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### Justifying Core Faculty Assessment of Students' Clinical Performance Using Cognitive Flexibility Theory: A Case Example

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Revenda Greene, PT, PhD.<sup>1</sup> Gloria Lawson Rogers, PT, MMS.<sup>2</sup>

1. Assistant Professor, Howard University, Department of Physical Therapy
2. Assistant Professor, George Washington University, Program in Physical Therapy

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#### Abstract

Allied health practitioners who are also educators understand their dual responsibility to educate students and to serve as gatekeepers to their profession. They are challenged with selecting and preparing students to practice in a skilled, competent manner. During the formal educational process, the academic and clinical aspects of allied health education are equally important. However, the assessment of the students' clinical skills is usually left to clinical instructors who are not members of the core faculty, and whose clinical skills and expectations may vary widely. While not minimizing the role of clinical faculty in the education of health care professionals, an argument can be made for the increased involvement of core faculty in this process. To accomplish that objective, the Howard University physical therapy faculty developed and implemented a course module with core-faculty assessment of students' clinical performance as its foundation. That course module was an effective educational tool, which may have wider implications and applications in the education of allied health students.

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#### Purpose

The purpose of this intervention was to develop a model and module of clinical education to facilitate the development of competent and confident physical therapy practitioners. Cognitive flexibility theory was the conceptual framework used in the development of this course module.

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#### Background

Allied health practitioners who are educators understand their dual responsibility to educate students and to serve as gatekeepers to their profession. They are challenged to produce professional and knowledgeable practitioners who are able to practice in a competent manner. This task may become more challenging as the allied health professions evolve towards independent practice. This evolution towards professional autonomy requires that health care practitioners expertly and efficiently evaluate patients and manage their care. The challenge for allied health educators is to understand and develop strategies for selecting and preparing students to function at this professional level.<sup>1</sup>

Health professionals must acquire and remember a tremendous number of details, making [memory](#)

processes critical. Initially, students learn the basic concepts and theories in a linear context. Students not only integrate knowledge from didactic courses, but also build upon knowledge from previous patients and prior clinical experiences.<sup>2</sup> This ability is often referred to as cognitive flexibility.<sup>3</sup> Cognitive flexibility is defined as the ability to spontaneously restructure one's knowledge in adaptive response to radically changing situational demands.<sup>3</sup> This theory is largely concerned with transfer of knowledge and skills beyond their initial learning situation. Cognitive flexibility theory focuses on the nature of learning in complex and ill-structured domains such as history, medicine, law, literary interpretation, and teacher education.

The academic and clinical areas of allied health education are equally important. Educators are able to evaluate the didactic knowledge of their students by the use of tests, comprehensive examinations, and national board examination pass rates. However, the assessment of the clinical skills is usually left to clinical instructors who are not members of the faculty, and whose clinical skills and expectations may vary widely. While not minimizing in any way the invaluable role of adjunct and clinical faculty in the education of physical therapists, an

argument must be made for the increased involvement of core faculty in the clinical education of physical therapy students. With that challenge and other educational goals in mind, the Howard University physical therapy faculty developed and implemented a course module with core-faculty assessment of students' clinical performance as its foundation. The purpose of the clinic exposure was to expand the learning opportunities for the students, and to identify any areas of concern which could be addressed in the classroom by the faculty. Students would be responsible for examining and treating assigned patients, developing care plans, and completing all clinic based documentation.

### Method

#### Subjects

Twenty (20) second-year students and four (4) core faculty members in a Master of Physical Therapy program at Howard University participated in this study. Four (4) local health care facilities (a community hospital, a teaching hospital, a long-term acute care facility (LTAC), and a skilled nursing facility) participated in the 14 week program.

#### Procedure

The module coordinator recruited four inpatient facilities, which allowed physical therapy students, under the supervision of a faculty coordinator, to examine and treat patients referred for skilled services. Each faculty coordinator was permanently assigned to a specific clinic. The class of 20 students was equally divided into four groups, that rotated through each facility, one day a week, for a three or four week time period. Each clinic experience was approximately four hours.

Each student was responsible for the evaluation and treatment of at least one patient during each clinic session. The core-faculty member supervised the students and assisted in treatments as indicated. At the end of each rotation, the students were formally assessed by the faculty member who supervised their clinical rotation (Appendix 1).

Following the course module, the students were asked to complete a short survey in order to assess their experience during the clinical rotations (Appendix 2). The survey asked the students to respond to five statements, using a Likert scale. The possible responses ranged from Strongly Agree (4) to Strongly Disagree (1). The students were also able to make additional comments. Descriptive statistics were used to analyze the survey data.

### Results

Sixteen (16) of the twenty students completed the survey (an 80% response rate). When asked if the clinical rotation helped them to integrate didactic information, 87% of the students agreed or strongly agreed. Ninety-three percent of the students agreed that the clinical rotations were more valuable than practicing evaluation

techniques on classmates; and 87% reported being more confident entering the clinic for their full time affiliations as a result of the experiences. A clear majority reported that the class was helpful and that it helped to make the concepts/theories they learned in the classroom clearer (see Table 1).

**Table 1 – Survey Results (Student Responses)**

1. The clinical rotations helped me to integrate the information being taught in the classroom.	38%	(6/16)	Strongly Agree
	50%	(8/16)	Agree
	6%	(1/16)	Disagree
	6%	(1/16)	Strongly Disagree
2. Evaluating patients in the clinic was more valuable to me than practicing evaluation techniques with my classmates.	69%	(11/16)	Strongly Agree
	25%	(4/16)	Agree
	6%	(1/16)	Disagree
3. I believe that my confidence level for evaluating different types of patients was increased as a result of this experience.	25%	(4/16)	Strongly Agree
	63%	(10/16)	Agree
	6%	(1/16)	Disagree
	6%	(1/16)	Strongly Disagree
4. I felt more confident going into my subsequent clinical affiliations as a result of the clinical rotations.	19%	(3/16)	Strongly Agree
	75%	(12/16)	Agree
	6%	(1/16)	Disagree
5. The rotations occurred too late in my learning experience to be helpful to me.	19%	(3/16)	Agree
	56%	(9/16)	Disagree
	19%	(3/16)	Strongly Disagree
	6%	(1/16)	N/A

### Conclusion

The clinical rotation model developed and implemented by the Howard University Department of Physical Therapy was an effective educational tool in the development of competent and qualified physical therapy practitioners, and it may have wider implications in the education of allied health students. The use of one faculty member with multiple students is an effective teaching strategy; however, it may cause stress to

faculty members, given the time consuming and labor intensive responsibilities which accompany such an undertaking. Physical therapy programs should consider the addition of faculty supervised clinical rotations to their curricula in order to ensure that students receive a standardized and comprehensive didactic and clinical

education, and to increase the probability that students will become confident and competent physical therapy practitioners. In order to generalize these very preliminary findings to other settings, an analysis of student grades pre and post clinical intervention should be performed.

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## References

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**Appendix 1**

Clinical Skills Assessment Report

Student's Name: \_\_\_\_\_

Clinical Instructor: \_\_\_\_\_

Clinical Site: \_\_\_\_\_ Date: \_\_\_\_\_

- 1 = Lacks Required Skill
- 2 = Needs Improvement
- 3 = Demonstrates Basic Knowledge
- 4 = Applies Knowledge in Specific Circumstances (At least 50% of the time)
- 5 = Applies Knowledge Consistently (At least 75% of the time)

**\* Any score below 3 represents failure of that skill/performance**

Skill/Performance	1	2	3	4	5	Comments
Clinical Knowledge						
Chart Review						
Examination						
Diagnosis (including differential dx)						
Care Plan						
Clinical Skills						
Documentation						
Interpersonal Skills (listening, observation, communication)						
Professionalism						
Dress Code/ Appearance						

Student's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## Appendix 2

### Weekly Clinical Rotation Student Evaluation Form

Semester – Spring 2005

Dear Physical Therapy Student:

In the Spring 2005 semester, you participated in a 15 week clinical rotation activity (3 hours/day for 1 day each week) where core faculty of the Physical Therapy Department served as your primary clinical instructors. In order to help the department assess the effectiveness of that experience, you are requested to complete this evaluation. Please answer each question to the best of your ability.

Please select the number which reflects your response to the statements listed below.

**4 – Strongly Agree; 3 – Agree; 2 – Disagree; 1 – Strongly Disagree; 0 – N/A**

	4	3	2	1	0
The clinical rotations helped me to integrate the information being taught in the classroom.					
Evaluating patients in the clinic was more valuable to me than practicing evaluation techniques with my classmates.					
I believe that my confidence level for evaluating different types of patients was increased as a result of this experience.					
I felt more confident going into my subsequent clinical affiliations as a result of the clinical rotations.					
The rotations occurred too late in my learning experience to be helpful to me.					

Please provide any additional comments you may have regarding the clinical rotations.