

ORDER (Observe-reflect-draw-edit-repeat)

Data analysis from an evaluation of a novel cyclical artistic learning process

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Aims

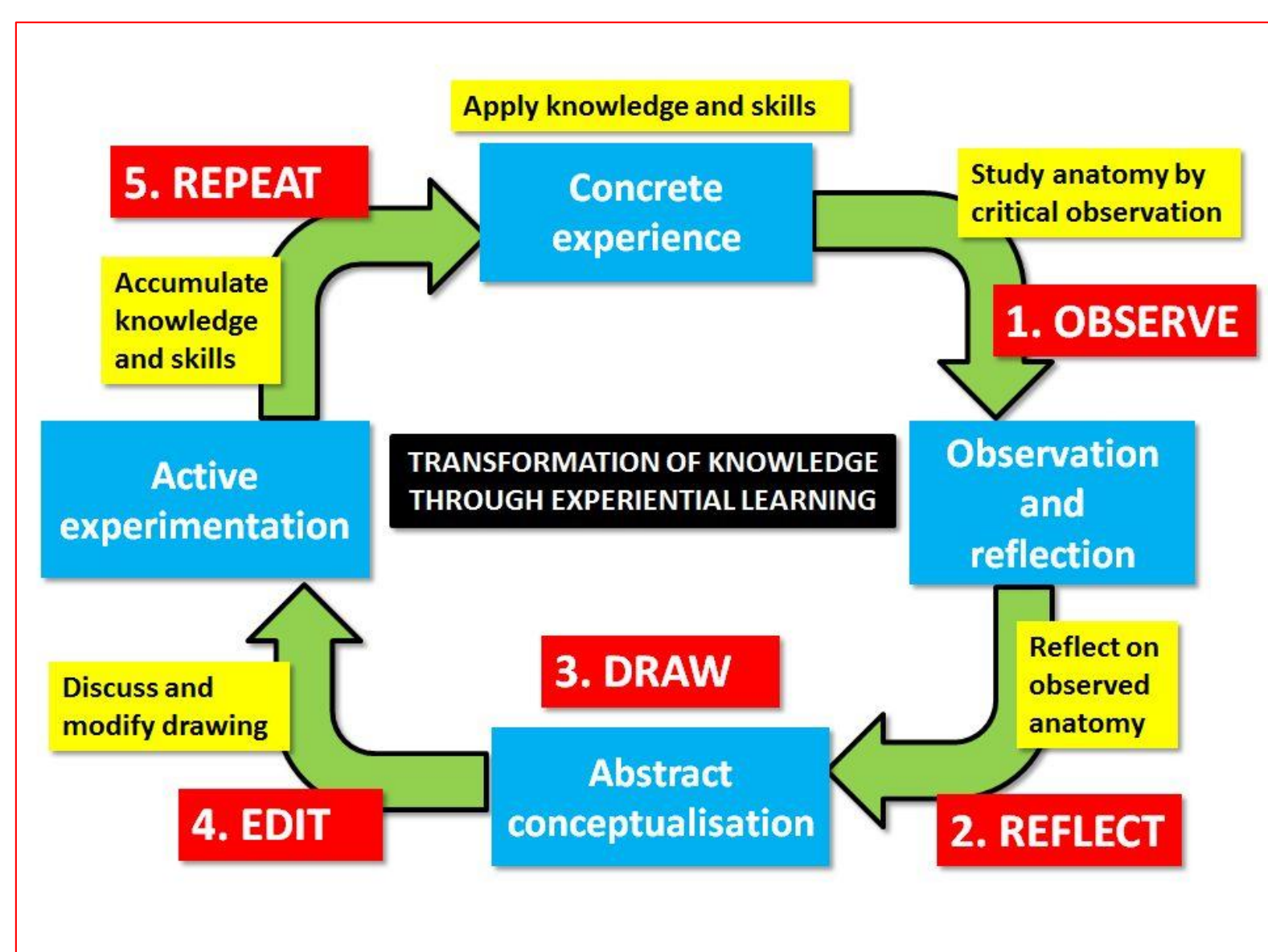
- To identify the impact of an artistic learning method, on student learning of anatomy using ORDER
- To investigate the accuracy of student perceptions of their own learning
- To explore student feedback on drawing as a learning method to learn anatomy and investigate any association with prior experiences

Background

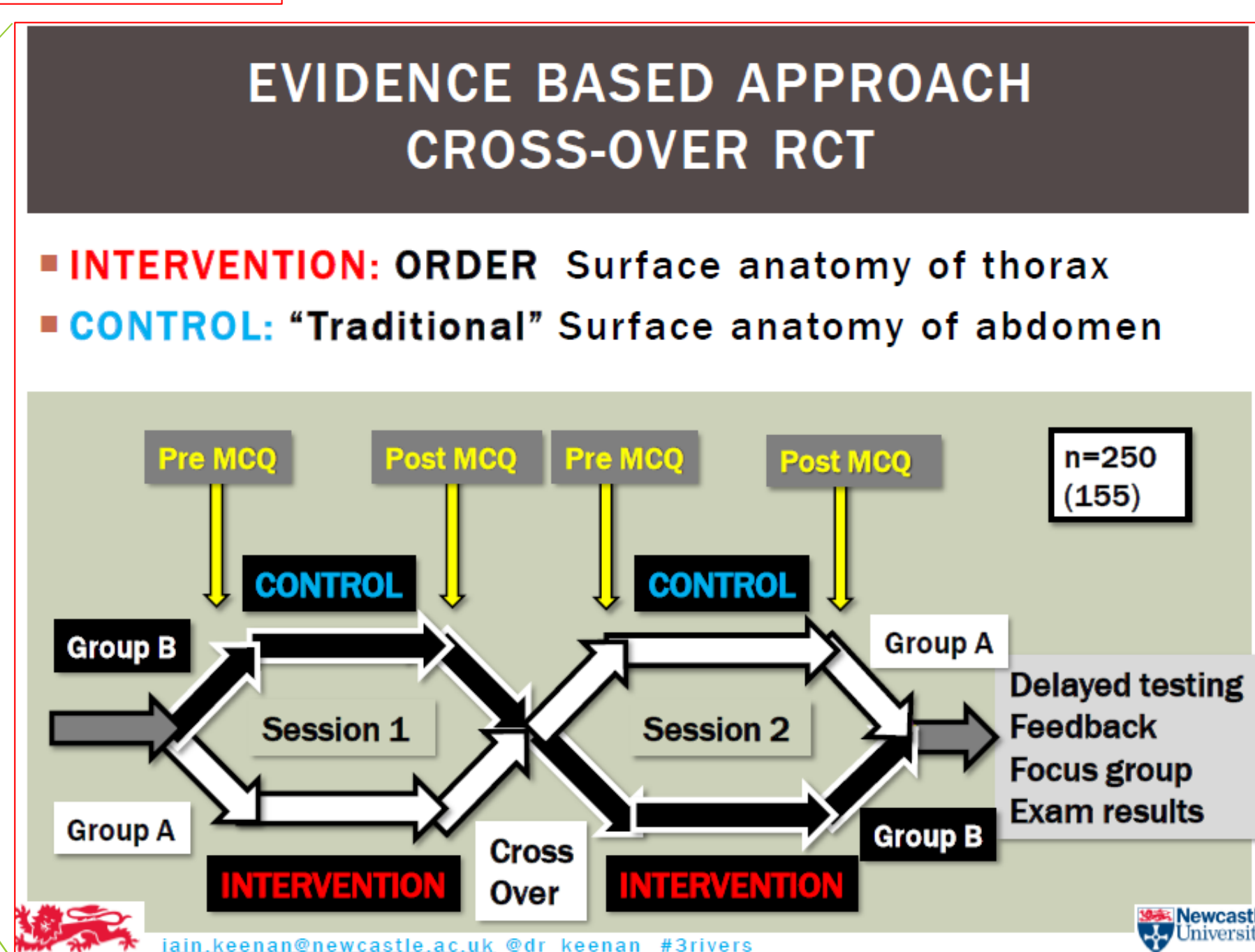
- The use of visualisation was identified as a major method of learning anatomy, adopted by medical students (Pandey and Zimitat, 2007)
- Live anatomy drawing has helped students feel less embarrassed, and improved their capacity to observe critically (Collett 2005).

Methodology and process

- All first year medical students at Newcastle University were invited to participate in this project in an anatomy session
- Participants completed pre and post session, single best answer questions from five multiple choice questions of assessment for both drawing intervention and control, in a cross-over randomised control trial (RCT)
- 15 questions on anatomy of the abdomen and 15 questions of the thorax. One was for the drawing intervention and the other as a control. The student cohort was split into two groups.

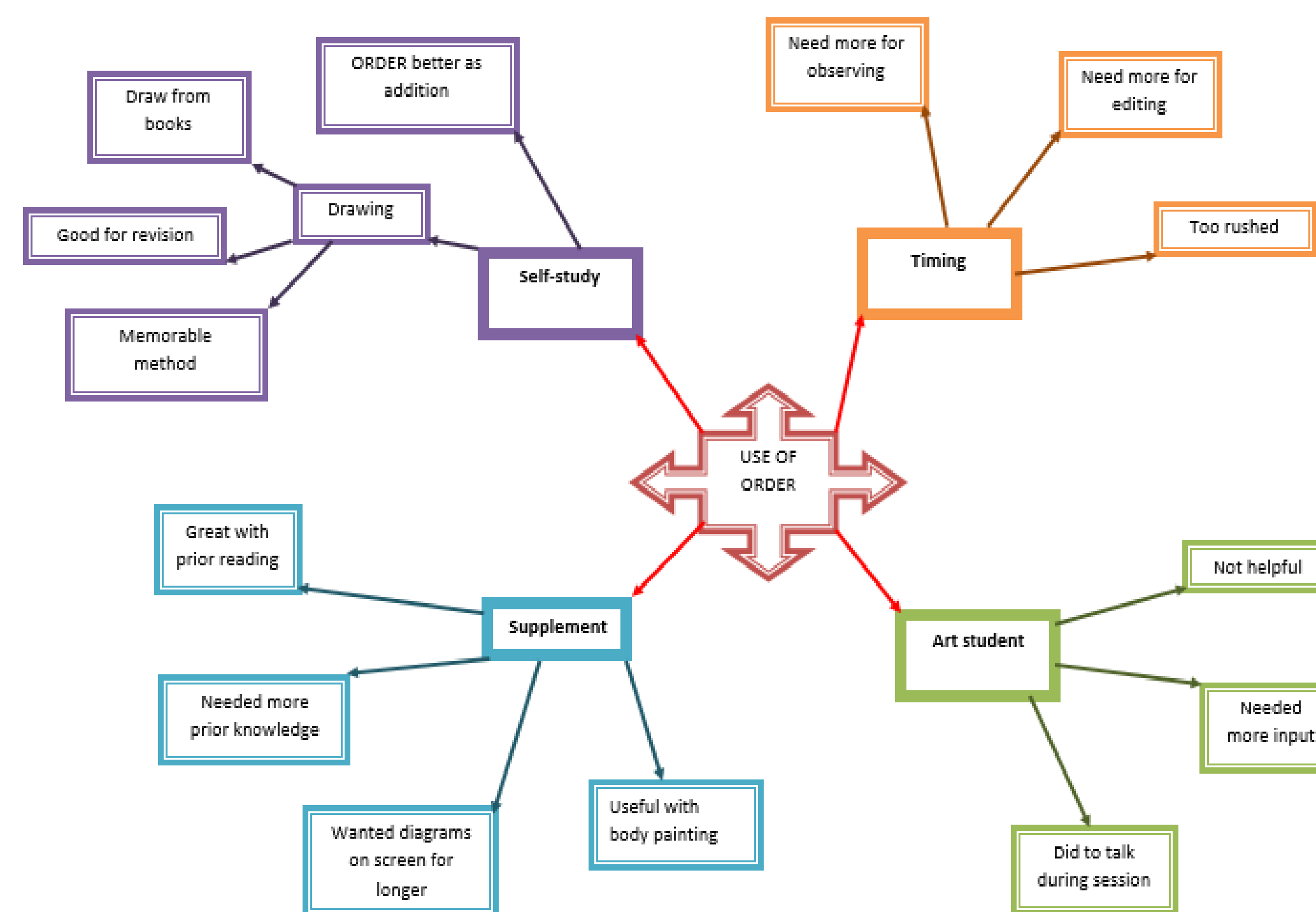


ORDER cycle which students went through as an intervention. This is based on the Kolb learning cycle (Dr Keenan, 2014).



An RCT was used to compare the results of students, using either traditional methods to learn anatomy or ORDER. Overall, 4 MCQ's were given to each participant (Dr Keenan, 2014).

Qualitative: Thematic analysis

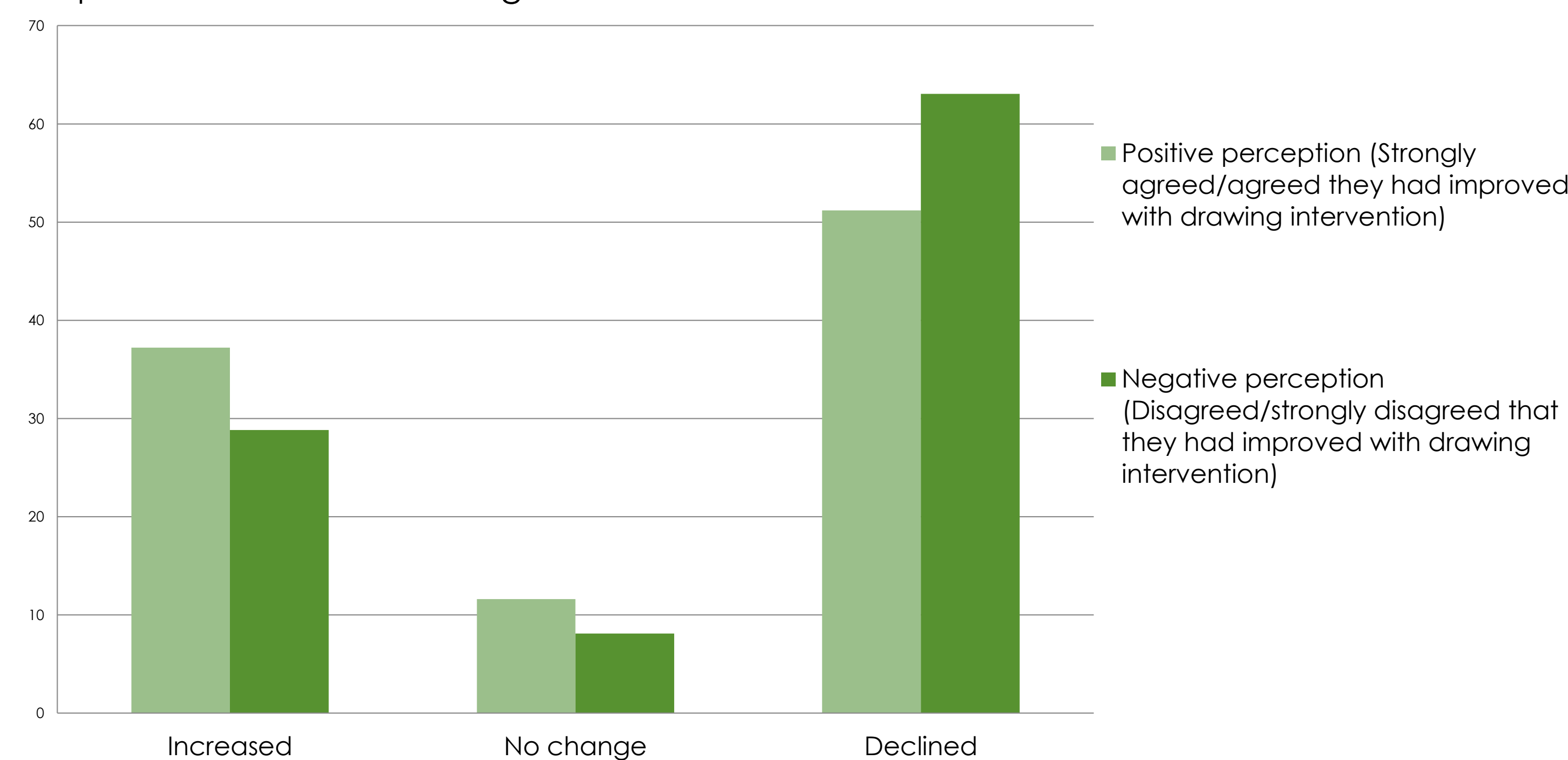


Four major themes

- Timing – students wanted more for the editing and observing phases
- Art student – was not helpful and wanted more input particularly from the art students during the editing
- Supplement – thought it would be good with further reading, and would like to try the method with body painting
- Self-study – many student draw in the own time and find this a memorable method, they feel ORDER is good as an addition to normal methods

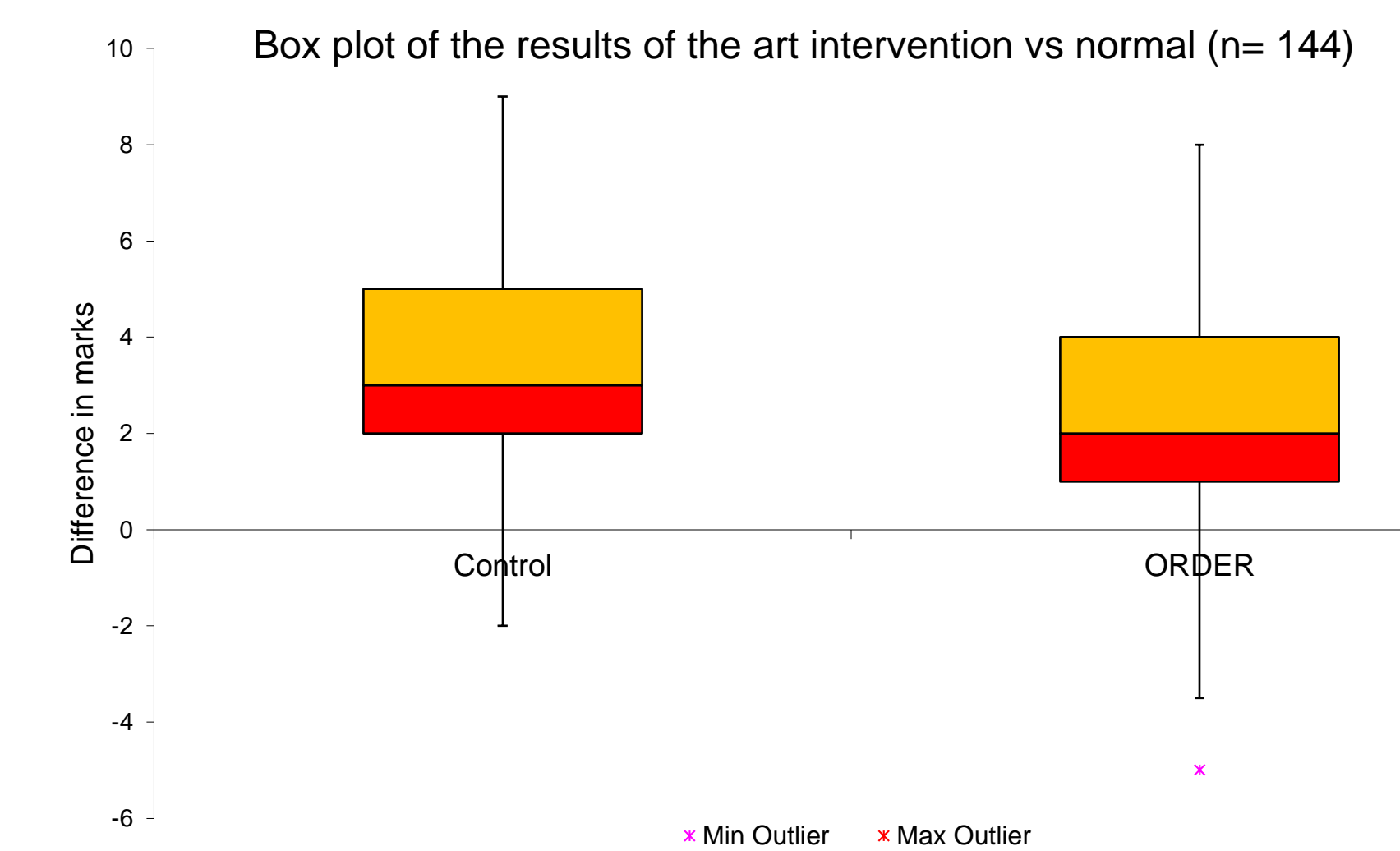
Quantitative: Student perceptions

Actual performance of students in pre-post MCQs who had either positive or negative perceptions of their performance having used a drawing intervention. The percentage shown is the change in score compared to pre-post test results when using normal method

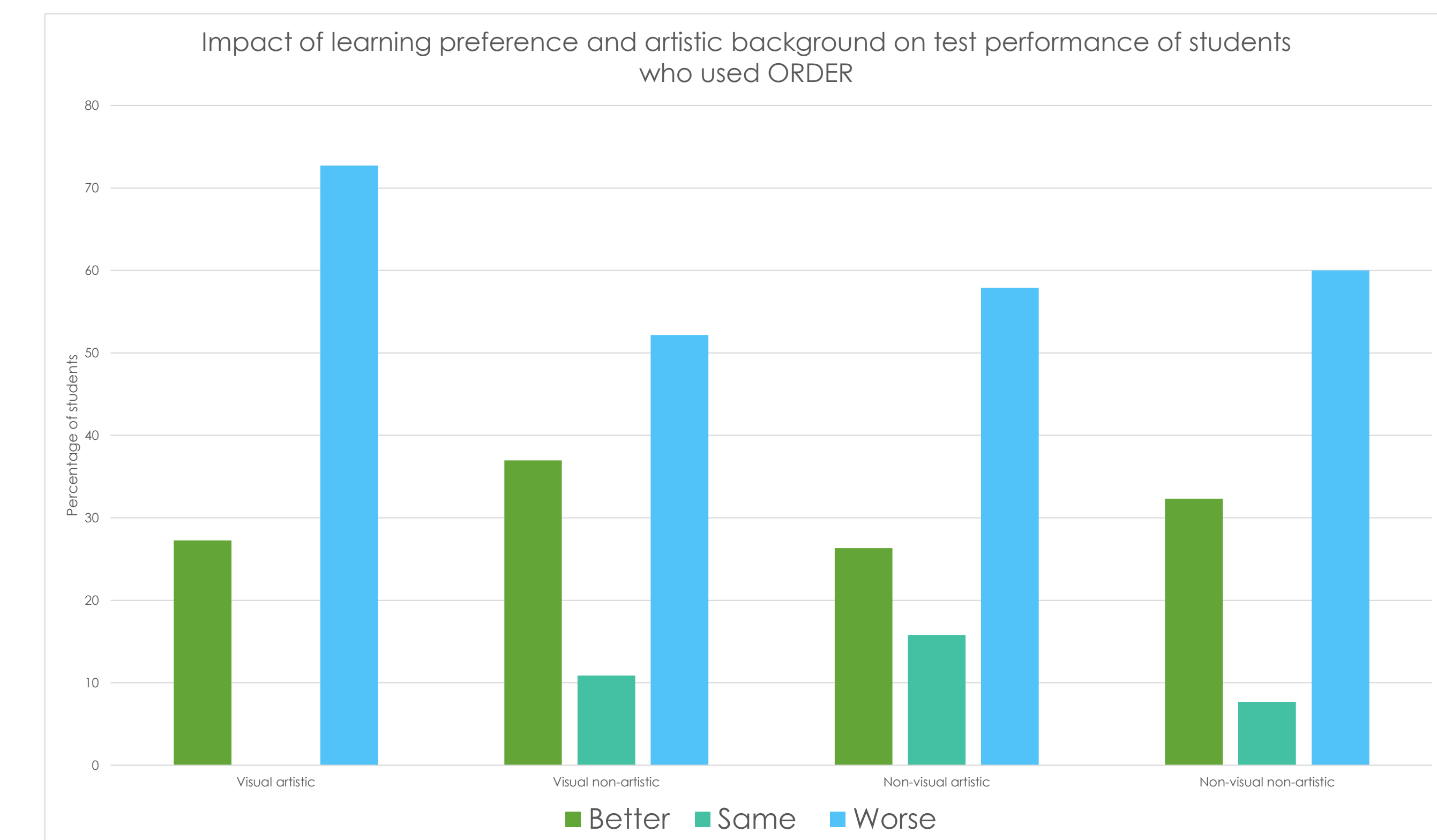


- 44.3% of students are incorrect with their perception of their results (n=154)
- 51% of the students who felt that they did better using ORDER than a normal DR (dissection room) session, improved their score with ORDER (n=43)
- 63% of students who felt that they did worse using ORDER than a normal DR session, decreased their score using ORDER (n=111)

Quantitative: Use of ORDER



This figure shows that the control had a higher median mark, compared to ORDER. The marks were distributed quite evenly and had similar data distribution of their scores and similar interquartile ranges. Overall no significant difference was found.



- The students with no previous art qualifications showed more improvement than those with previous art qualifications
- Overall 46 student (31.7%) improved using order. 26.7% of those who improved had previous art qualifications, and 33.3% who had no previous art qualifications also improved
- Only 55.7% students correct with their own perception of their learning using ORDER (n=154)

Conclusion

- ORDER is an effective method for a sub-set of students
- ORDER can benefit both students with and without previous art qualifications
- Students can be informed of this method, and may choose to use it for their revision; which may extend above and beyond using it just for anatomy

Future implications

- Implementation of a modelling project, to investigate whether future anatomy students could benefit from this artistic method of learning
- Evaluation of further artistic learning methods in order to enhance the student experience of learning anatomy