Introducing Learners to Entrustable Professional Activities: The Effect of Performing a Root Cause Analysis on EPA 7 and 13 Functions

Shannon Longshore, Megan Sippey, Carl Haisch, Jan Wong

4th Annual Brody

Medical Education Day

March 21, 2018

Collaborative Team Members

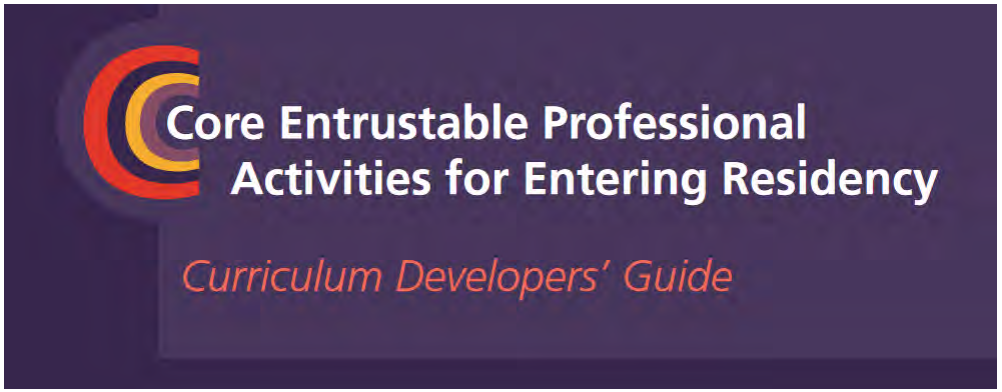
- Dr. Megan Sippey-- interactive lecture on root cause analysis
- Dr. Carl Haisch– Clerkship director, implemented the graded RCA
- Dr. Jan Wong– Clerkship director developed survey for clerkship students

Shannon Longshore 744-2832 longshores@ecu.edu

Rationale/Need

2014 AAMC published 13 Core Entrustable Professional Activities (EPAs)

- Provide expectation for learners and educators
- Activities that all medical students should be able to perform on day 1 of residency



Rationale/Need

- Although not yet mandated, it is anticipated that the behaviors exemplified in the 13 EPAs will be expected of all graduates as a measure of competency by the AAMC

AAMC Association of American Medical Colleges

Rationale/Need

- Third year Surgery Clerkship Curriculum revised
  - EPA 7-- Form clinical questions and retrieve evidence to advance patient care
  - EPA 13-- Identify system failures and contribute to a culture of safety improvement

Purpose

- We sought to evaluate the effectiveness of this curricular change on EPA 7 and 13 functions

Methods/Description

- July 2015 the RCA assignment became a required element of the third year surgery clerkship
- Introductory lecture given in the first week of the clerkship
  - Emphasis on systems approach to eliminating preventable errors
  - Utilization of a fishbone diagram to identify cause

Methods/Description

- Sample RCA in syllabus
- RCA template
  - Individual failures
  - System failure
  - How the failures contributed to the unanticipated event
  - What failure was the root cause of the unanticipated outcome
  - Minimum of two references of support

Student Template

Patient Safety: A System's Approach

Root Cause Analysis Assignment

Student Name: _____

Service: _____ **Patient location:** _____

Diagnosis: _____ **Procedure:** _____

Reason for Review (unanticipated outcome): _____

Severity of event:

- ◯ Unsafe condition
- ◯ Near miss
- ◯ No harm evident
- ◯ Emotional distress of inconvenience
- ◯ Additional treatment required
- ◯ Temporary harm to patient
- ◯ Permanent harm to patient
- ◯ Death

Description of events leading to the unanticipated outcome (use additional paper as needed):

_____

_____

_____

_____

Where were the failures in this case? Select all that apply.

Individual Failures	System Failures
◯ Communication	◯ Communication
◯ Handoffs	◯ Handoffs
◯ Hierarchical inhibition	◯ Hierarchical inhibition
◯ Loss of situational awareness	◯ Teamwork failure
◯ Failure to recognize	◯ Interruptions/distractions
◯ Failure to rescue	◯ Loss of institutional memory
◯ Misdiagnosis	◯ Flow of information
◯ Provider lacked foundational knowledge	◯ Inadequate knowledge of established policies/procedures
◯ Evidence-base violation	◯ Equipment issues
◯ Cognitive medical error/bias/heuristic	◯ Lack of non-reliance of memory
◯ Inadequate attention to detail	◯ Lack of standardization
◯ Lack of critical thinking	◯ Lack of simplification
◯ Unprofessional behavior	◯ Lack of parallel processing
◯ Failure to carry out order	◯ Lack of redundancy
◯ Provider/Physician responsiveness/timeliness	◯ Lack of forcing function/constraints
◯ Multi-tasking	◯ Multi-tasking
◯ Work-a-round	◯ Work-a-round

Select at least 3 of the identified failures and describe how this contributed to the unanticipated outcome:

Failure #1:

_____

_____

Failure #2:

_____

_____

Failure #3:

_____

_____

Which of these failures was the root cause of the unanticipated outcome?

_____

_____

Provide at least two recommendations based on current literature to prevent this event from recurring (cite references):

Recommendation #1:

_____

_____

_____

Recommendation #2:

_____

Methods/Description

- Faculty education
  - Grand Rounds utilized to explain the rationale and the faculty's role
  - Grading Rubric was provided

BRODY SCHOOL OF MEDICINE — EAST CAROLINA UNIVERSITY

Evaluation of Root Cause Analysis Assignment

Faculty:

Student:

Date:

1. Student provides a thorough, organized **timeline of events** leading to the unanticipated outcome:

Strongly disagree ⟷ Neutral ⟷ Strongly Agree

F C B A

2. Student identifies and adequately describes **failures** contributing to the safety event:

Strongly disagree ⟷ Neutral ⟷ Strongly Agree

F C B A

3. Student's **recommendations** to avoid repeating this safety event are logical:

Strongly disagree ⟷ Neutral ⟷ Strongly Agree

F C B A

4. Student references appropriate primary sources of **evidence-based literature** in forming recommendations:

Strongly disagree ⟷ Neutral ⟷ Strongly Agree

F C B A

Comments to Student:

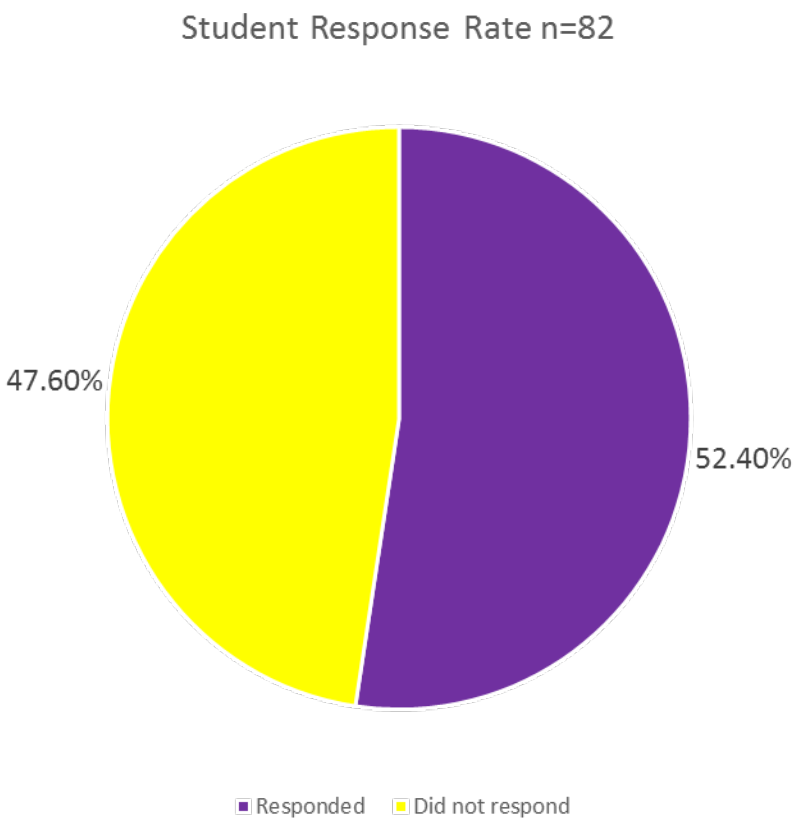
Methods/Description

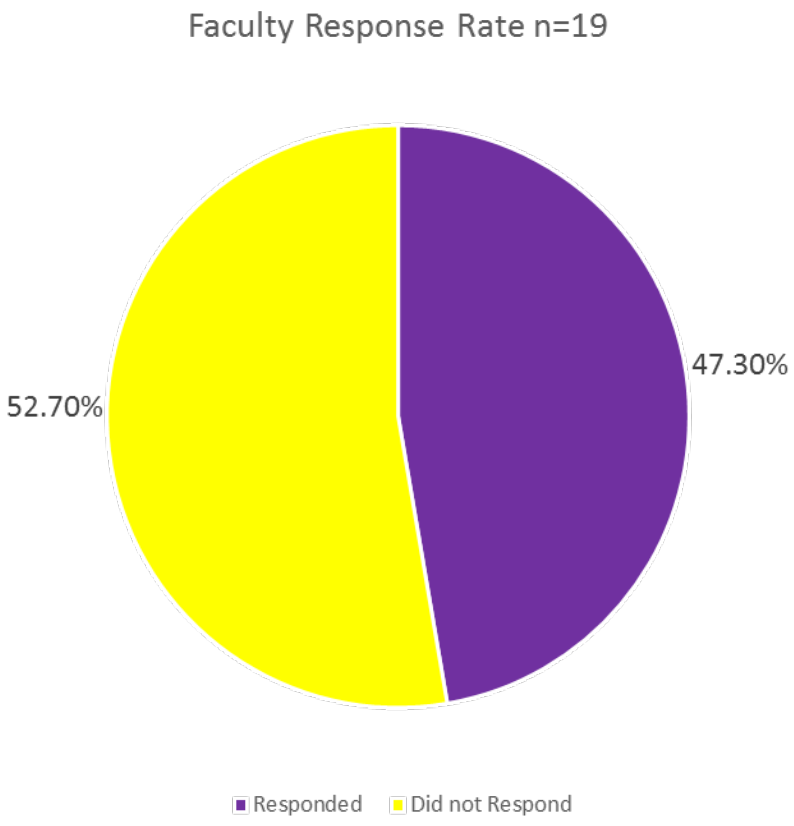
- Two Surveys
  - Student survey– determine the effect of the new curriculum on the ability of students to identify system failures and contribute to a culture of safety and improvement and to form clinical questions and retrieve evidence to advance patient care.

Methods/Description

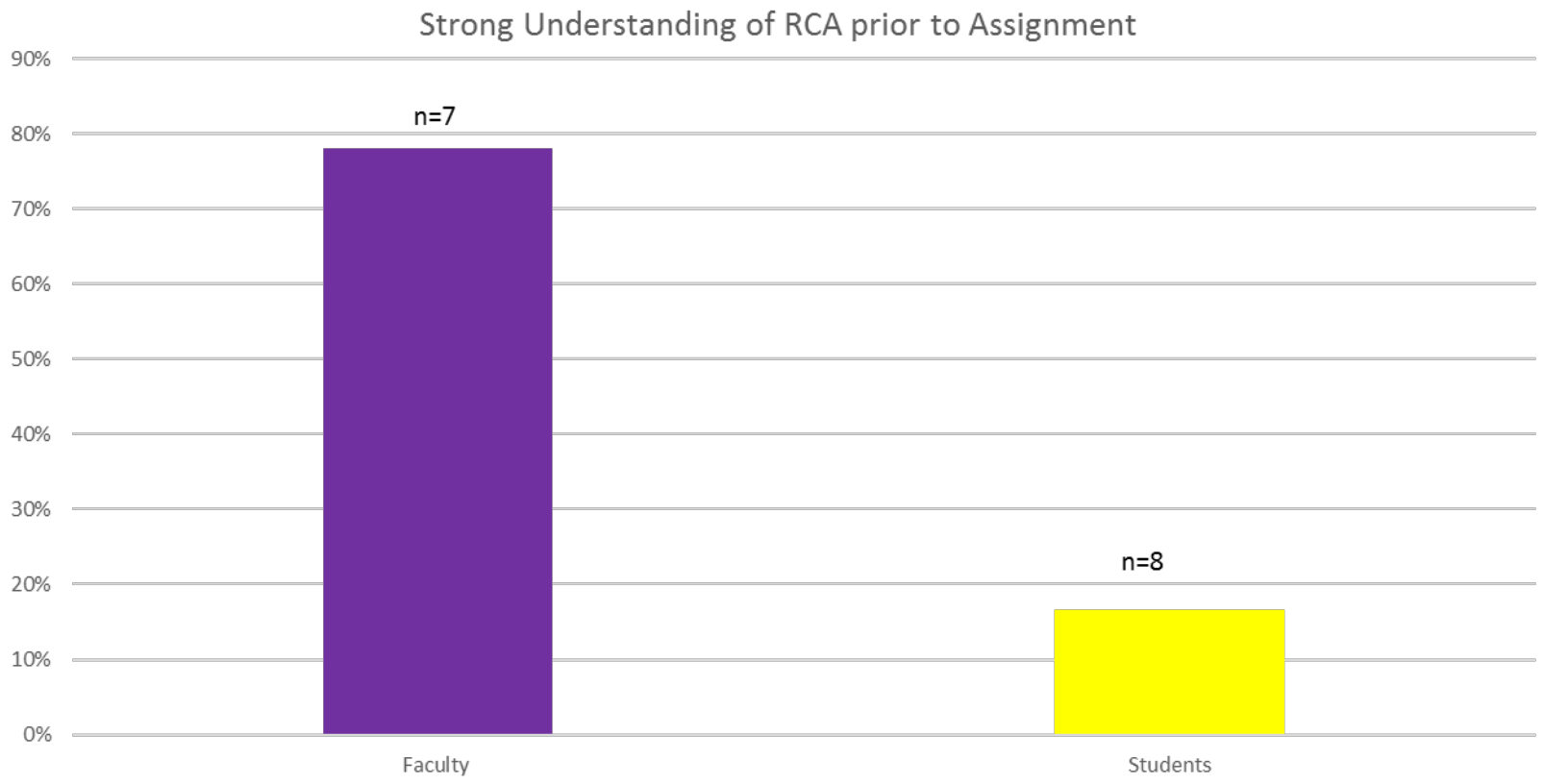
- Faculty survey—designed to assess the faculty's perception on the success of the assignment on the student's ability to perform the expected behaviors of EPA 7 and 13 as well as their time spend mentoring and grading the RCA.

Response Rate





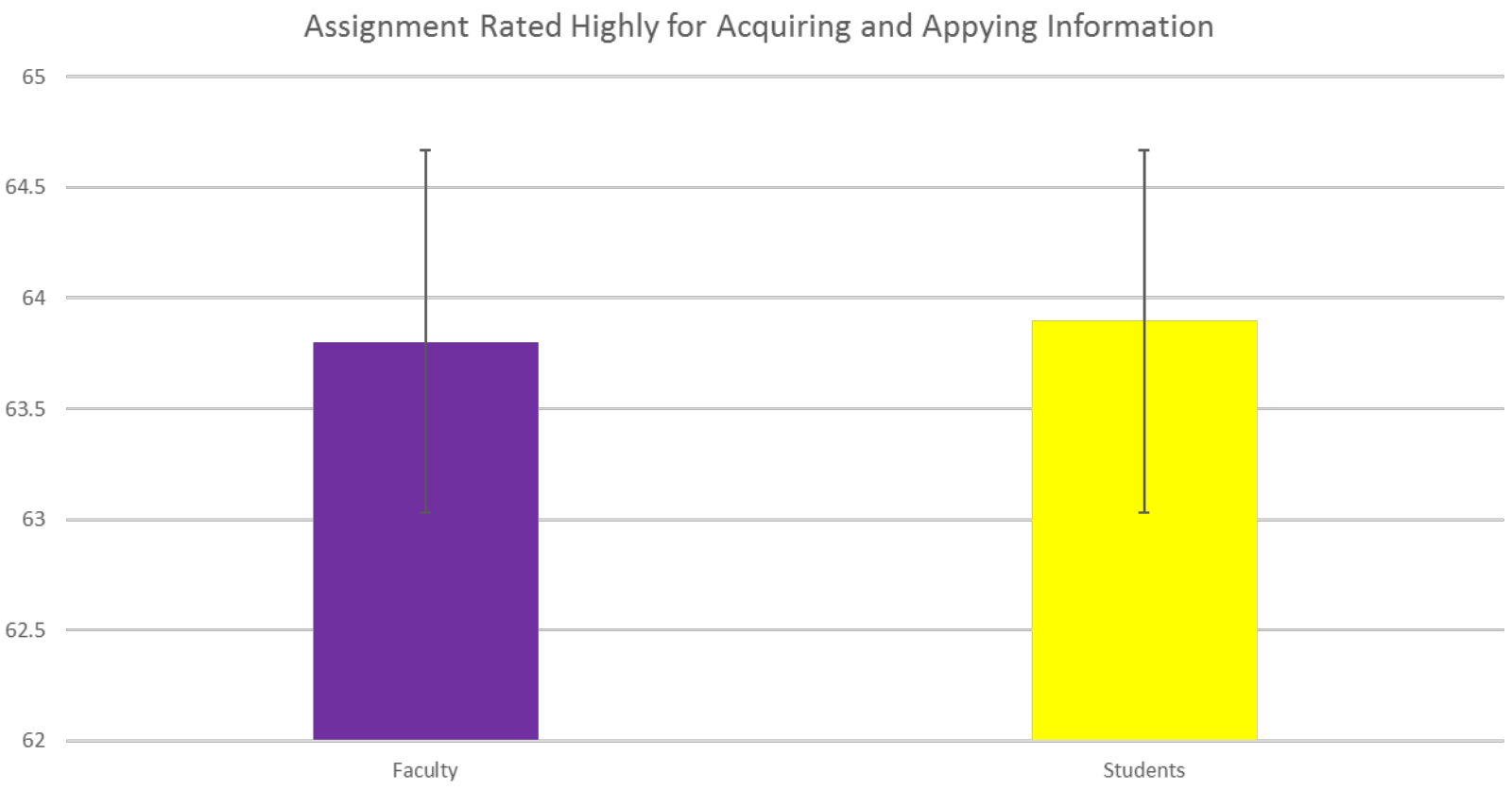
Understanding of RCA Prior to Assignment



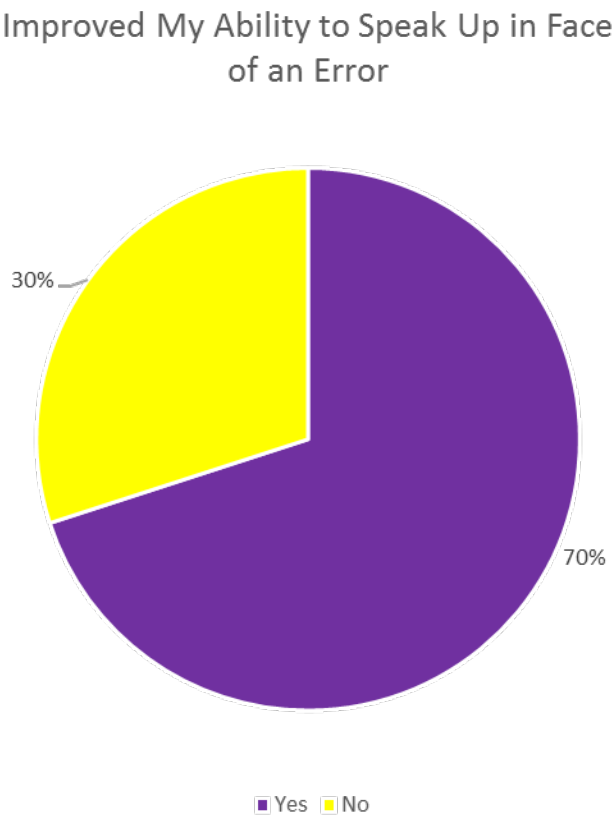
Faculty Perception of Value of the Assignment

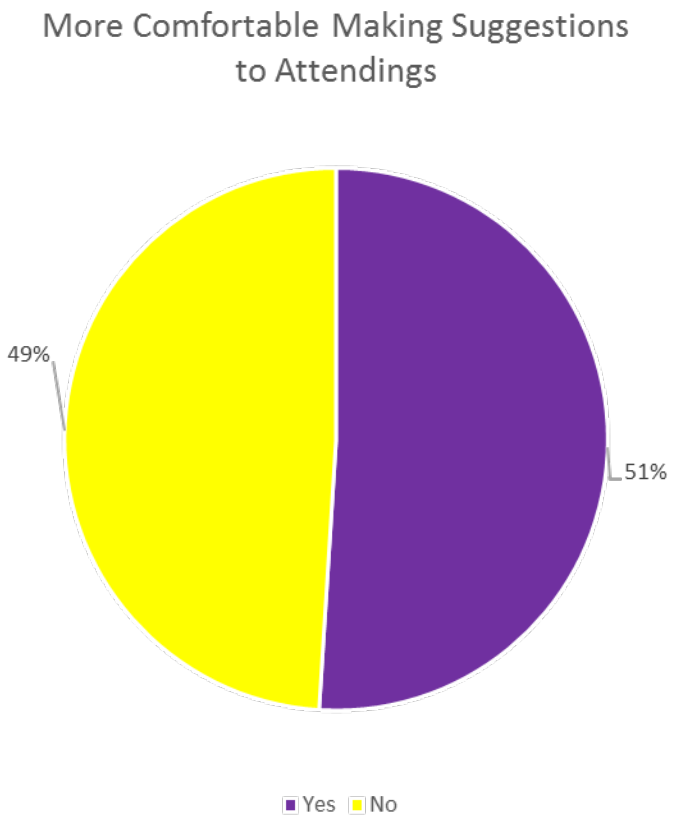
- Assignment believed valuable to students by 66.7% (6/9)
- 77.7% (7/9) felt is should be continued

Rated Highly for EPA 7

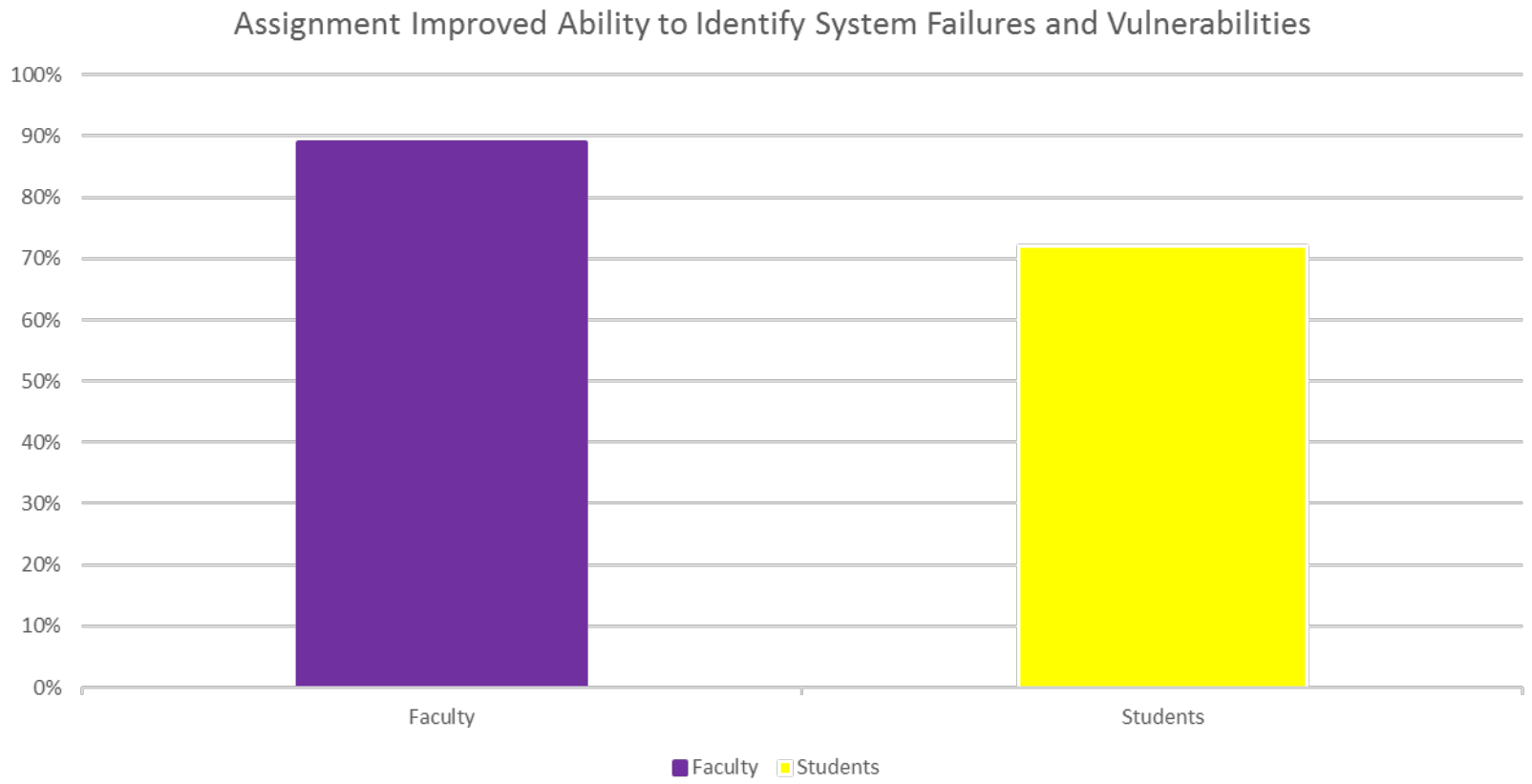


Improved Communication





Did the RCA improve their ability to identify system errors?



Challenges Encountered

- Survey response rate
- Uniformity amongst faculty and student mentor interactions

Conclusion

- The performance of the root cause analysis during the 3rd year surgical clerkship rotation was viewed favorably by both students and faculty mentors in beginning the process toward achieving competency in EPA 7 and 13.

Next Steps

- Revise the assignment to be a group project
- Provide formal faculty education on RCA

Acknowledgements

- Thank you to the students and faculty that completed their survey!

- Drs. Sippey, Haisch, and Wong

Contact Information

- Shannon Longshore
- Assistant Professor of Surgery, Medical Director of Pediatric Trauma and Injury Prevention
- longshores@ecu.edu
- (252) 744-2832