



# Teaching Interdisciplinary Clinical Collaboration in the Classroom: Pharmacology in Physical Therapy Education

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## BACKGROUND

- American Physical Therapy Association (APTA) Position Statement
  - Physical therapy patient management integrates an understanding of a patient's prescription and nonprescription medication regimen with consideration of its impact upon health, functioning and disability.
  - The administration and storage of medications used for physical therapy interventions is also a component of patient management and thus within the scope of physical therapist practice.
- In practice, this requires interdisciplinary clinical collaboration because medication prescription and dispensing is outside the scope of PT practice.
- Purpose: Evaluate interdisciplinary, collaborative teaching of a pre-clinical, classroom-based pharmacology curriculum in the University of Wisconsin Doctor of Physical Therapy (DPT) program.**

## METHODS

### Curriculum Design

- Acquire knowledge** *Asynchronous learning* involving short videos and readings for foundational pharmacology content.
- Organize knowledge** *Synchronous learning* tasked small groups to answer questions addressing pharmacokinetics, pharmacodynamics, and clinical indications of medications using acquired knowledge and evidence-based resources.
- Apply knowledge** *Synchronous, small group active learning* involved 5 sessions with content areas including musculoskeletal, neurologic, & cardiovascular medications commonly utilized by patients receiving rehabilitation. Clinical cases, designed collaboratively by instructors, posed clinically-relevant questions requiring students to apply pharmacology knowledge to stimulated patients.

### Instructional Method

- Synchronous learning** Content experts (PT, PharmD, MD, DO, NP, PA) were invited to share content knowledge and clinical experience by circulating to all groups during the class session. Instructors answered questions and provided instruction in interdisciplinary collaboration methods and strategies.

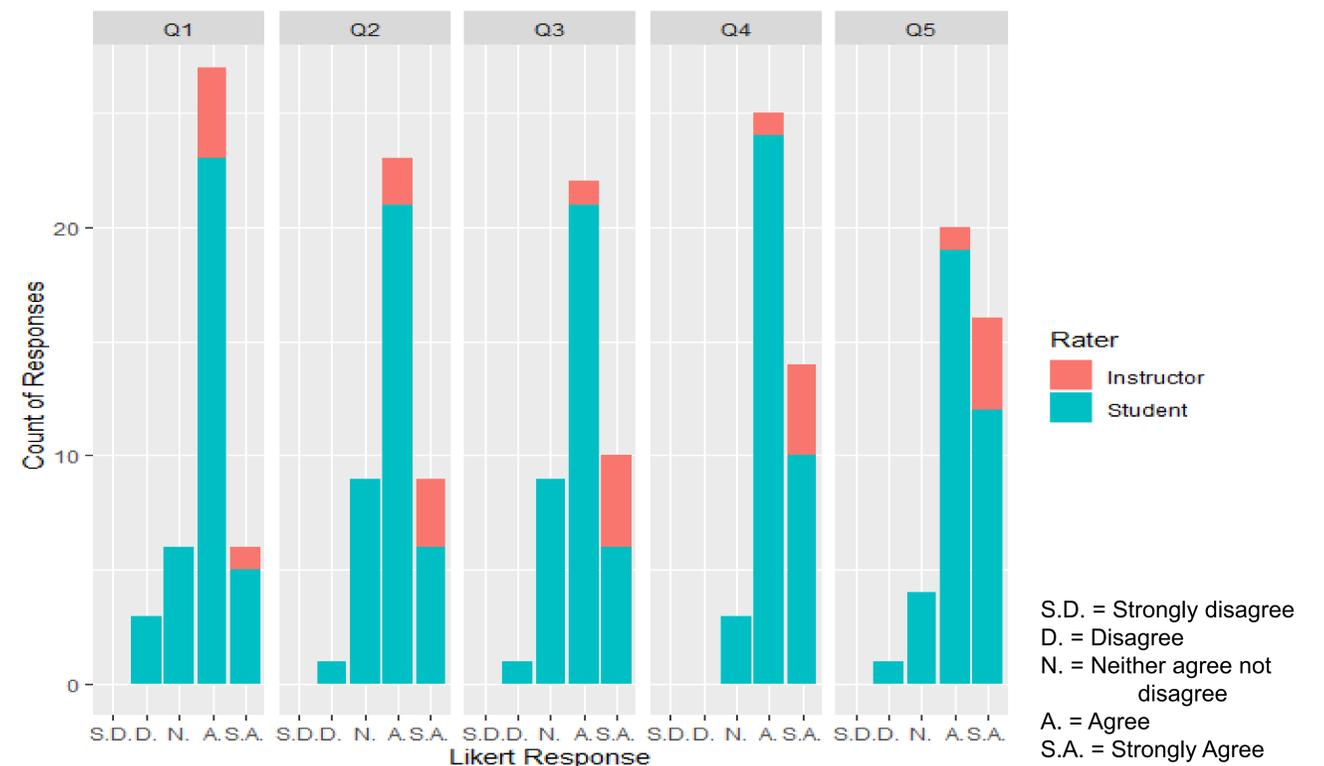
### Teaching and Learning Assessment

Students and instructors assessed learner achievement of unit learning objectives using a 5-point Likert scale (1=Strongly disagree; 5=Strongly agree)

- [Learner] have a better understanding of common pharmacology terminology.
- [Learner] understand the principles of pharmacokinetics, pharmacodynamics and pharmacovigilance.
- [Learner] could the apply principles of pharmacokinetics, pharmacodynamics and pharmacovigilance.
- [Learner] have the necessary skills to communicate concerning medication information to the appropriate source.
- The pharmacology unit provided content and learning opportunities to achieve the APTA Position Statement

## RESULTS

37(93%) students and 5(83%) instructors assessed achievement of the unit learning objectives. 100% of instructors and 92%, 86%, 76%, 73%, 73% of students "agree" or "strongly agree" the unit learning objectives were achieved, respectively.



## DISCUSSION

- Multiple stakeholders perceived the classroom-based interdisciplinary pharmacology curriculum achieved the clinically-oriented learning objectives.
- Instructors, in active clinical roles, rated learning higher than students.
- The hybrid unit design with active learning strategies were effective in teaching the necessary skills for pharmacology knowledge and interdisciplinary clinical collaboration.