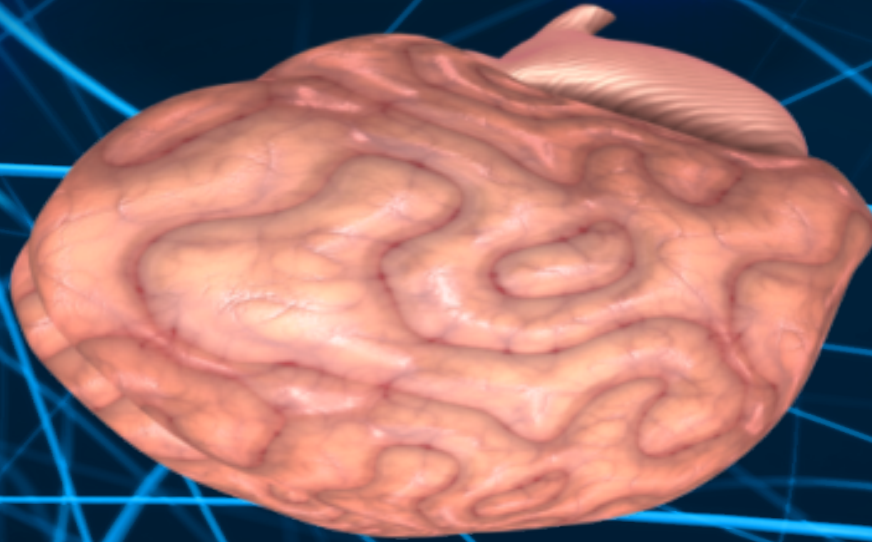


The background of the slide is a dark blue field filled with a complex, glowing network of light blue lines. These lines intersect and branch out, resembling a neural network or a digital data structure. The lines vary in thickness and brightness, creating a sense of depth and connectivity. A dark blue, wavy horizontal band runs across the lower portion of the slide, separating the main content area from the footer.

# You Flipped What??

Ryan Rasmussen MSN, FNP-c  
Assistant Teaching Professor  
Brigham Young University  
Provo, Utah



## How we flipped our Neurologic Assessment Lecture



# **TRADITIONAL TEACHING TECHNIQUES**

**Assigned Readings in Textbook**

**Lecture in class with PowerPoint**

**In class activities**

**Assessment skills lab**

# Why Flip the Neuro Assessment Class ?

1

Neurological exam is complex and difficult to understand

2

Through observation in clinical setting it was apparent that students weren't retaining the neurologic exam.

3

Time constraints- two hour lecture and two hour lab

4

Current teaching methods were not producing the desired results

# STEPS TAKEN TO FLIP THE CLASSROOM

- 1 Examine current neurology course material
- 2 Analyze and refine content
- 3 Develop a master outline
- 4 Research activities
- 5 Pilot the flipped classroom
- 6 Evaluation



1

# EXAMINE CURRENT NEUROLOGY ASSESSMENT COURSE MATERIAL

**Bates Guide to Physical Assessment**

**PowerPoint lecture in class**

**Instructor led skills lab**





2

## ANALYZE AND REFINE CONTENT

### Four Topics-

- 1- Mental Status Exam
- 2- Cranial Nerves
- 3- Motor Exam
- 4- Sensory Exam



3

## DEVELOP A MASTER OUTLINE

Tests and concepts were added  
to each of the four areas

Clinical lab rubric was developed  
for use during pass-off in lab





4

## RESEARCH TEACHING ACTIVITIES

**Student led discussions**

**Student led instruction**

**Video PowerPoint lecture**

**Videos from outside sources**



5

# PILOT THE FLIPPED CLASSROOM

**Four Groups**

**University of Utah School of  
Medicine Neuro assessment videos**

**Student led instruction**

**Content experts**



6

## EVALUATE

### Evaluation-

- Met with students and discussed verbally after class
- Anonymous written evaluation one week later
- Second written evaluation and assessment 4 months after class



# WHAT DID THE STUDENTS THINK?

## Positives-

“I felt like I knew my area well”

“I liked how it was interactive”

“It was very informative”

“I learn better when it is hands on”



# WHAT DID THE STUDENTS THINK?

## Negatives-

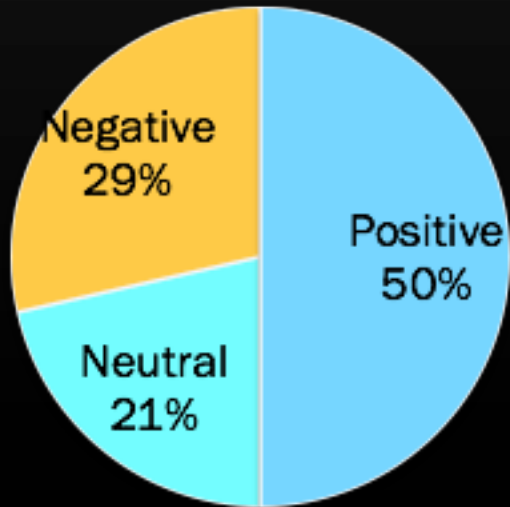
“It was a lot of information”

“The lecture and handouts lacked  
Uniformity”

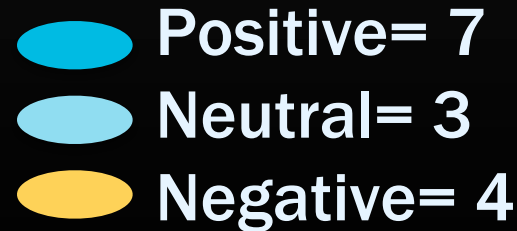
“It was very time consuming”

“I knew my area very well, but I didn't  
know the other areas as well”

# HOW WOULD YOU RATE YOUR EXPERIENCE ?

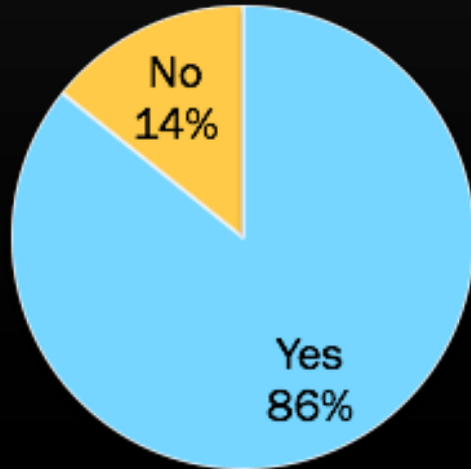


Total= 14





# DO YOU FEEL THAT YOU HAVE RETAINED THE INFORMATION TAUGHT IN NEURO ASSESSMENT?



Total= 14  
● Yes= 12  
● No= 2

# WHAT WENT WELL?

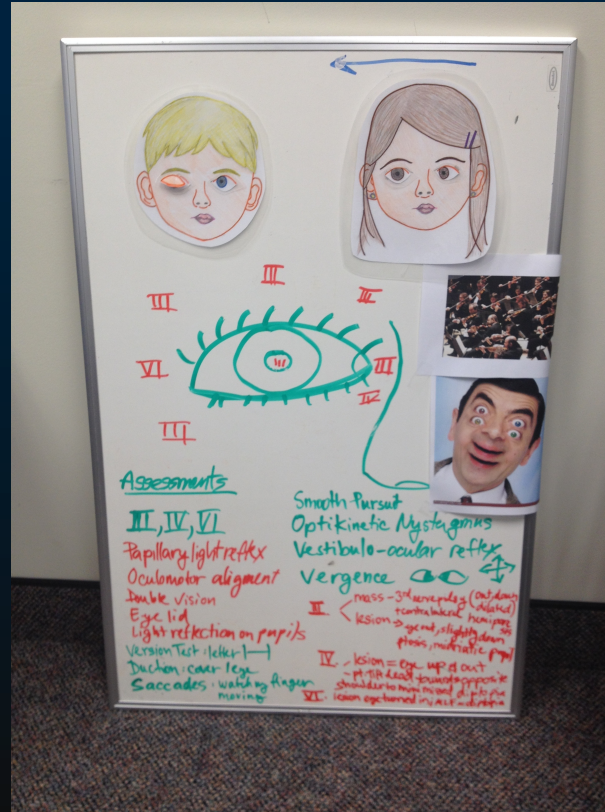
**Students were creative**

**Each student learned their assigned content well**

**Students worked as a team**

**Positive experience in skills lab**

# Examples of the Students Work





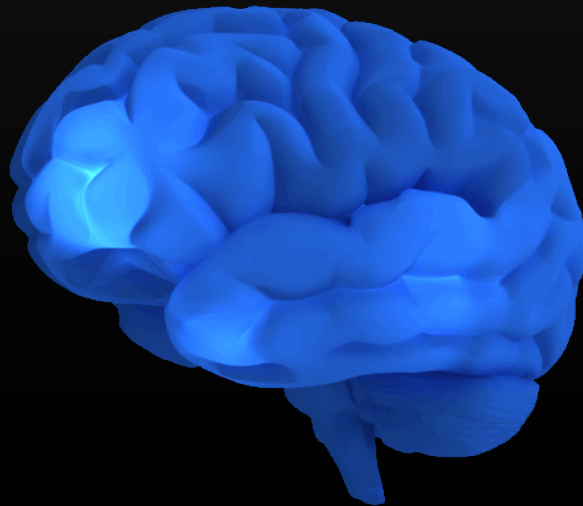
# WHAT WOULD WE CHANGE ?

**Prepare a video lecture to be watched before class**

**Give a quiz at the start of class to encourage preparation in all areas**

**Make assessment demonstration videos using faculty**

**Questions?**



# References

- Bickley, L. S., & Szilagyi, P. G. (2013). *Bates' guide to physical examination and history-taking* (11th ed.). Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins.
- Larsen, P. (September 2013). Neurologic Exam. In undefined. Retrieved February 10, 2014, from [http://library.med.utah.edu/neurologicexam/html/home\\_exam.html](http://library.med.utah.edu/neurologicexam/html/home_exam.html).
- Gaughan, J. E. (2014). The Flipped Classroom in World History. *History Teacher*, 47(2), 221-244
- Herreid, C., & Schiller, N. A. (2013). Case Studies and the Flipped Classroom. *Journal Of College Science Teaching*, 42(5), 62-66.