

How Much Value Do Physical Therapy Clinicians Place on Affective Domain Skills During Clinical Experiences?

Authors:

Camilla W. Christopher, PT, DPT, PCS

Camilla.christopher@ung.edu

Brian J. Maloney, PT, DPT, NCS

Brian.maloney@ung.edu

Affiliations:

Physical Therapy, University of North Georgia, Dahlonega, Georgia, USA

Physical Therapy, University of North Georgia, Dahlonega, Georgia, USA

Abstract:

How Much Value Do Physical Therapy Clinicians Place on Affective Domain Skills During Clinical Experiences?

Purpose: To determine the value clinical educators place on affective domain skills and how much time they spend working on affective skills during a rotation.

Methods: A Qualtrics survey was created by the authors and sent to clinical partners of schools in the Georgia Consortium of Clinical Educators. Participants were asked to rank the three domains of learning related to the success of a typical physical therapy (PT) student on clinical rotation. To further assess the value placed on individual affective skills, fourteen aspects of affective care were ranked on a 6-point Likert scale ranging from “very important” to “very unimportant.” Clinicians were asked to then quantify the amount of time spent teaching in each domain in the clinical setting.

Results: Fifty-seven surveys were started with 38 completed surveys. Data analysis was conducted via SPSS software. Clinicians who had been practicing less than 10 years made up 71.8% of the responses. Learning domain rankings by clinicians revealed the cognitive domain ranked first with a rating average of 1.7, psychomotor domain second or third with an average rating of 2.1, and affective domain first or third with an average of 2.2 (rankings ranged 1-3). Time spent teaching in each domain is found to be positively correlated with the respective domain ranking. According to clinicians responding, the most important affective domain skills were safety of patients, professional conduct, and following ethical guidelines.

Conclusion: Clinicians prioritize student success during clinical experiences related to the cognitive and psychomotor learning domains. The affective domain is ranked last in value on average, and the least time is spent teaching in this area during clinical experiences. Previous research shows students' failure of early clinical experiences were due to primarily affective domain deficits (Silberman et al., 2018).

Considering that the affective domain is key to success in both clinical experiences and patient care outcomes, the limited priority placed in this area is of note to educators, clinicians, and students.

Clinical Relevance: Physical therapy students may benefit from early affective skill instruction with clinical instructors during their clinical experiences.

Key Words: Physical Therapy, Clinical Education, Affective Learning Domain

How Much Value Do Physical Therapy Clinicians Place on Affective Domain Skills During Clinical Experiences?

Optimization of patient outcomes in physical therapy is reliant on the clinician's ability to successfully utilize skills developed in all 3 domains of learning (Berg-Carramusa 2023; Kinney 2020). Bloom's taxonomy defines the 3 domains of learning as the affective, cognitive, and psychomotor domains (Krathwohl 2002). Developing and integrating the 3 domains is a primary goal for physical therapy students during clinical education experiences (ACAPT 2021). While the cognitive and psychomotor domains are more readily assessed components of physical therapy education, affective domain skills are not as easily assessed or quantified (Cazzell 2011, Stephens 2019). The importance of the affective domain in PT education has been emphasized in previous writings (Jensen 2012). What is unknown is how much value and time is placed on the affective domain during clinical rotations. This pilot study aims to discover the value and time placed on the affective domain by clinicians during student clinical experiences.

When affective skills are fully expressed by the physical therapist during patient care, the therapeutic alliance is strengthened. The therapeutic alliance is the mutual relationship between therapist and patient leading to patient- centered care (Hower 2019). Various outcomes in physical therapy have been shown to improve with a strong therapeutic alliance incorporating the patient's psychosocial aspects of care into the treatment plan (Hall 2010, Kinney 2020). To establish the therapeutic alliance three components must be present including agreement on goals, agreement on decision making, and the establishment of a relationship between the provider and the patient (Hower 2019). Establishment of this relationship requires utilization and refinement of affective domain skills. These skills include communication, empathy, ethics, conduct, self-reflection, initiative, safety, and emotional intelligence. Students must develop these affective skills throughout their education and clinical experiences to be prepared to best serve their patients upon graduation.

Recent trends in physical therapy education have been to produce a greater number of physical therapists to meet the demand in the United States (ACAPT 2021). The increased demand has led to changes within clinical education requirements including placement in the first experience earlier in their education and in settings where students have limited training (Silberman 2018). First clinical experiences place an increased burden on clinical instructors (CI) who may have to help students with affective, cognitive, and or psychomotor deficits. Even students who succeed in the classroom may not have success in the clinical environment (Silberman 2018). Common factors associated with success are professionalism, communication, interpersonal, and problem-solving skills (Silberman 2018). Many of these skills are informed by the affective domain. Additionally, when seeking to identify themes in clinical readiness for first-time experiences, the highest number of themes were discovered to lie in the affective domain (Timmerberg 2019). Deficits in the affective domain are strongly correlated with difficulties and failures of clinical experiences, especially in the first clinical experiences (Silberman 2018). Impact of this domain may also relate to why three of the five red-flag areas on the Clinical Performance Instrument (CPI), and 50% of the Clinical Internship Evaluation Tool (CIET) are directly related to the affective domain of learning (Dupre 2020, APTA 2006, Fitzgerald 2007).

It is critical for Directors of Clinical Education, Site Coordinators of Clinical Education, and Clinical Instructors to understand the potential pitfalls of a clinical experience. The affective domain may be an undervalued skill (Cazell 2011) in the clinic which can lead to failed clinical experiences and lower patient outcomes. The development of all three domains has been found to be correlated and not independent of each other in development (Sonmez 2017). In “A Vision for Excellence in Physical Therapy Education”, the key to academic and clinical practice excellence is developing habits of the head, hand, and heart; covering the three domains of learning (ACAPT 2021). Therefore, the literature review shows a relationship between affective domain skill development and educational and patient care outcomes. However, little is known about how much time and value is placed on training in the affective domain

when students are on clinical experiences. This study aims to assess the value clinicians' place on the affective domain when assessing student performance and the time spent teaching in this domain during the experience.

Methods:

A Qualtrics survey was created by the authors to determine value and time spent teaching in each domain. Feedback was provided on the survey's content and construct by area experts prior to distribution. The survey was distributed via an electronic link to clinical partners through the Georgia Consortium of Clinical Educators. Participants were asked to rank the three domains of learning related to the ability of a typical student physical therapist (SPT) to pass the clinical experience. Clinicians completing the survey were then asked to rate the time spent teaching in each domain in either the educational or clinical settings. Also, fourteen aspects of clinical care in the affective domain were rated on a 6-point Likert scale ranging from very important to very unimportant. Finally, demographic information was collected on all respondents. (Appendix 1) Given this survey-based research is a pilot study investigating possible relationships, trends are reported and discussed for possible implications in further research.

Results:

Fifty-one surveys were started by clinicians with 38 surveys completed. Due to the broad distribution methodology, we are unable to calculate an exact response rate. Analysis for quantitative data and correlations was conducted via SPSS software [version 29.0.0.0]. Respondents were 57.8% females and 42.2% males. Clinicians who had been practicing less than ten years made up 71.8% of the responses. Overall, 64.1% had no board certification and 30.8% had completed their orthopedic clinical specialist certification. Clinicians who completed the American Physical Therapy Association (APTA) credentialed clinical instructor (CI) level 1 made up 61.5% of the sample. In the total sample 7.7% of clinicians

completed the APTA credentialed CI level 2 program. Outside of these two courses, 59% of the survey respondents had taken additional CI training courses, with a total of 28.9% of respondents receiving no formal CI training. Current site coordinators of clinical education (SCCE) made up 23.1% of respondents. Most CIs took 1 or more student per year, with 12.8% never having been a CI (Table 1).

Clinicians were asked to rank the three domains of learning from most to least important for a successful clinical experience. The cognitive domain had an average ranking of 1.7 with the mode of 1 out of 3, the psychomotor domain average ranking was 2.1 with the mode of 2 and 3 out of 3, and the affective domain had an average of 2.2 and a mode of 3 (Figure 1). The average percentage of time reported to be spent teaching in each domain was 20-80% (average = 38.2%, SD 12.9%) for the cognitive domain, 10-65% (average = 36.5%, SD = 13.9) for psychomotor and 10-60% (average = 25.1%, SD 12.3) for the affective domain (Figure 2). A correlation was found between the time spent teaching in the affective domain and the ranking of the affective domain $r = -0.314$ ($p = 0.027$). A similar correlation related to teaching time is found with the remaining domains, with cognitive $r = -0.281$ ($p = 0.044$) and psychomotor of $r = -0.281$ ($p = 0.044$).

The number of years as a CI correlated weakly with ranking of the affective domain with spearman's rank two-tailed correlation at $r = 0.358$ ($p = 0.027$). Years as a PT did not correlate with affective domain rating ($r = -0.01$; $p = 0.953$). Only 3 of 18 clinicians who worked for five or less years rated the affective domain first with 12 of 18 ranking psychomotor as the highest ranking. If the clinician had been or is currently a SCCE, this also correlated to ranking the affective domain higher. Spearman's correlation rank was $r = 0.353$ ($p = 0.029$). The type of degree earned was weakly correlated with higher time teaching in the cognitive domain of learning at $r = 0.330$ ($p = 0.043$). There is no correlation between taking continuing education and ranking of the affective domain or time spent on this domain.

The top three most important affective domain skills, as averaged ranking position, were safety of patients, professional conduct, and following ethical guidelines. The lowest three were written and verbal communication skills, initiative, and being a positive contributor to the facility. A detailed ranking of all fourteen skills can be found in table 2. (Table 2)

Discussion:

From the results of this survey, clinicians appear to value the cognitive learning domain highest with the psychomotor and affective domains as subsequent priorities with student success during a clinical experience. Cognitive skills are valued and may be seen as the primary factors to successful clinical experiences (Dupre 2020; Taylor 2014; Cazzell 2011). These skills lead to knowledge, competency, and critical thinking. Proficiency in the psychomotor domain can have a positive effect on student outcomes in a clinical experience. When a student can interpret and perform clinical skills accurately, they will make a positive impression on CI. However, that is only part of the picture. A successful clinician is not only good at what they do, but good at how they connect with and form an alliance with the patient (Hower 2019; Secum 2008; Donlan 2018). Prior articles have established that therapeutic alliance is key to outcomes in physical therapy (Kinney 2020). A therapeutic alliance cannot be formed without the development of strong affective domain skills (Hower 2019; ACAPT 2021). Based on the literature reviewed, integration of all areas of learning is important to successful clinical experiences. The results of this study showed inconsistencies and a wide variety of on time spent teaching in each domain.

Current research in readiness for clinical experiences emphasizes skills and themes in the affective domain (Timmerberg 2019; Dupre 2020). Preparing students for entry into the field through PT education emphasizes the importance of affective domain development (Jensen 2017). Results of this survey connect the identified weight of the affective domain in readiness to clinicians' perception of its importance and actual time spent teaching in that domain. Further, it helps to define which affective

skills are deemed most important to success. In this survey the average ranking of the affective domain was last. This outcome leads to a discussion of possible implications and a need to understand the reason behind this area's lower perceived value.

The value placed on the affective domain appears to trend upward with the level of experience as a PT, numbers of students taken, and training as a clinical instructor. This suggests that more experience as a clinical instructor may lead to an increased value connection between patient outcomes and the therapeutic alliance. More experienced CI may tend to see these skills as a priority when looking at patient outcomes and success in clinical experiences (Morera-Balaguer 2018). Further research is needed to confirm this trend, including looking at the total number of students CI take.

The ranking of the domain is weakly correlated with time spent teaching in a particular learning domain during a clinical experience. One possible explanation is that clinicians may not feel equipped to teach in the affective domain compared to the other domains which could lead to a lower ranking and a lower priority for time spent teaching during clinical experiences. An alternative explanation would be that CI assume students have the affective domain skill set and therefore do not need training in this area.

Either reason may result in the affective domain being deprioritized. However, we do know that emotional intelligence can be measured and trained (Gilar-Corbi 2019), and this may lead to a future area of research and investigation connected to clinical experience success. Dupre et al. has proposed developing a clinical readiness tool to help measure this domain (Dupre 2020). Other tools for teaching and measurement could include emotional intelligence training and simulation-based learning.

Equipping clinicians to assess and educate student physical therapists on the affective domain and its importance are areas for future investigation. Clinicians can participate in this training in various CI focused continuing education.

When looking more specifically into the value placed on individual affective skills, clinicians ranked safety of patients, professional conduct, and following ethical guidelines the highest and written and verbal communication skills, initiative, and being a positive contributor to the facility the lowest. Interestingly, skills that were not as well defined or measured trended towards the middle and lower rankings. Some of these skills included cultural competency, empathy, and affective problem solving. Being a positive contributor to the facility was rated the lowest. This ranking may speak to CI willingness lose some productivity for student engagement and success. A true relationship requires more investigation but could be a positive indicator for willingness to support students and spend time teaching in clinics.

The outcomes of the survey suggest a relationship between the experience of the CI and value in the affective domain with a need to increase the emphasis on affective domain training of students.

Limitations of this study include a limited variety and total number of respondents. Many respondents were newer clinicians and from outpatient orthopedic settings. Clinicians from other settings may rank skills differently. A larger, more diverse pool may increase the power and results. An additional limitation is that the survey asks about successful clinical experiences but does not specify which clinical experience. Clinicians may have different priorities and values for each clinical experience depending on the level of education of the students.

Future research should include the perspective of educators in preparing students for their clinical rotations, focusing on course instruction, priorities, and methods in the classroom. Additional validated surveys could be created to assess how equipped clinicians and educators are to instruct students in affective skill development. Study methods could have included a mixed method design with direct observation of clinical instruction during rotations to record more specific data along with the survey.

In conclusion, clinicians appear to value cognitive and psychomotor domains ahead of the affective domain. Thus, they spend the least time teaching in affective domain skills. Tangible skills, including the

more quantifiable affective skills, are likely prioritized in the clinic whereas less defined skills are not prioritized. These priorities and relationships require further investigation and point to a need for education and training in the assessment and development of student's affective domain skills. The development of affective domain skills is integral in physical therapy clinical education.

References:

American Council of Academic Physical Therapy, American Physical Therapy Association, and APTA Academy of Education. (2021). A vision for excellence in physical therapy education: Culmination of the work of the education leadership partnership. *J Phys Ther Educ.*, suppl 1, 1-35.

American Physical Therapy Association and APTA Private Practice (2022, September 8). *APTA Benchmark Report: Hiring Challenges in Outpatient Physical Therapy Practices*. <https://www.apta.org/apta-and-you/news-publications/reports/2022/apta-benchmark-report-hiring-challenges>

American Physical Therapy Association (2006). *Physical Therapist Clinical Performance Instrument*. Alexandria, VA. <http://www.apta.org/PTCPI/>

Berg-Carramusa, C. A., Mucha, M. D., Somers K., & Piemonte, N. (2023). The Time Is Now: Leveraging the Affective Domain in PT Education and Clinical Practice. *Journal of Physical Therapy Education*, 37(2), 102-107. DOI: 10.1097/JTE.0000000000000271

Carmel, S., Kupczynski, L., Groff, S., & Bannon Jr, W. (2023). Professional Experience Related to Self-Assessed Teaching Effectiveness Among Physical Therapist Clinical Instructors. *Journal of Physical Therapy Education*, 37(2), 108-115.

Cazzell M., & Rodriguez A. (2011). Qualitative analysis of student beliefs and attitudes after an objective structured clinical evaluation: implications for affective domain learning in undergraduate nursing education." *Journal of Nursing Education*, 50(12), 711-714.

Donlan, P. (2018). Developing Affective Domain Learning in Health Professions Education. *J Allied Health*, 47(4), 289-295.

Dupre, A. M., McAuley, J. A., & Wetherbee, E. (2020). Objectives to assess student readiness for first, full-time clinical education experiences in physical therapist education. *Journal of Physical Therapy Education*, 34(3), 242-251.

Fitzgerald, L. M., Delitto, A., & Irrgang, J. J. (2007). Validation of the clinical internship evaluation tool. *Physical therapy*, 87(7), 844-860.

Gilar-Corbi, R., Pozo-Rico, T., Sanchez, B., & Castejon, J.L. (2019). Can Emotional Intelligence be improved? A randomized experimental study of a business-oriented EI training program for senior managers. *PLoS One*, 14(10). <https://doi.org/10.1371%2Fjournal.pone.0224254>

Hall, A., Ferreira, P.H., Maher, C.G., Latimer, J., & Ferreira, M.L. (2010). The influence of the therapist-patient relationship on treatment outcome in physical rehabilitation: a systematic review. *Physical Therapy*, 90(8), 1099-1110.

Hower, K. I., Vennedey, V., Hillen, H. A., Kuntz, L., Stock, S., Pfaff, H., & Ansmann, L. (2019). Implementation of patient-centred care: which organisational determinants matter from decision maker's perspective? Results from a qualitative interview study across various health and social care organisations. *BMJ open*, 9(4), e027591.

Jensen GM, Mostrom E. Handbook of Teaching and Learning for Physical Therapists. Elsevier. 2012.

Jensen GM., Nordstrom T., Mostrom E., Hack L., Gwyer J. (2017). National Study of Excellence and Innovation in Physical therapy education: Part 1-Design, method, and results. *Physical Therapy & Rehabilitation Journal*, 97(9), 857-874.

Kinney, M., Seider, J., Beaty, A. F., Coughlin, K., Dyal, M., & Clewley, D. (2020). The impact of therapeutic alliance in physical therapy for chronic musculoskeletal pain: a systematic review of the literature. *Physiotherapy theory and practice*, 36(8), 886-898.

Krathwohl, D.R. (2002) A revision of Bloom's taxonomy: An overview. *Theory into practice* 41(4), 212-218.

Morera-Balaguer J., Botella-Rico J., et al. (2018). Physical therapists' perceptions and experiences about barriers and facilitators of therapeutic patient-centered relationships during outpatient rehabilitation: a qualitative study. *Braz J Phys Ther.*, 22(6), 484-492.

Secomb J. (2008). A systematic review of peer teaching and learning in clinical education. *Journal of clinical nursing*, 17(6), 703-716.

Silberman, N., LaFay, V., Hansen, R. L., & Fay, P. (2018). Physical therapist student difficulty in clinical education settings: Incidence and outcomes. *Journal of Physical Therapy Education*, 32(2), 175-182. DOI: 10.1097/JTE.0000000000000046

Sönmez, V. (2017) Association of cognitive, affective, psychomotor and intuitive domains in education, Sönmez Model. *Universal Journal of Educational Research*, 5(3), 347-356.

Stephens, M., & Ormandy, P. (2019). "An evidence-based approach to measuring affective domain development." *Journal of Professional Nursing*, 35(3), 216-223.

Taylor, L. (2014). *The affective domain in nursing education: Educators' perspectives*. (Dissertation, The University of Wisconsin-Milwaukee).

Timmerberg, J. F., Dole, R., Silberman, N., Goffar, S. L., Mathur, D., Miller, A., ... & Utzman, R. (2019). Physical therapist student readiness for entrance into the first full-time clinical experience: A Delphi study. *Physical Therapy*, 99(2), 131-146.

[illegible]

OCS	12	7	2	2	1	31.6%	18.4%	5.3%	5.3%	2.6%
CCS	0	1	0	0	0	0.0%	2.6%	0.0%	0.0%	0.0%
All other Specialties	0	0	0	0	0	0.0%	0.0%	0.0%	0.0%	0.0%
2+ Specialties	1	0	1	0	0	2.6%	0.0%	2.6%	0.0%	0.0%
None	24	11	5	5	3	63.2%	28.9%	13.2%	13.2%	7.9%

Table 2: Response Rates for Affective Behaviors

	Very Important	Moderately Important	Slightly Important	Slightly Unimportant	Moderately Unimportant
Safety of patients	97.4%	0.0%	2.6%	0.0%	0.0%
Professional conduct	89.7%	10.3%	0.0%	0.0%	0.0%
Ethical guidelines	87.2%	10.3%	2.6%	0.0%	0.0%
Safety of self	82.1%	12.8%	2.6%	2.6%	0.0%
Awareness of patient rights	71.8%	20.5%	5.1%	2.6%	0.0%
Communication skills professional and patient	69.2%	23.1%	7.7%	0.0%	0.0%
Cultural competence	65.8%	28.9%	2.6%	0.0%	2.6%
Exhibits problem solving skills	53.8%	38.5%	7.7%	0.0%	0.0%
Utilizes feedback	51.3%	43.6%	5.1%	0.0%	0.0%
Empathy	51.3%	41.0%	7.7%	0.0%	0.0%
Communication skills written and verbal	48.7%	43.6%	7.7%	0.0%	0.0%
Self-reflection	48.7%	41.0%	10.3%	0.0%	0.0%
Initiative: takes opportunity for learning	48.7%	38.5%	10.3%	2.6%	0.0%
Positive contributor to the facility	43.6%	33.3%	17.9%	5.1%	0.0%

- No items were ranked as very unimportant

Figure 1: Participants Rankings of Learning Domain

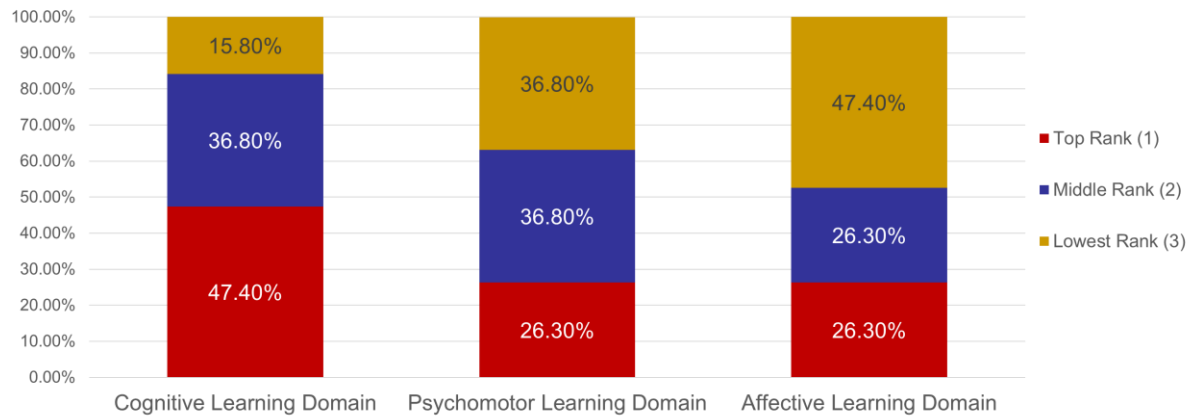
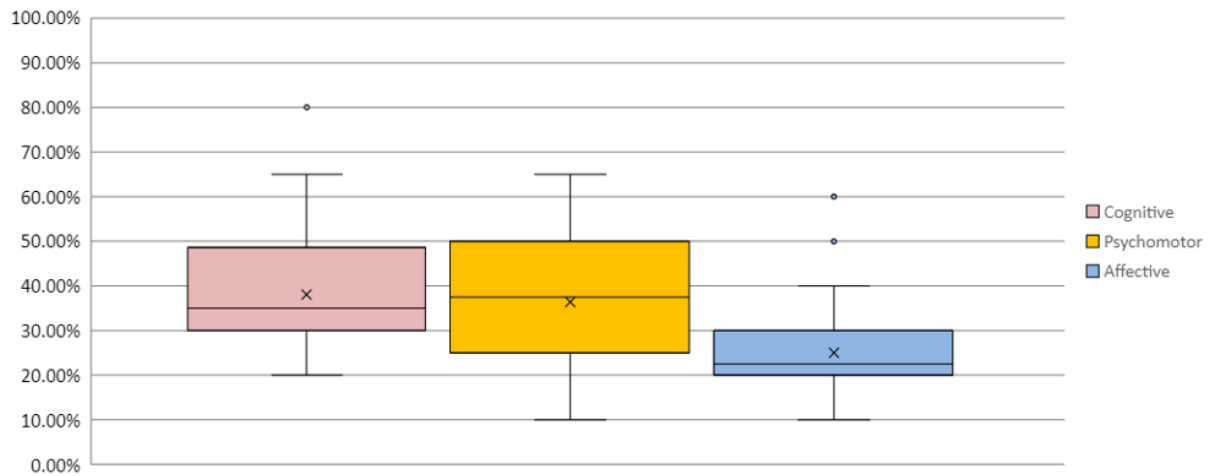


Figure 2: Time Spent Teaching in Each Learning Domain



Survey:

1. Is most of your time spent interacting with students in the clinic or in the classroom?

- Clinic
- Classroom
- Roughly equal

You may already be familiar with the domains of learning. In case it has been a while, or you need a refresher here are the definitions of the 3 domains of learning.

- The affective domain involves how someone acts and feels (i.e. professional behaviors, empathy).
- The cognitive domain involves knowledge and thinking (i.e. understanding shoulder impingement, processing information to formulate an assessment).
- The psychomotor domain involves physical skills (i.e. hands-on skills, body awareness).

2. Please rank the following domains of learning related to the success of a typical PT student (drag the choices into the preferred order before advancing to the next question)

- Affective Learning Domain
- Cognitive Learning Domain
- Psychomotor Learning Domain

3. Approximately what percentage of time do you spend teaching in the following domains during clinical rotation with a typical PT student?

- Affective
- Cognitive
- Psychomotor

4. Please rate the following aspects of clinical care regarding how important the affective domain in a successful clinical rotation is.

	Very Important	Moderately Important	Slightly Important	Slightly Unimportant	Moderately Unimportant	Very Unimportant
Safety of self						
Safety of patients						
Awareness of patient rights						
Cultural competence						
Professional conduct						

Ethical guidelines

Initiative: takes
opportunity for learning

Utilizes feedback

Exhibits problem solving
skills

Positive contributor to
the facility

Communication skills
written and verbal

Communication skills
professional and patient

Empathy

Self-reflection

5. How often do you take students?

- 2 or more per year
- 1 per year
- 1 every couple of years
- I have never taken a student
- I don't take students anymore

6. Which of the following best describes your role in your clinic currently?

- Owner
- Manager
- Clinician
- PT
- PTA
- Part-Time or PRN
- Full-Time

7. Have you ever been or currently are the SCCE at any facility? Yes/No

8. How often do you take students

- 2 or more per year
- 1 per year
- 1 every couple of years
- I have never taken a student

- I don't take students anymore

9. Which of the following best describes your role in your clinic currently?

- Owner
- Manager
- Clinician
- PT
- PTA
- Part-Time or PRN
- Full-Time

10. Have you ever been or currently are the SCCE at any facility? Yes/No