

Course-Level Assessment Project

Final Document

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Course Assessment: PTA 231 – Overview of Special Populations

Step 1. Define

PTA-231 provides an overview of varied patient populations.

Underperformance on questions related to the integumentary system on the national licensure examination for Physical Therapist Assistants (NPTE) administered by the Federation for State Boards of Physical Therapy (FSBPT) in January 2018 triggered a reconfiguration of content delivery for this unit of study.

Initially, the unit was structured as an on-line module. Faculty determined that the on-line only structure of the unit was not adequate to develop psychomotor skills necessary for clinical knowledge. The unit module was complemented with the addition of an in-class laboratory experience and guest lecture by a content expert (certified wound care specialist) in 2019. The wound care specialist was unavailable in 2020 due to the global pandemic.

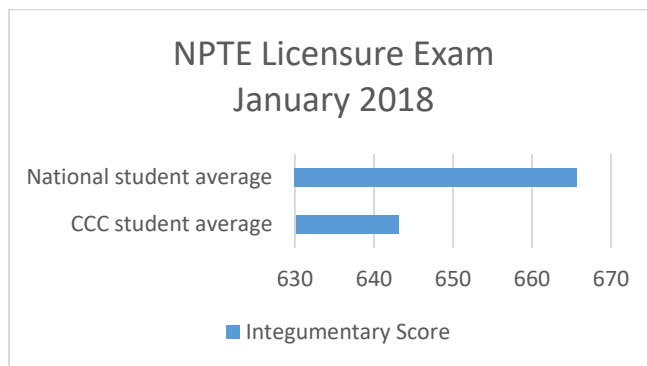
Furthermore, the Commission for Accreditation of Physical Therapy Education (CAPTE) revised guidelines for meeting professional entry-level objectives in 2017. After extended discussion and review of student performance in this area, faculty aligned content and assessment with the following objectives:

7D24f. Integumentary Integrity: Detect absent or altered sensation; normal and abnormal integumentary changes; activities, positioning & postures that aggravate or relieve pain or altered sensations or that can produce associated skin trauma.

7D23i. Wound Management: Isolation techniques, sterile techniques, application and removal of dressing or agents, identification of precautions for dressing removal.

Step 2. Design

The student cohort that graduated in December 2017 performed lower than the national average on questions related to the integumentary and lymphatic systems on the January 2018 NPTE licensure examination. The exam had a total of 11 items related to the Integumentary and Lymphatic systems, making up 7% of the total questions. Carroll Community College first time test takers achieved a mean scale score of 643.1 compared to the United States accredited program first time test taker mean scale score of 665.7.



Faculty implemented unit and course assessments that reflected updated CAPTE guidelines and conducted a longitudinal observation of student performance on unit quiz, course final, cumulative examination, and national licensure examination. The following chart demonstrates the timeline of student assessment.

	Unit Quiz Disorders of the Integumentary System	Course Final PTA-231	Cumulative Exam (Scorebuilders)	Licensure Exam NPTE-PTA
Semester	Spring Year 1	Spring Year 1	Fall Year 2	Winter Year 2
Elapsed Time	1 week post initial instruction	2 months post initial instruction	7 months post initial instruction	11 months post initial instruction

Step 3. Implement

Unit instruction included on-line didactic materials, reading assignments, guest lecture, and laboratory stations.

Content was developed using the following two textbooks:

Goodman, C.C., & Fuller, K.S. (2015). *Pathology: Implications for the physical therapist* (4th ed.). Elsevier Saunders.

O'Sullivan, S.B., Schmitz, T.J., & Fulk, G.D. (2014). *Physical rehabilitation* (6th ed.). F.A. Davis Company.

- *Note: Both of these texts are listed as sources for NPTE-PTA question development.*

The on-line portion of the integumentary system unit concluded with an on-line quiz. The overall course concluded with a cumulative final.

In order to further align objectives, the instructor redesigned the unit and course assessments in the following manner: one multiple choice question would reflect the CAPTE objective on the unit quiz and two multiple choice questions would reflect each CAPTE objective on the course final examination. To provide more specific data in the course assessment, CAPTE guideline 7D23i was broken down into two components: identifying components of a sterile field and appropriate techniques for wound care.

The source used to develop course assessment questions were based on the following text:

Giles, S.M. (2018). *PTA exam: The complete study guide*. Scorebuilders.

Step 4. Analyze

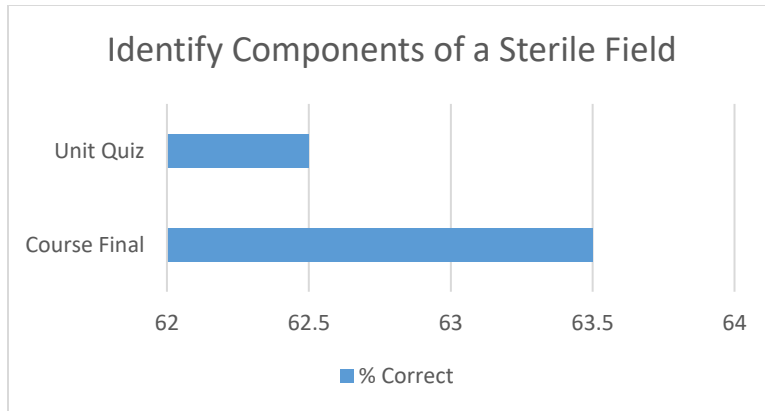
The course instructor collected exam scores from unit quiz and course final examination. Data related to the integumentary system were isolated from the 150-question Scorebuilders exam. Integumentary/lymphatic systems data was collected from the NPTE Content Area Assessment report.

In 2019, twenty-four (24) of twenty-five (25) students took the unit quiz. Twenty-five (25) of twenty-five (25) students took the course final.

The following data was collected:

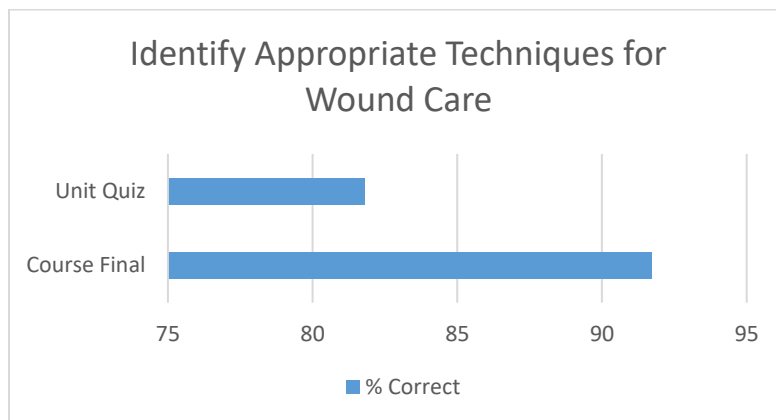
1. Identify components and purpose of a sterile field (CAPTE alignment: 7D23i).

Of those who took the unit quiz, 62.5% of students chose the correct answer. On the course final exam, 63.5% of students chose correctly.



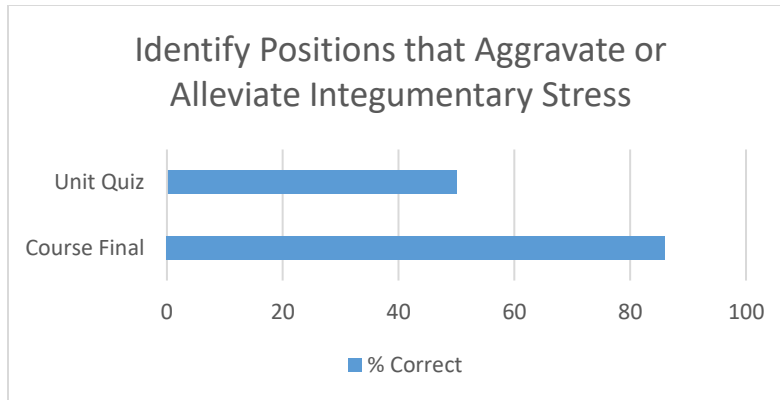
2. Identify appropriate techniques for wound care: hydrotherapy, e-stim, debridement, medication, dressings, drainage, orthotics/compression, personal protective equipment (CAPTE alignment: 7D23i)

Of those who completed the unit quiz, an average of 91.7% students were successful at choosing the correct answer. On the course final 81.8% of students were successful.



3. Identify positions that may aggravate or relieve integumentary stress and pain minimize contractures (CAPTE alignment: 7D24f)

Of those students who took the unit quiz, 50% students chose the correct answer. On the course final examination, an average 86% students chose the correct answer.



The Scorebuilders exam is developed by a third-party service and proctored by the program director. Data was collected from this third-party for two cohorts (2019, 2020).

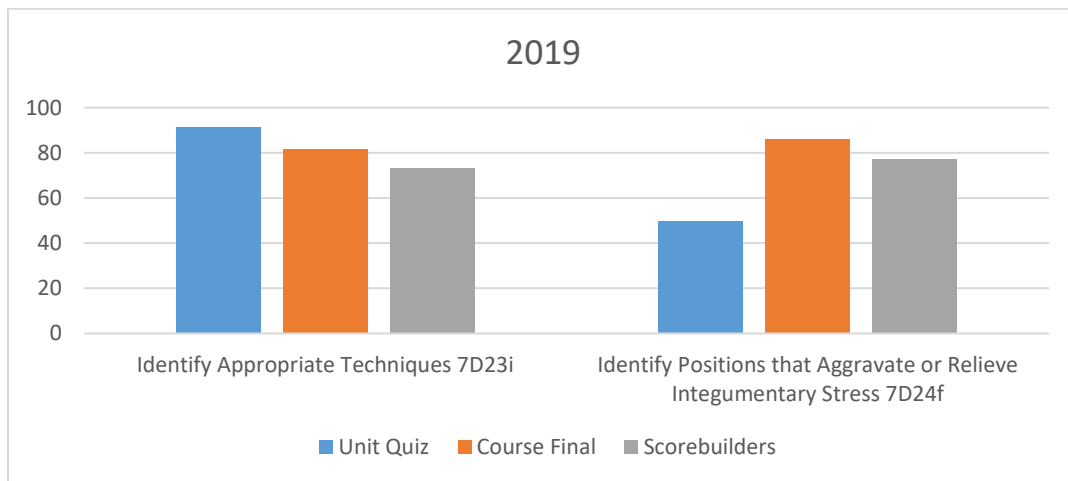
- *Note, there were no questions related to maintaining a sterile field on the Scorebuilders exam.*

Scorebuilders Comprehensive Examination	Question Number	October 2019 %correct	October 2020 %correct	% correct Total test takers U.S.
Identify positions that may aggravate or relieve integumentary stress and pain, minimize contractures (7D24f)				
	16	92	100	93.5
	53	84	89.4	76.2
	147	56	52.6	53.7
Mean		77.3	80.67	74.47
Identify appropriate techniques for wound care: hydrotherapy, e-stim, debridement medication, dressings, drainage, orthotics/compression, personal protective equipment (7D23i)				
	74	96	89.5	76.5
	76	64	89.5	87.7
	135	56	57.9	50.6
	148	76	63.1	59.5
Mean		73	75	68.6

Student performance higher than national average

For 6 out of 7 questions asked on the Scorebuilders exam, students at Carroll Community College outperformed all U.S. test takers in 2019. Students who took this exam in 2020 showed similar results.

The following graph shows percent correct in linear fashion from unit quiz to course final to Scorebuilders exam.



The NPTE licensure examination was taken as an on-line assessment and data was gathered from the Content Area Assessment report.

Integumentary and Lymphatic Systems		
NPTE Completion	Mean Scale Score 1 st time test takers at CCC	Mean Scale Score 1 st time test takers U.S.
January 2018	643.1	664.2
January 2019	699.2	659.3
January 2020	654.6	661.7

CCC performance higher than national average

Students who took the NPTE in January 2019 did not have access to the updated materials as calendar year 2018 was a planning and development year. Full implementation of updated course content and assessment did not begin until spring semester 2019 (this cohort sat for NPTE exam in January 2020). There was improvement from January 2018 to January 2020, but students at Carroll Community College still performed under the national average. During the planning year for this course assessment, students performed higher than the national average.

Discussion

This study is unique in multiple ways. First, the course is only offered once per academic year in the spring semester. Second there is only one instructor involved in providing course material and assessment. Finally, the investigator had the opportunity to look at longitudinal data.

Students had improved performance from unit quiz to course final under all three objectives in 2019. Students also performed higher than the national average on the Scorebuilders exam on both objectives compared. Finally, NPTE performance improved from January 2018 to January 2020 even though the scores did not surpass the national average in either of these years.

There were multiple unexpected challenges with implementation of this assessment.

- One student did not complete the unit quiz in 2019
- The investigator had planned to observe two years of data. However,
 - In 2020, the college closed due to the global pandemic the same week that the laboratory experience was scheduled.
 - In 2020, the guest content expert was cancelled due to the pandemic and students did not have access to the laboratory experience until summer semester.
 - The college changed learning management systems from Blackboard to Canvas amidst the spring pandemic closure. With the mass conversion, unit and course data was lost for spring 2020.

The next opportunity to collect additional data for unit quiz and course final will be May 2021. Information from the NPTE examination for the graduating class of 2020 will be available in May 2021.

At this time, the investigator will make report to the rest of the faculty to determine benefits of continued observation versus a refocus to another area of curricular assessment. Should the collective faculty determine continued observation as beneficial, the investigator will collect data until two complete years have been assessed.