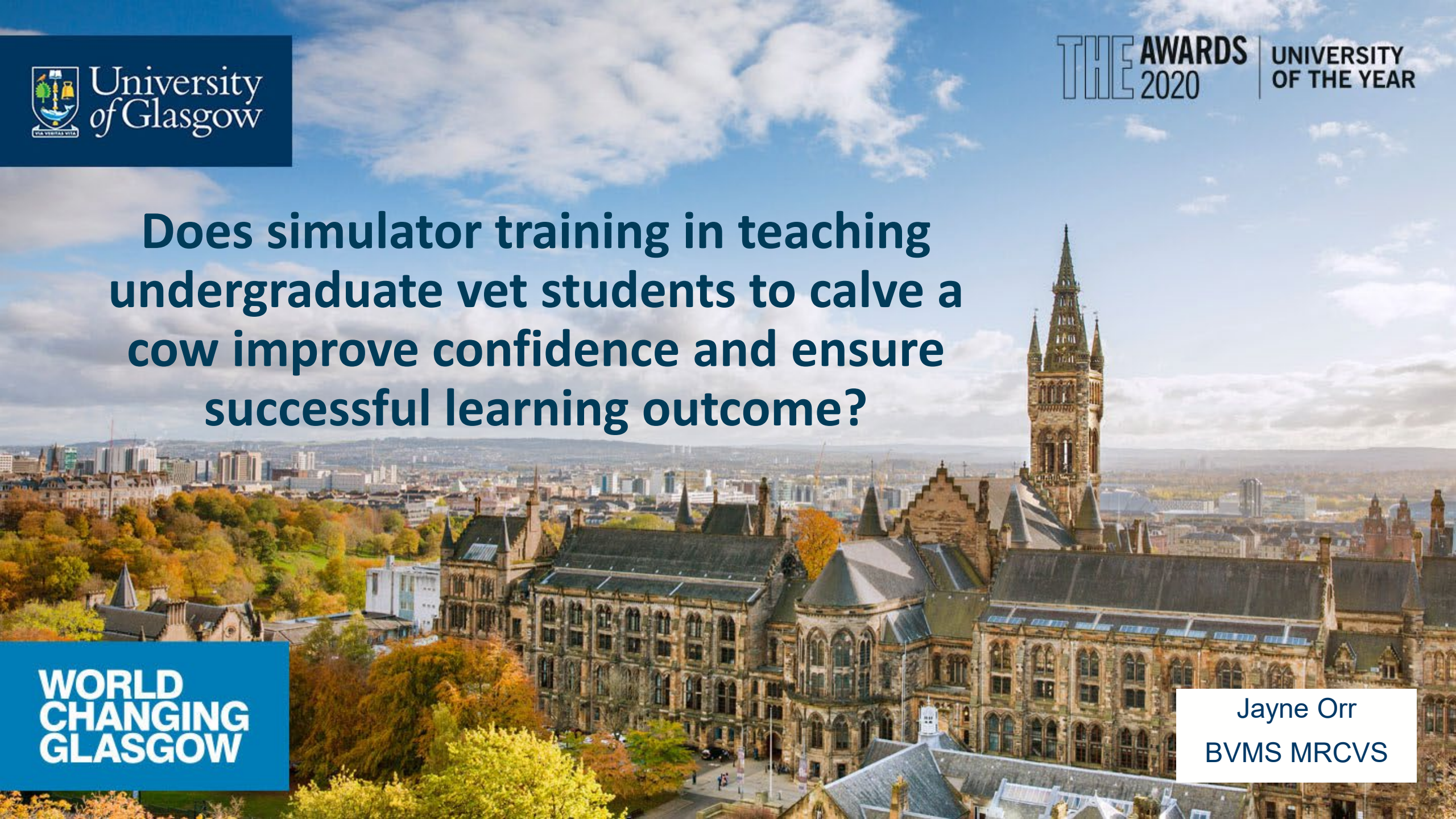

University of Glasgow
THE AWARDS 2020
UNIVERSITY OF THE YEAR
Does simulator training in teaching undergraduate vet students to calve a cow improve confidence and ensure successful learning outcome?
WORLD CHANGING GLASGOW
Jayne Orr
BVMS MRCVS

Background to the study – why is this interesting?

- Perinatal calf mortality is compromising animal welfare and effecting productivity on farm. What can vets do to improve this?
- Vets are expected to be able to calf cows and furthermore, provide training to farmers and their staff. Can we better equip our new grads for this by improving learning oucomes?
- Calving cows is stressful for vet and farmer. Can we decrease that stress by improving confidence?
- There is an increasing market for veterinary simulation, but it doesn't come cheap. Does it work?
- Blended learning has become a bit of a buzz word these days. Can you learn to calf a cow from a video?

Materials and Methods

- 346 4th year students over 3 years (2016 to 2018)
- Obstetrics lectures in 3rd year
- Practical class and formative OSCE in 4th year

- Students allocated to 1 of 4 study groups
  1. No further teaching (LEC)
  2. Computer assisted learning (CAL)
  3. Simulator practical class (SIM)
  4. LEC, CAL & SIM

- 6-week study period

Data Collected

<u>1st questionnaire</u>

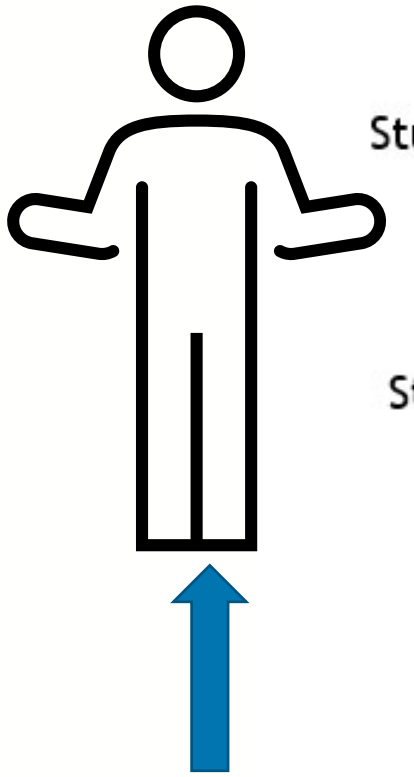
- Consent
- Demographics (age, intention after grad etc)
- Self assessed confidence

<u>OSCE exam and 2nd questionnaire</u>

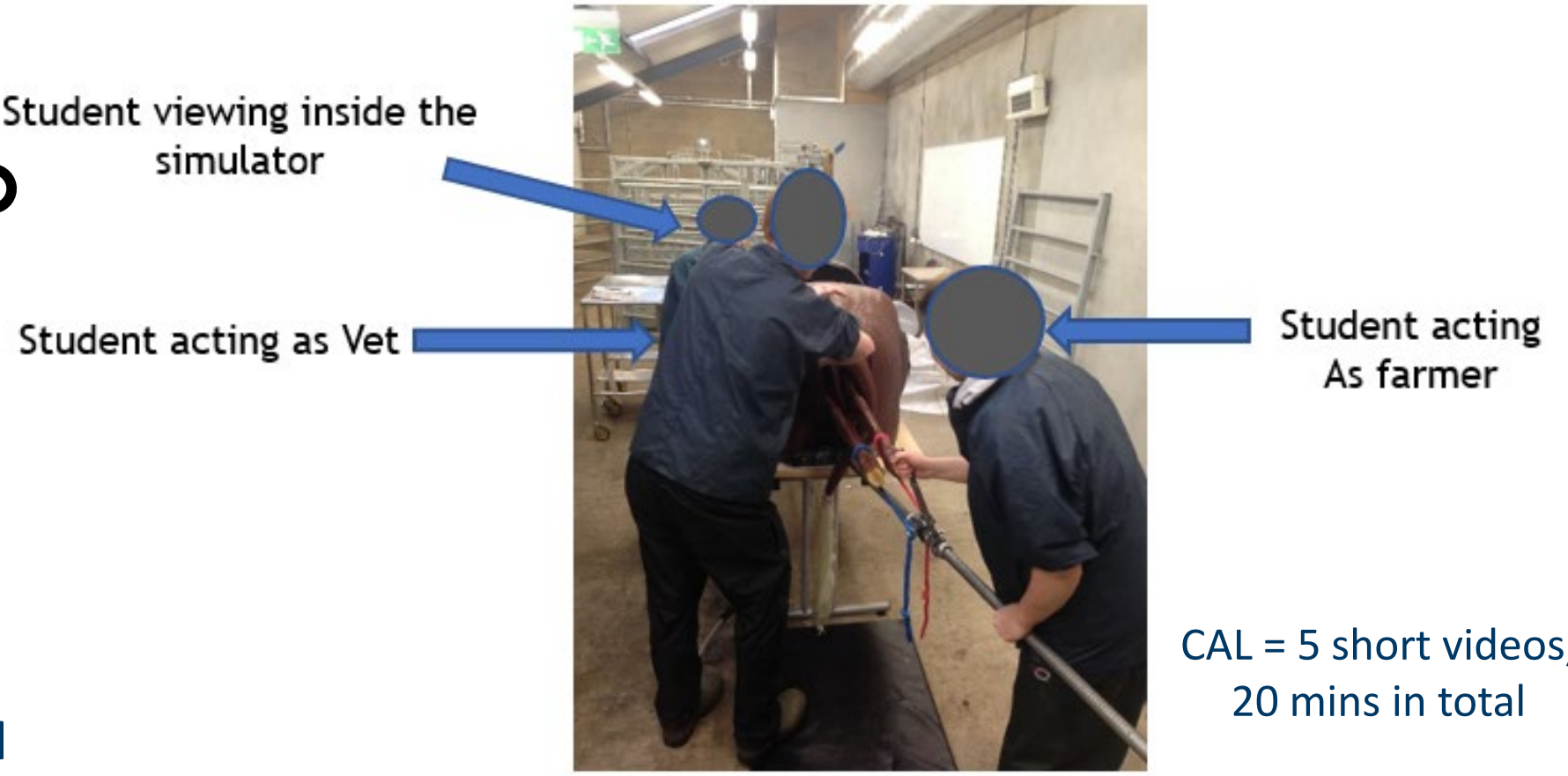
- Formative OSCE result
- Self assessed confidence

M+M - What did the practical class look like?

1 hour and 15minutes
6 students
1 teacher



Helpful and enthusiastic teacher



CAL = 5 short videos,
20 mins in total

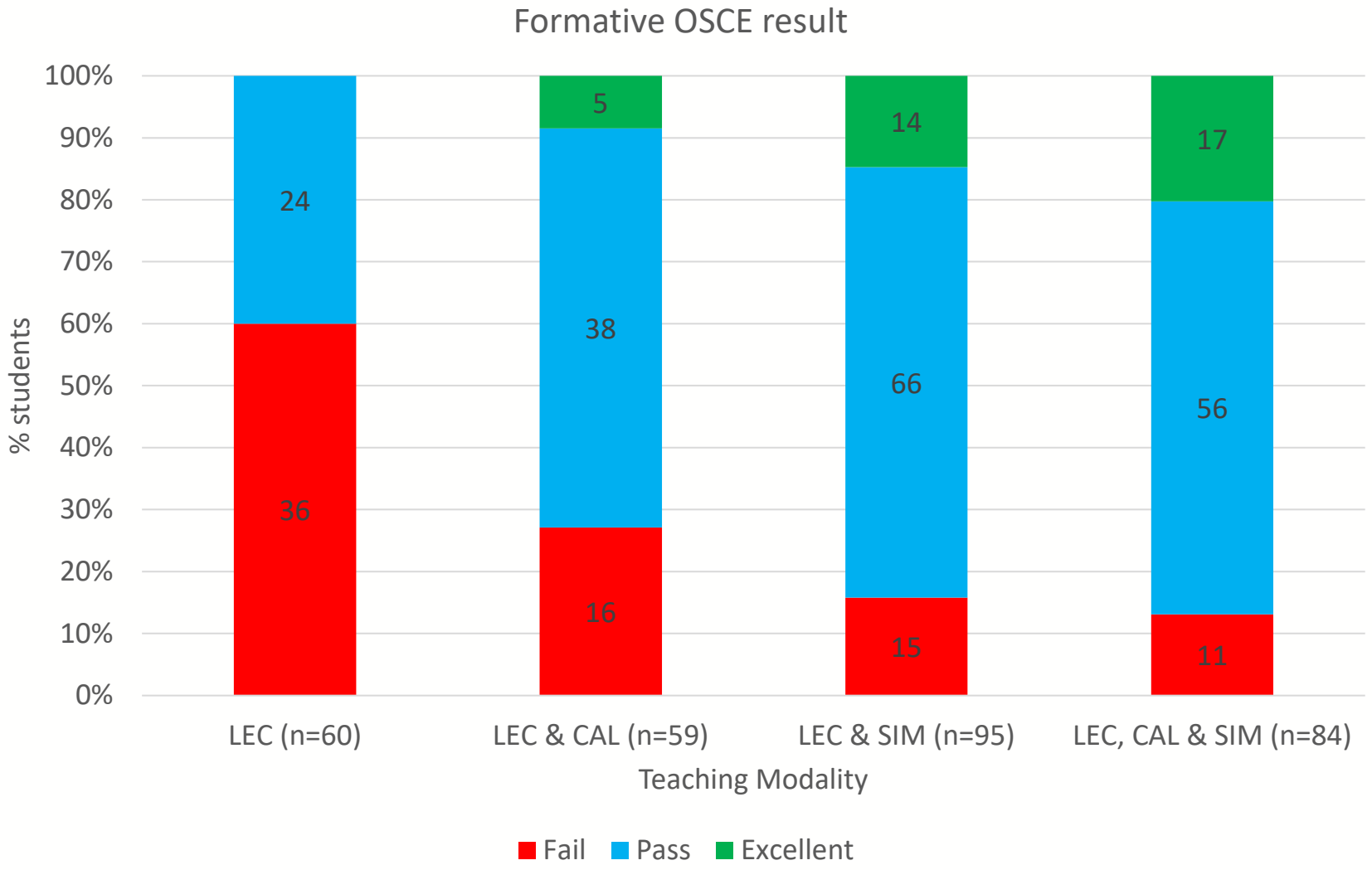
M+M - Timeline

Teaching week	1	2	3	4	5	6
Teaching	Only certain students had access to the CAL and SIM class			Everyone had access to CAL and SIM class		
Exam				Formative OSCE exam for ALL students		
Data collected	First Questionnaire and consent			Second Questionnaire + OSCE results		

M+M – Aims - Does simulator training……

1. Increase student confidence?
2. Improve formative OSCE outcome?

Results - OSCE (n=298)



Was it statistically significant?

- Yes ☺ (pass and Excellent combined)

No teaching versus all other groups

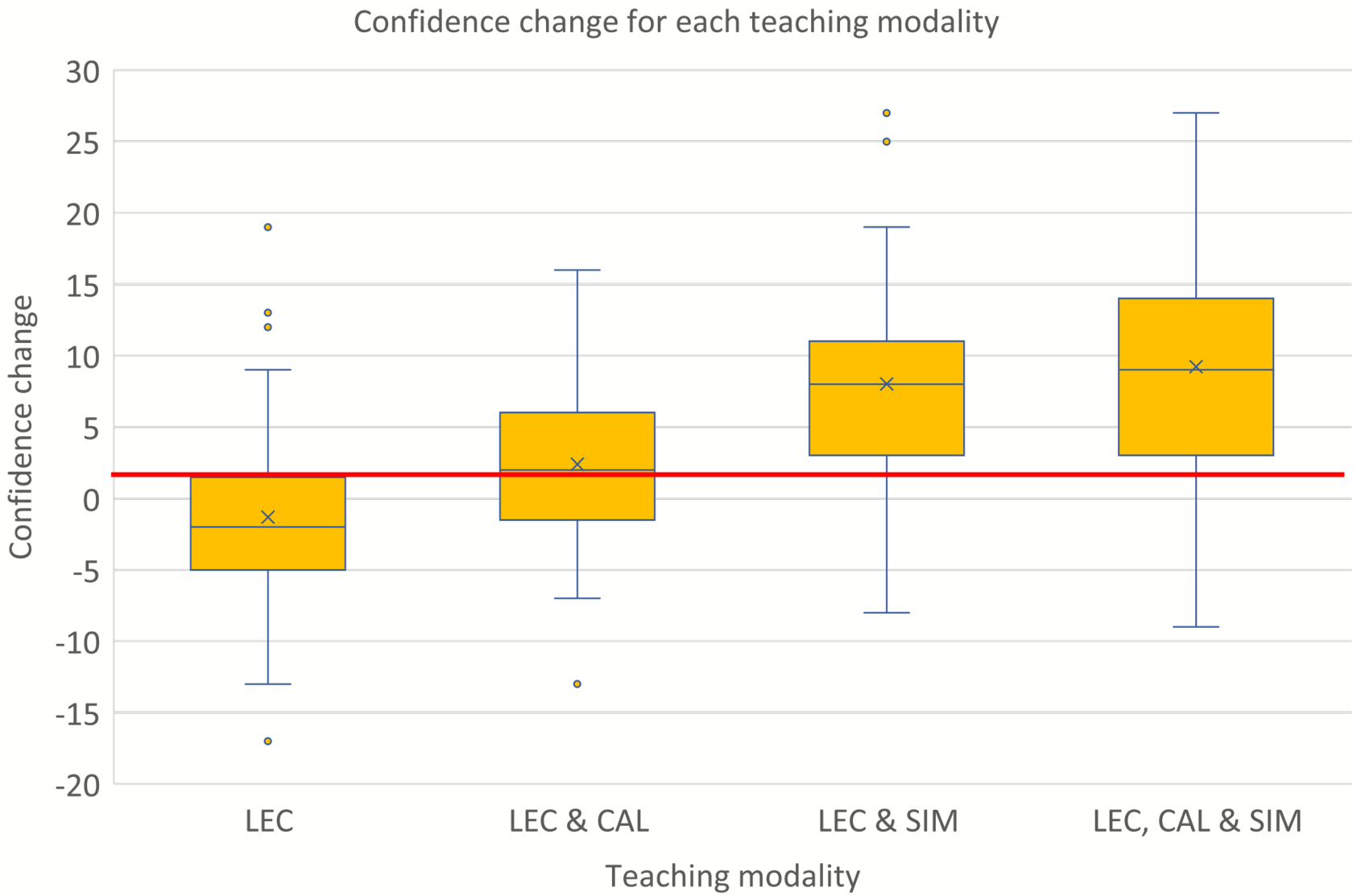
p = 0.000

Adding SIM to CAL

p = 0.03

NB actual numerical score was also signif

Results – Confidence (n = 280)



Was it statistically significant?

Yes ☺

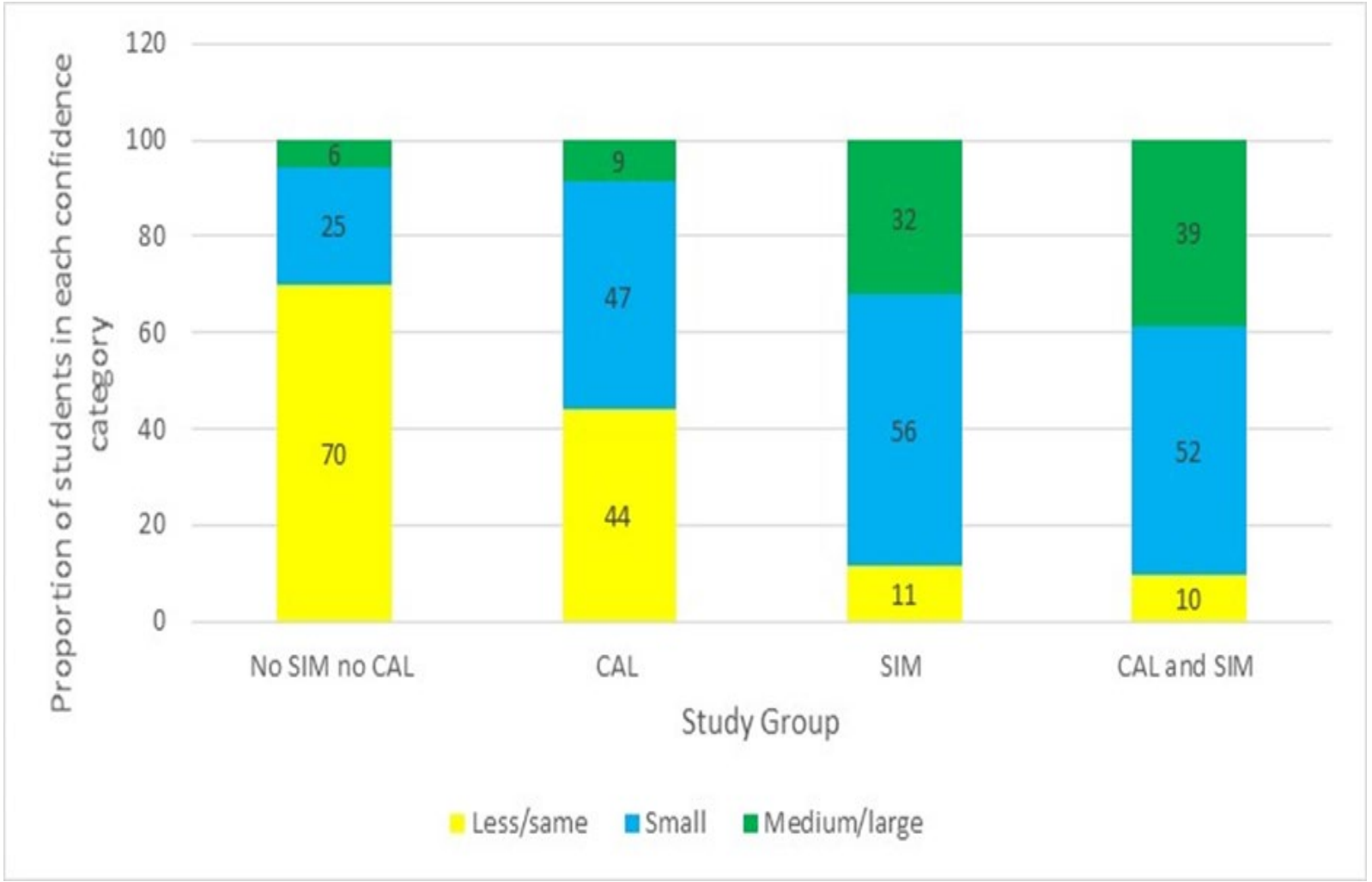
LEC only versus all other groups

p = 0.00

CAL versus both SIM groups

p = 0.00

Another option 2 (I prefer 1) Results - Confidence (n = 200)



Was it statistically significant?

Yes ☺

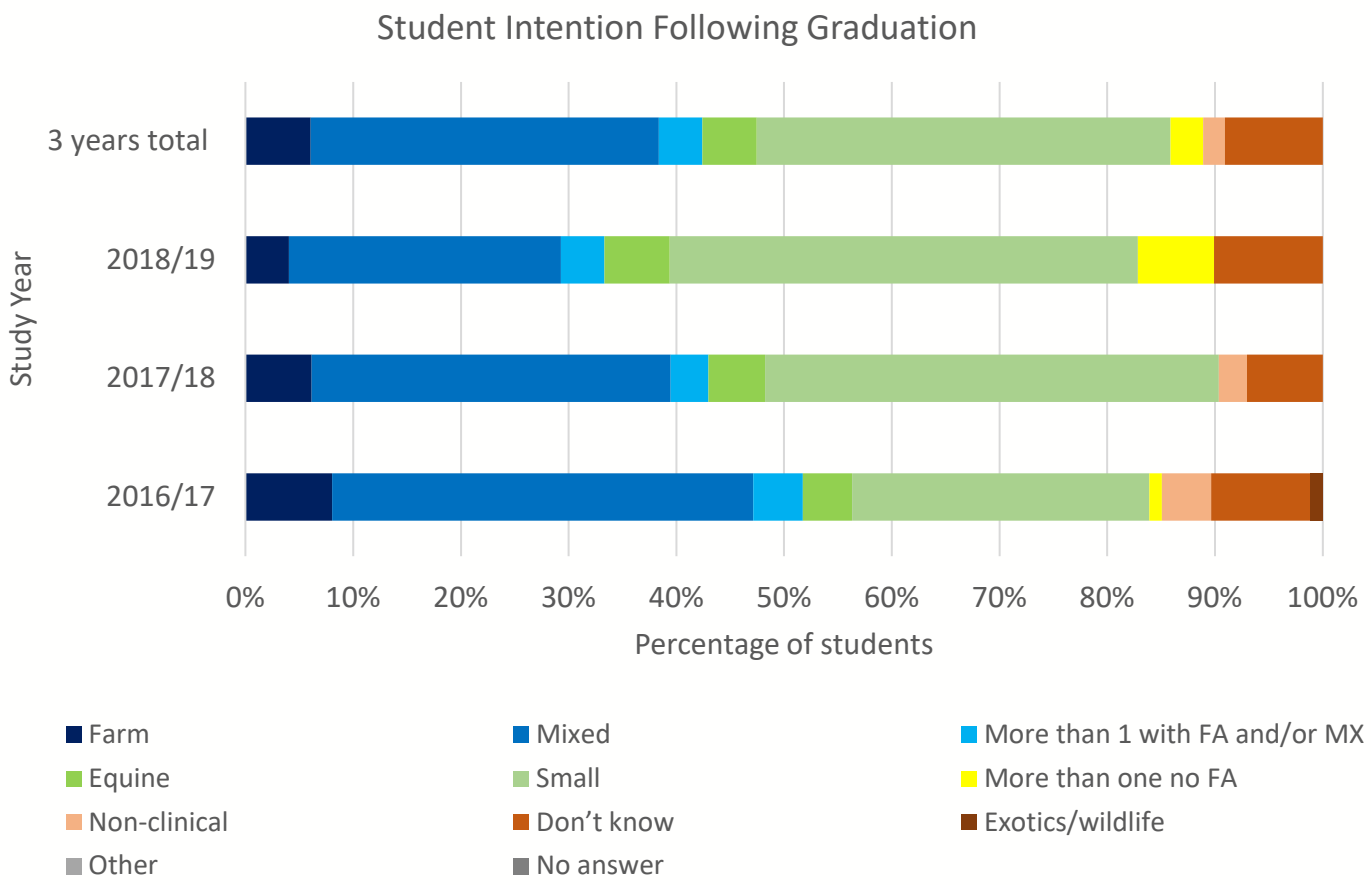
LEC only versus all other groups

p = 0.00

CAL versus both SIM groups

p = 0.00

Demographics – Some Interesting Headlines



Confidence before further teaching is higher if you are

- Younger
- Come from EU or NA (cf AS and AF)
- Plan to work with cows
- Have more experience

($p = <0.05$)

And not influenced by

- Gender

($p = 0.334$)

Analysis is very much on-going……

Take Home Messages

- The calving simulator had a positive influence on formative OSCE outcome and change in confidence
- Something (even just the CAL) is better than nothing when it comes to teaching obstetrics, especially when measuring confidence (very relevant for the online world!)
- Influencing confidence could have positive effects on well being

Next Steps

- Build a statistical model…..
- Somehow translate the increase in confidence and OSCE success into to success in the field (have we just trained students to calf a simulator?)
- See what the Vets and farmers think

University of Glasgow

Thank you to
- All the students who took part in the study
- My supervisors Monika and Rob

Questions are welcome

Contact
Jayne.orr@glasgow.ac.uk

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