The anatomy laboratory practical examination ("practical") traditionally involves small numbers of students using paper-and-pencil examinations with fill-in-the-blank questions. Using ARS to record student answers in a practical requires changing both the way ARS has been typically used and the way the practical has been administered. 1 , 2

Our concerns about using the ARS in the practical were:
1. Not all instructors had ARS experience
2. Additional student stress level
3. Different type of question asked = different level of cognition needed
   a. Traditional: fill-in-the-blank = remember
   b. ARS: matching = recognize
4. Would this lead to different engagement with the material?
5. Would this lead to different exam scores?

Study Aims. To determine if:
1. Course instructors were a factor in determining practical examination scores
2. Grades from students who used the ARS to record answers in practicals were significantly different from students who used the traditional paper-and-pencil testing method

Findings – Aim 1 (Instructors)
• There was no significant difference in the mean of the scores between the instructors for either semester. (p = 0.96, p =0.68, p = 0.57, p =0.43).

Methods
• Dependent variable: exam scores
• Independent variables: instructor, ARS, traditional testing
• ANOVA and t-test

Findings – Aim 2 (ARS vs traditional)
• There was no significant difference in the mean of the scores in the first two practical exams (p=0.64, 0.25)
• There was significant difference in the mean of the practical scores for exams 3 & 4 (p < 0.00)
• Students who used the ARS for practicals 3 &4 scored 7.4 – 8.6 points lower than those using traditional testing.

Discussion
• Different instructors did not seem to have a significant difference on student scores
• Scores from students who used the ARS scored significantly lower than the student using traditional testing. This could be reflected in the overall course scores.

Limitations
• Two types of ARS responders used

References