



THE OHIO STATE UNIVERSITY

COLLEGE OF NURSING

Student Engagement and Satisfaction in a Flipped Classroom

Joyce Zurmehly PhD, DNP, RN, NEA-BC

Kellie Adams MS, RN



Introduction

- Shift in student learning preferences
- Technology rich learning environment
- Immediate gratification
- Application to real life



Introduction

- Traditional “teacher centered” method
- Quality and Safety Education for Nurses Initiatives
- American Association of Colleges of Nursing Competencies
- Gap in Qualitative Research



Methods-Participants

- Undergraduate medical surgical course
- 45 students
- Traditional classroom – 20 students
- Flipped classroom – 25 students
- Instructor and cardiac content the same



Methods-Design

- Quasi-experimental design
- Convenience sample
- Medical Surgical- Basic
Electrocardiography (EKG) content
- Flipped classroom method
- Technology- Quick Response Code (QR)



Flipped Classroom - Student

- Prior to class:
 - Download FREE QR reader application (app) to smart device
 - Read assigned content pages in text
- Day of class
 - Get out your smart device!
 - Pair up
 - Share devices
 - Complete the exercise
- After class
 - Use the exercise as practice for unit exam and in clinical experience





Flipped Classroom- Educator Preparation

- QR code generator
- Generate codes to match the ECG rhythm
- Prepare the classroom for the exercise





Flipped Classroom- Educator

- Print all rhythms on individual paper
- Post around the room
- All students work in pairs
- Scan the QR code to check answers



Flipped Classroom - Educator

Name that Rhythm- #1



Heart rate:

Heart rhythm:

P wave:

PR interval:

Intervention needed:

Check your answer:

QRS complex:

Interpret the rhythm:





Flipped Classroom- Educator

- Debriefing
 - Think Pair Share
 - 2+2
- Formal evaluation- unit exam



Results

- 90% found the QR codes to be more helpful than traditional lecture
- 97% QR codes helped improve learning
- Total Engagement
 - Emotion
 - Performance
 - Participation



Results

- No significant difference in exam scores
- Positive association between student' satisfaction with QR codes and exam scores
- 92% answers provided were informative
- 98% QR codes covered necessary information
- 95% QR codes beneficial in the clinical setting



Results

"I was nervous when the instructor said we were going to read rhythm strips. The codes made it fun and helpful at the same time."

"The practice is good and having access to the answers helped me understand the strip better"



Discussion

- Educator
 - Meets Accreditor Expectations
 - Innovation
 - Ignite Engagement and Learning
- Student
 - Use of technology
 - Development of clinical reasoning skills
 - Immediate feedback
 - Look forward to coming to class!



Recommendations

- Include a clinical reasoning measure
- Faculty anticipate preparation time
- Incorporate QR technology in additional assignments



Questions?





THE OHIO STATE UNIVERSITY

COLLEGE OF NURSING



**THE OHIO STATE
UNIVERSITY**