arrangements could help students interpret clinical experiences and identify areas requiring further development.

Third, placement opportunities may be reviewed to determine whether exposure to additional practice areas, including neurologic, geriatric, and community-based physical therapy, would be feasible and educationally appropriate.

Fourth, curricular planning should consider the balance between clinical exposure, academic workload, available facilities, and supervision capacity. Increasing exposure hours without adequate preparation and support may not address the concerns identified by participants.

Finally, proposed curriculum revisions should be evaluated using both student perspectives and direct evidence of learning, including supervised clinical performance, communication skills, documentation quality, and clinical educator assessments.

These recommendations represented implications derived from students' reported experiences. Their effectiveness would require further evaluation before broader implementation.

Conclusion

The study revealed that fourth-year Bachelor of Science in Physical Therapy students at San Pablo Colleges understood early clinical exposure in pediatric and orthopedic settings through five interrelated categories: skill acquisition, emotional adaptation, professional identity formation, preparation for internship and practice, and insight for curriculum enhancement. Students perceived ECE as an opportunity to connect theoretical knowledge with patient management, recognize individual differences, manage uncertainty, appreciate the responsibilities of physical therapists, and become familiar with subsequent clinical expectations. Their experiences also prompted recommendations for earlier and broader exposure, stronger preparation, improved documentation training, and more consistent supervisory feedback. The findings demonstrated that students understood ECE as a multidimensional educational experience extending beyond procedural learning to include emotional, interpersonal, professional, and curricular considerations. These conceptions provided context-specific evidence for reviewing clinical preparation and supervision within the BSPT curriculum. However, the study did not objectively establish improvements in clinical competence, internship performance, or patient outcomes.

Recommendations

The BSPT program should consider strengthening early clinical exposure through structured preclinical orientation, supervised practical activities, therapeutic communication exercises, and documentation training. Clinical educators should provide regular, constructive feedback and opportunities for guided reflection to help students connect classroom learning with authentic patient encounters. The program may review the feasibility of introducing

earlier exposure and expanding placements to additional physical therapy practice areas, including neurologic, geriatric, and community-based rehabilitation. Curriculum planners should assess clinical site capacity, supervision arrangements, equipment availability, academic workload, and patient safety before increasing exposure requirements. Student and clinical educator perspectives should be incorporated into periodic curriculum review. Future research should include participants from additional institutions and clinical settings, examine the perspectives of clinical supervisors, and evaluate proposed curriculum improvements using both qualitative feedback and objective indicators of clinical learning and performance.

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