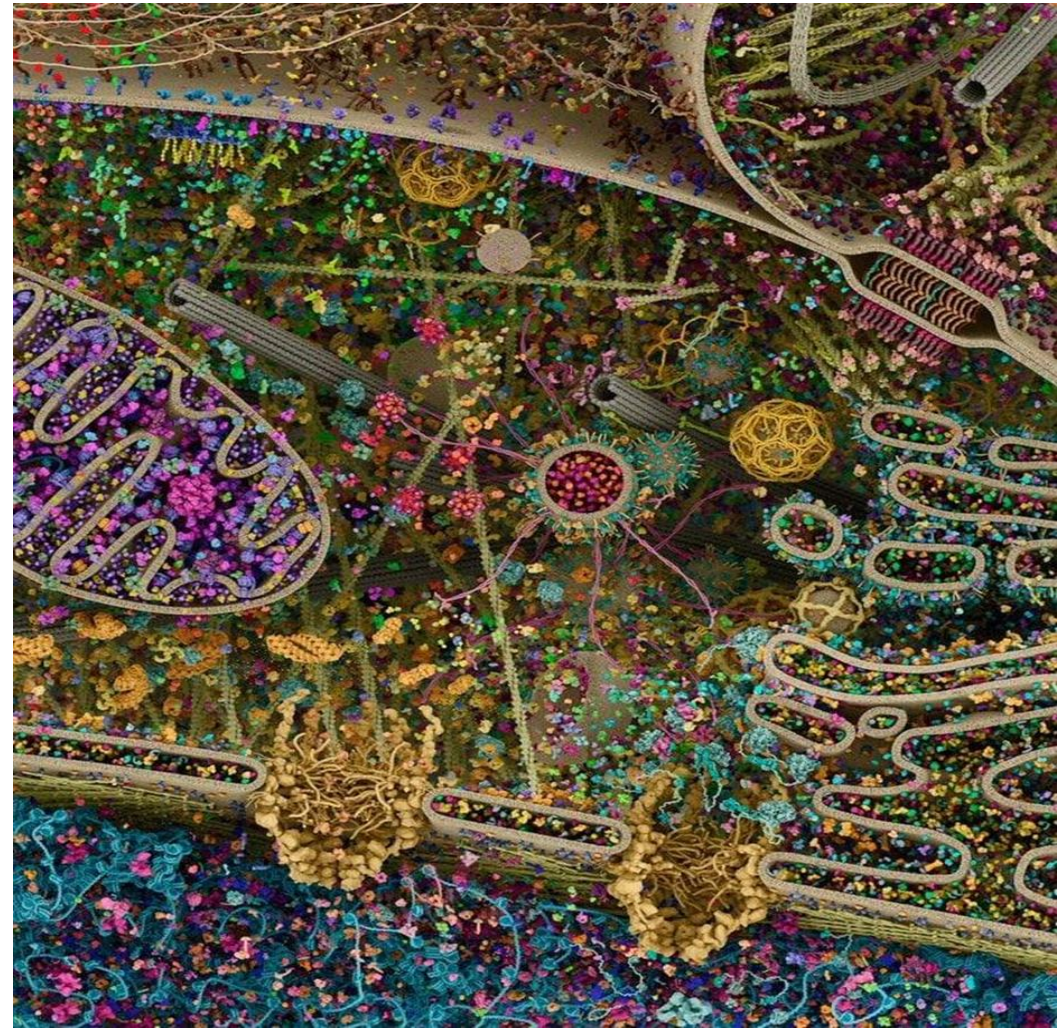


SCHOLARSHIP FOR  
EXCELLENCE IN  
TEACHING – 2020  
Cohort



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**PTA Program Coordinator**

# THE PROBLEM

- At the conclusion of 5 semesters, students graduate and must pass a national board exam that qualifies them for licensure
- A very difficult transition for our PTA program students is the shift from memorizing information to understanding and integrating information for the purpose of correct action (aka patient care)
  - Prior college / experience in education has taught them to be successful at memorizing just before an exam and subsequently forgetting
  - No common instructional or assessment strategies are available for PTA instructors
    - Problem based learning used in graduate school PT – not entirely appropriate for PTA
    - Critical thinking – not as helpful as clinical reasoning
    - Metacognition and reflection – often over used or poorly used in graduate and undergraduate PT
    - Decision trees and problem solving algorithms – are available but not used in instruction; intimidating to novice learner and those who are math phobic
- **PHTH 112 Pathology for the Physical Therapist Assistant** has been a **barrier course** in the curriculum

# SCHOLARSHIP

***FEBRUARY--Collaborative Learning Techniques: A Handbook For College Faculty*** by Elizabeth Barkley, Claire Major Howell, and Patricia Cross

***MARCH--Teach Students How To Learn*** by Sandra Yancy McGuire

***APRIL--Culturally Responsive Teaching*** by Geneva Gay

***MAY—Miniature Guide to Critical Thinking*** by John Paul and Linda Elder and

Selections from ***Classroom Assessment Techniques*** by Tom Angelo and Pat Cross.

***SEPTEMBER--How Humans Learn*** by Joshua Eyer

***OCTOBER --What the Best College Teachers Do*** by Ken Bain

***NOVEMBER--Higher Expectations: Can Colleges Teach Students What They Need To Know In The 21<sup>st</sup> Century?*** By Derek Bok—Former president of Harvard University

***DECEMBER—Teaching Effectively with Zoom: A Practical Guide to Engage Students and help them Learn*** by Dan Levy

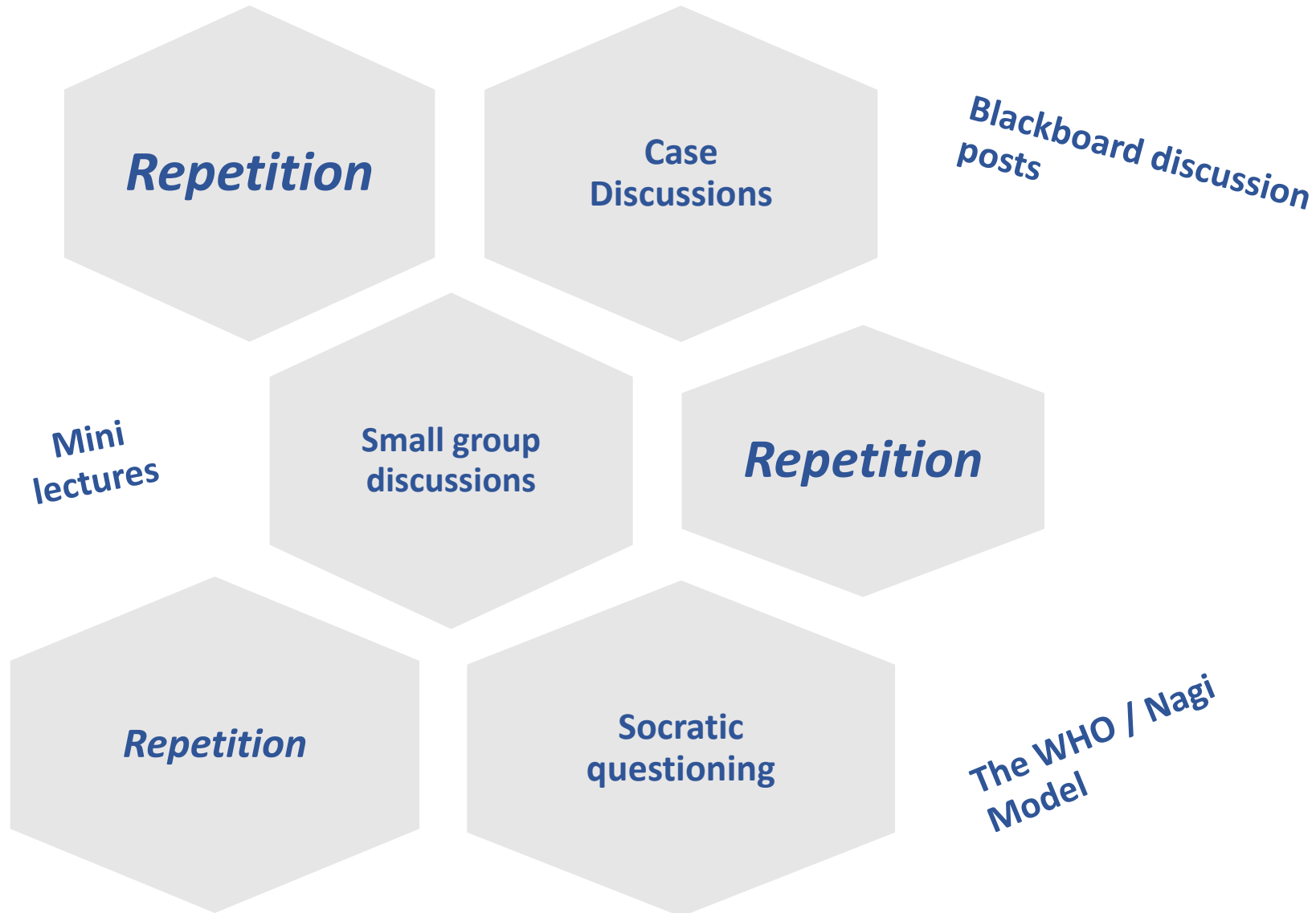
# SCHOLARSHIP

- Learning about learning
  - scaffolding, inclusiveness and building community will be essential in the virtual learning environment
- Clinical reasoning
  - Looking at Paul & Elder, certain definitions will be modified for the PHTH 112 course such as definitions of critical thinking (p. 9) and development of checklists and templates (p. 16-17; 29 and 31)
- Reflection for action
  - While the primary author was not reviewed in this session; the concept is similar to the template for problem solving from Paul and Elder (p. 31)
- Active learning
  - Open outline technique and WIKI for virtual learning
  - Look for additional active learning strategies to improve student participation
- LEARN vs. STUDY - Sandra Yancy McGuire's book, *Teach*

# THE STRATEGY

- Must be in **structured remote** format
  - Characterize how PT will develop the plan of care with interventions to address impairments and functional limitations with *case studies, small group discussions and Blackboard discussion board posts*
- Look for active strategies to **engage students** in learning pathology
  - Review normal then see where the abnormal comes into play
  - *Mini lectures, Socratic questioning, case discussions*
  - *Repetition, repetition, repetition*
- Look for active strategies to allow students to **delve more deeply** into the implications of pathology
  - Use WHO / NAGI models (*pathology – impairments – functional limitations – participation restrictions*) to more clearly see implications of pathology on the individual
  - Introduce elements of medical history and lab values to key into variations from normal

# Examples of strategies



# Examples of strategies

## Case Discussions

Textbook has cases at end of each chapter

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- Discussion of low back pain. Asked students to define words in the case and re-state what statements mean.
- Identify / pull out pathology / impairments / functional limitations

## Small group discussions

Random assignment into groups of 3 – 5 students

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- Complete worksheet on cancer then combine into one document
- Games – the bone and muscle games. Top scoring group earn extra credit
- Specific question (s) to address in neurological development and pediatric questions

## Socratic questioning

Review content from pathology chapter with faculty led questions

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- Faculty pre-recorded lecture content and students were directed to review prior to class session. Faculty developed questions to ask for clarifying ideas. Students called on, based on when their name appeared in the participant list
- Allows for maximum participation, everyone is called on and no one monopolizes replies
- Listening for how students construct and interpret information

**Which is worse an ischemic or a hemorrhagic stroke?**

**What is dysphagia and what causes this?**

**what is the difference from a TIA versus a CVA?**

**How is a concussion different from a Stroke?**

**How is Parkinson's disease different from Alzheimer's disease?**

**How is tone evaluated by our Physical Therapists?**

**How will we categorize the impairments from a spinal cord injury?**

**What are the major motor developmental milestones from birth to age 12 months?**



# Examples of strategies

## WHO / Nagi Model

Forms foundation for understanding illness

- Identify / pull out pathology / impairments / functional limitations
- A majority of pathologies addressed in physical therapy are reviewed – lectures, small group discussions and Socratic questioning asks students to identify the actual impairments and functional limitations – these are not in the textbook so students had to construct this knowledge

## Blackboard discussion posts

5 discussion posts this semester – initial post, attribution and reply to 2 of your classmates

- Read Robin Williams's wife address to American Academy of Neurological Physicians. Class split into 3 groups for the initial post: relationship between depression and suicide; compare and contrast Alzheimer's and Parkinson's disease; discuss dementia
- Review information on cancer. Class split into 3 groups for the initial post: role of socioeconomic status and environment; role of stress and family history; lifestyle issues

## REPETITION

Find multiple ways to reinforce impairments and functional limitations

- 4 Quizzes and 2 Exams – content clearly identified in both formats
- 5 worksheets / homework assignments
- 5 discussion posts
- Pathology term project
- Group presentation on normal system physiology

# Examples of student work



- *Stressed people release hormones epinephrine and norepinephrine . . . may cause immune system to be less effective. KJ, class of 2022*
- *May turn to risky behaviors such as smoking and drinking alcohol to try to cope with emotional, physical and social effects (citation provided). KL, class of 2022*
- *Socioeconomic factors contributed to cancer . . . inequalities in cancer incidence, diagnosis, survival and mortality among different ethnic groups (citation provided) . . . When these issues are paired with systemic racism and discrimination, it points to major flaws within society and infrastructure of this nation. NA, class of 2022*
- *I did not know about the disorder of internet addiction . . . becoming the quickest growing disorder. . . I appreciate you adding functional limitations that occur due to depression. DS, class of 2022*
- *Unfortunately I know too many people who suffer from depression and turned to drugs to help cope. RM, class of 2020*
- *There needs to be less stigma and more understanding with depression. Suicide [prevented] by being more open minded and available to others. CE, class of 2020*

# ASSESSMENT

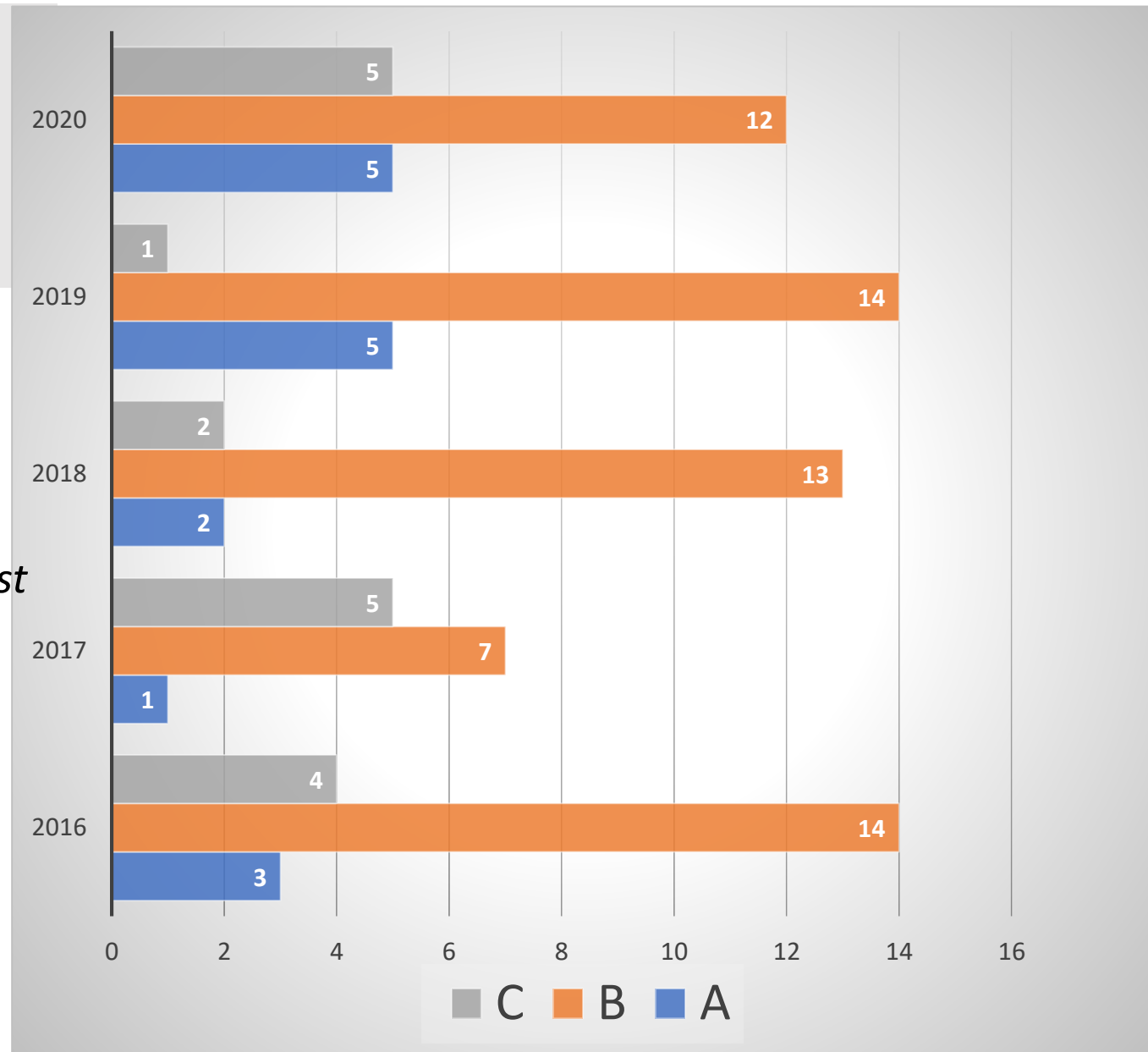
- Grade distribution from past 5 years
- Progression rates from past 5 years
- Final exam and pathology project grades from past 3 years
- Blackboard analytics
- Qualitative comments from students
- Semester Survey Report

# ASSESSMENT

## Grade distribution in PHTH 112 over past 5 years

– Please note PTA Program grading scale does not award “D” grade and “C” grade stops at 75%

*Conclusion: More “A” grades in past 2 cohorts; “B” grade is most common grade in all cohorts*



# ASSESSMENT

## Course attrition and progression in PHTH 112 over past 5 years

Note that PTA program is a cohort curriculum model – if the student fails or must withdraw from PHTH 112, they must wait for a full academic year to resume the PTA plan of study with a subsequent cohort. If the student fails more than 2 courses – or the same course twice – they are administratively withdrawn from the major.

*Conclusions: Upward trend in student progression. While this has been a barrier course in the past, greater than 85% of students progress in 3 of the past 5 cohorts. 2020 versus 2019 exceeding Dr Rai's "plus 1" objective*

	2016	2017	2018	2019	2020
W / F	0	5	3	6	2
Total students	21	18	20	26	23
% progression	100%	72%	85%	77%	91%

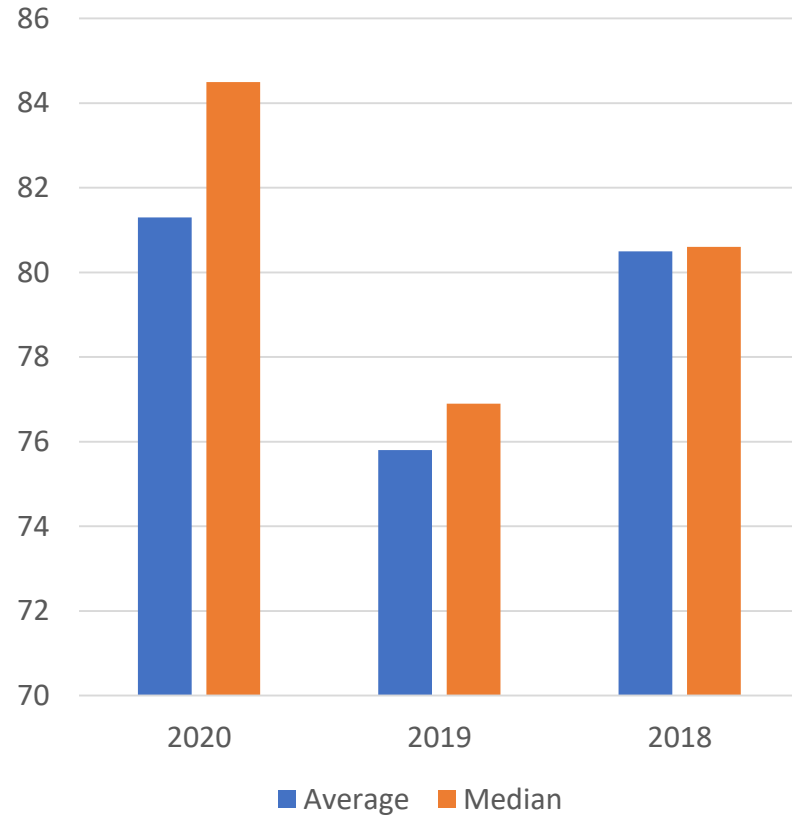
# ASSESSMENT

## Final Exam and Term Project grades in PHTH 112 over past 5 years

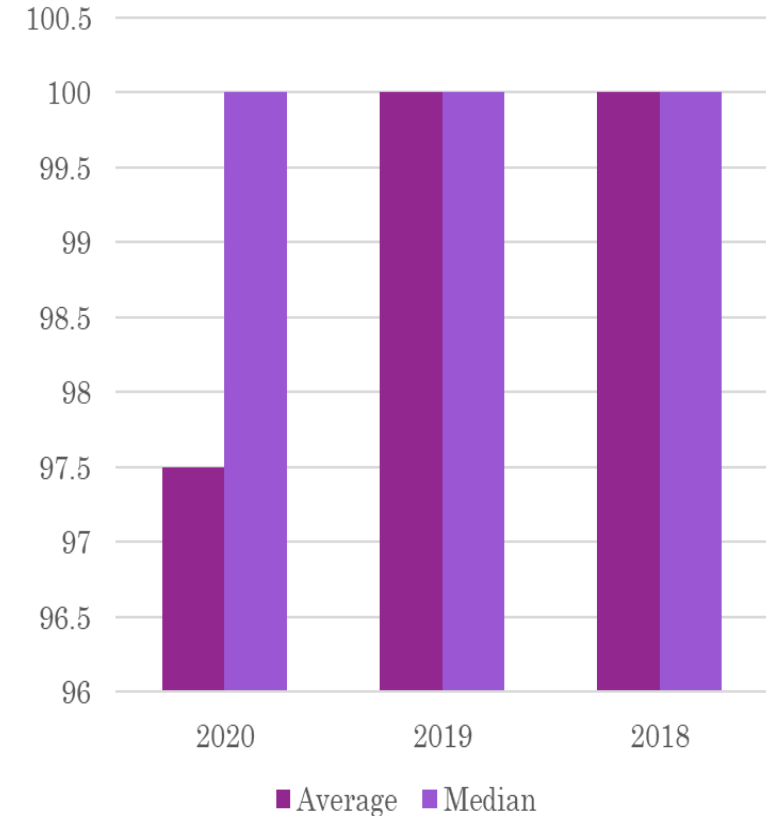
Average final exam grade are represented as an average and median scores. Term project grades as average and median scores.

*Conclusions: It appears that 2020 final exam scores were very close to prior 2 years. 2020 median score reflects bimodal cluster of individual scores. Deliberate attempt to use application questions in 2020. For the assignment, 2020 shows more thoughtful feedback to students.*

### Final exam scores



### Pathology assignment scores



# ASSESSMENT

## Blackboard Course Analytics

*Conclusions: Course analytics are available but were only accessed in December. PHTH 112 accessed more than by other Health Sciences courses. Student engagement as measured by average time accessing the course is directly related to ultimate course grade. Access evenly split between content and assessment.*

- Students access PHTH 112 more often and longer than their peers in 89 Health Sciences course sections offered in Fall 2020
  - 2x the number of accesses; 2.5 x more minutes; 2.25 x number of interactions; 2x more submissions
  - Access evenly split between content and assessments
- All students enrolled - with the exception of the student who withdrew during week 5 - accessed the course every week
- Those who access the course the most earned the highest course grades
  - In 2020 the 5 students earning a “C” grade accessed the course routinely less frequently than their peers and the 5 students earning an “A” grade accessed the course routinely more frequently than their peers

# Qualitative comments from 2 students

- *Yes, **your explanation helps!** So foot drop begins in the brain or spinal cord, not the PNS. Foot drop was secondary to the patient's hemiparesis but the paper focuses on restoring her ability to dorsiflex. A lot of the paper went over my head but still I better understand the purpose of the lidocaine, spasticity versus contracture, and can better see the whole patient -- I was zoomed into her ankle. **MG, class of 2022***



- *I wanted to share with you the **ah ha moment** I had today. I was filling in my pathology / impairments / function limitation worksheet in for chapter 13 and I finally feel like I can flow from impairments into functional limitations of the same pathology with ease. I just wanted to let you know that your worksheet has helped me a lot! **AB, class of 2022***



# Semester Survey Report

<i>Response rate: 7 / 17 (41%)</i>	S/A + A	D + S/D
Instructor explains course material clearly	6	1
Assessment tools cover material taught	7	0
Instructor encourages students to participate and ask questions	6	1
Instructor fosters an inclusive, respectful learning environment & acknowledges student diversity	6	1
Instructor available to assist students outside of class time	6	0
Instructor uses technological tools effectively	5	1
The use of technology provides opportunities for me to connect with other students and course materials	6	1

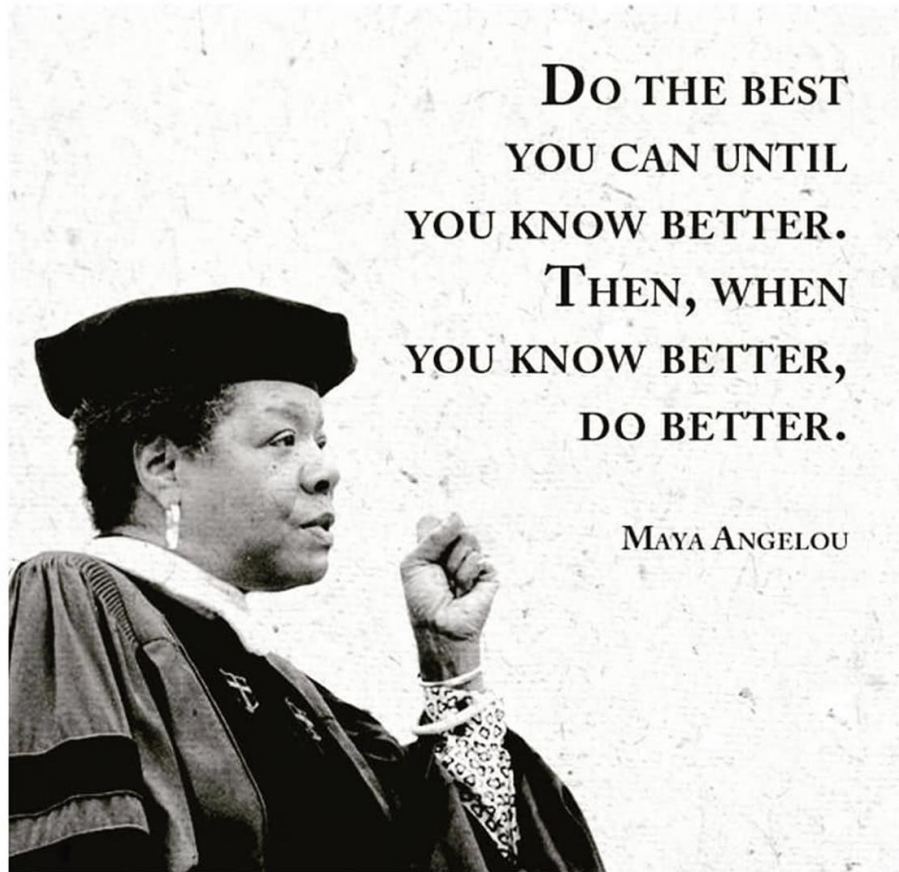
**13 - What do you like most about the teaching style of this instructor?** • The use of discussions from students was helpful because it allows the students to problem solve even if they don't have the answer right away. The breakout rooms allowed us to learn together as a team.

• She explains concepts well and allows students to ask questions. Communication is very open.

**14 - What would you like to see done to improve this course?** • Some of the powerpoint were not covered in lecture and were recorded. It was great that there were recordings of the lecture, but that was more time the student had to spend outside of class. I would have rather the powerpoints discussed in class and a recording of the powerpoint.



# REFLECTION ON 2020



## Positives

- Students rated experience highly – I was much more critical of my own performance
- Despite switch to structured remote 2020 student outcomes not that different from prior years
  - I am more clear about what I expect
- I have learned more about the technology – compelled to develop expertise
- Student engagement key to performance and satisfaction

## Negatives

- PHTH 112 not optimum to develop clinical reasoning – perhaps PHTH 102 would have been a better choice
- Not the best time to switch required textbook
- Not clear whether students have integrated course content versus memorized or look up answers on “Dr. Google”

# REFLECTION ON 2020

## How do I better understand my own teaching?

- Learning from expert teachers
  - Authenticity
  - “Treat what you see!” (impairments and functional limitations)
- More clearly understand role of repetition and timely feedback to improve student learning
- Formative quizzes fed to summative unit exams. Students had feedback on their understanding of material prior to higher stakes summative exams.
- Mini lectures – not so much! Pre-recorded content uploaded by Monday, with class time on Wednesday.
  - Students not always able to review lecture before class time.
- Used bingo games, small group discussions and Socratic questioning to improve engagement.
  - Did NOT use open outlines or Wikis
  - Used just a few instructional designs

## How do I better understand my own students?

- Course materials may look different on different platforms
  - Powerpoint slides do not look the same if the student is accessing from smart phone or tablet versus desktop or laptop
- Technology challenges
  - Of 17 students, 1 or 2 did not have microphones
  - Most did not turn on cameras, but did if requested to do so
- Scheduling and balancing demands
  - Some confusion about when assignments were due, when discussion posts were due, unable to upload onto assignments page, and when exams and quizzes were open
  - Childcare and work
- Grades directly related to amount of time individual student engaged with course page

# REFLECTION ON 2020

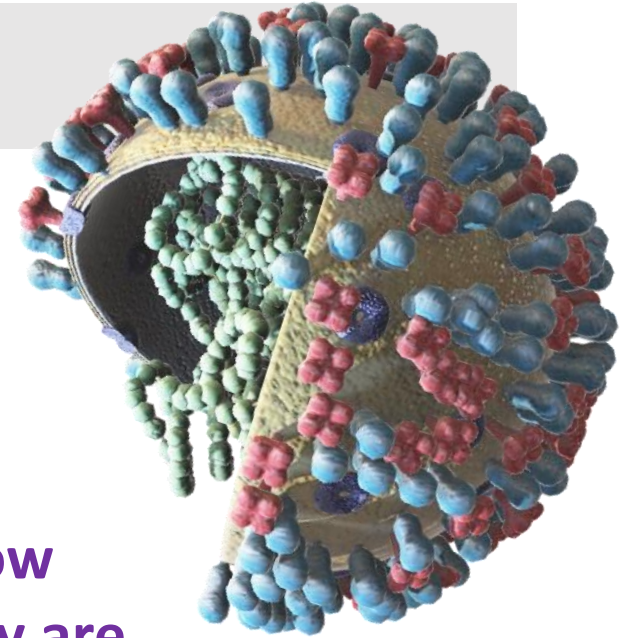
## TO ENHANCE MY TEACHING

- Pay attention to readiness to learn – add introduction and “roadmap” to the course and individual content modules
- I tend to be more eclectic and flexible but this may be difficult for students to follow
- I had some difficulty with scheduling and managing all of the semester’s expectations
- Need more techniques for instruction and assessments.
- While I am passionate about health disparities, social justice, and how stress causes physiological trauma, only a few opportunities to raise these issues for broader and richer discussion.

# REFLECTION ON 2020

## TO ENHANCE STUDENT LEARNING

- **Make objectives more explicit**
- **Improve consistency and dependability. If students know where to find materials and what will be expected, they are able to perform up to high standards**
- **Ultimate test is to compare results of PHTH 112 to performance on mock board exams and NPTE Pass rates**
- **TBA: curriculum revision**



Thank you!

Questions?

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