

The future of anatomy: A student partner approach to the evaluation and implementation of evidence-based artistic learning techniques

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Objectives

1. Review literature surrounding the use of artistic learning techniques within anatomy
2. Working with a basic study design, develop background, methodology and intervention to establish the benefits of drawing within an MBBS anatomy practical for Stage 1 students during academic year 2013-14

Literature review - summary

- Generating artwork may fulfil the role of experiential learning [1] and visual artistic techniques can improve learning [2]. Consequently artistic learning techniques may benefit students studying anatomy.
- Previous researchers have investigated body painting, drawing and modelling [3,4,5]. The results are encouraging, but as the quantitative evidence is limited, the exact benefits remain unclear.
- The literature evaluated has been used to inform this study design.

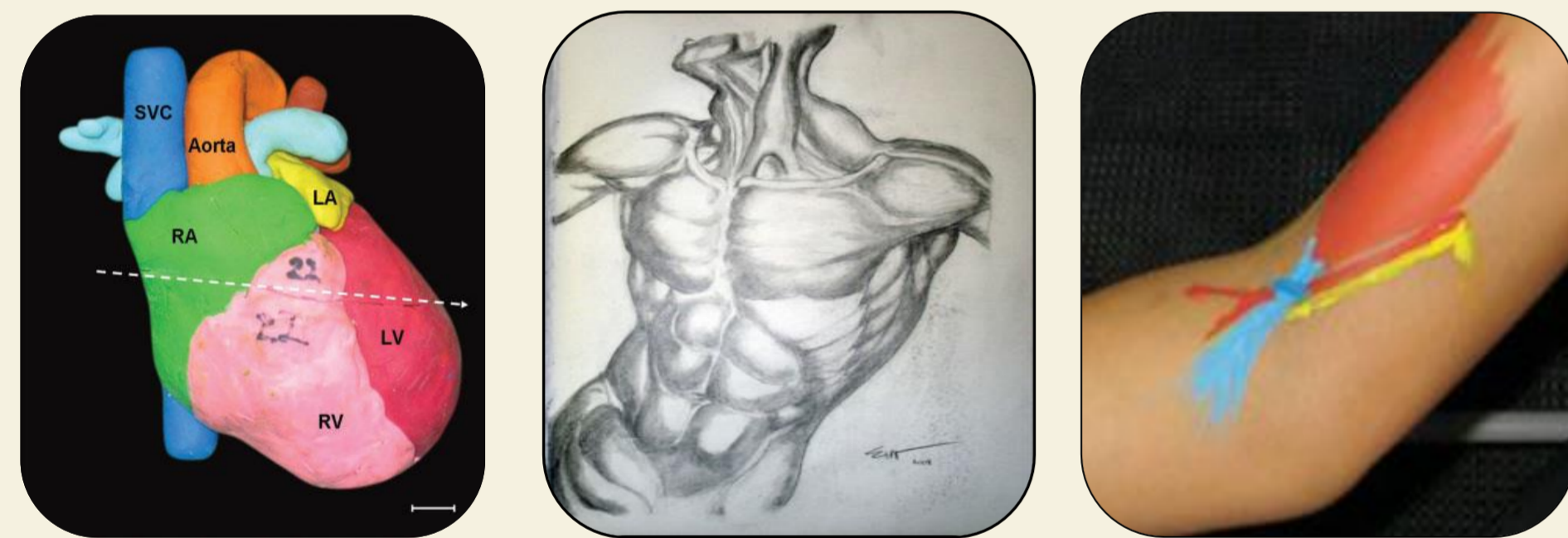


Figure 1: Examples of different artistic learning techniques [3,4,5]

Methodology

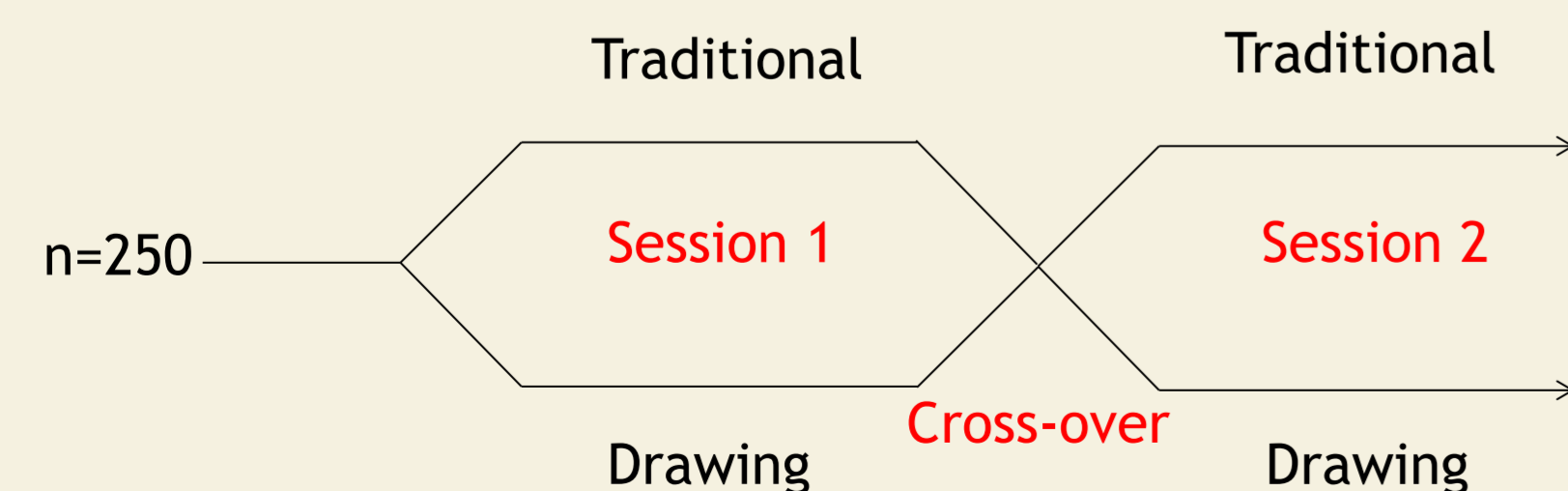


Figure 2: Cross-over randomised controlled trial. Each student will participate in two one hour surface anatomy sessions 1) Drawing task: thorax and 2) Traditional session: abdomen

Intervention

Drawing

- Collaborating with a professional artist the drawing tasks are designed to benefit all students independent of their artistic ability. Art student volunteers will facilitate the session and support cross-discipline learning.

Control

- This session will involve students working through a set of instructions using textbooks and cadaveric material as they would in a normal anatomy practical session.

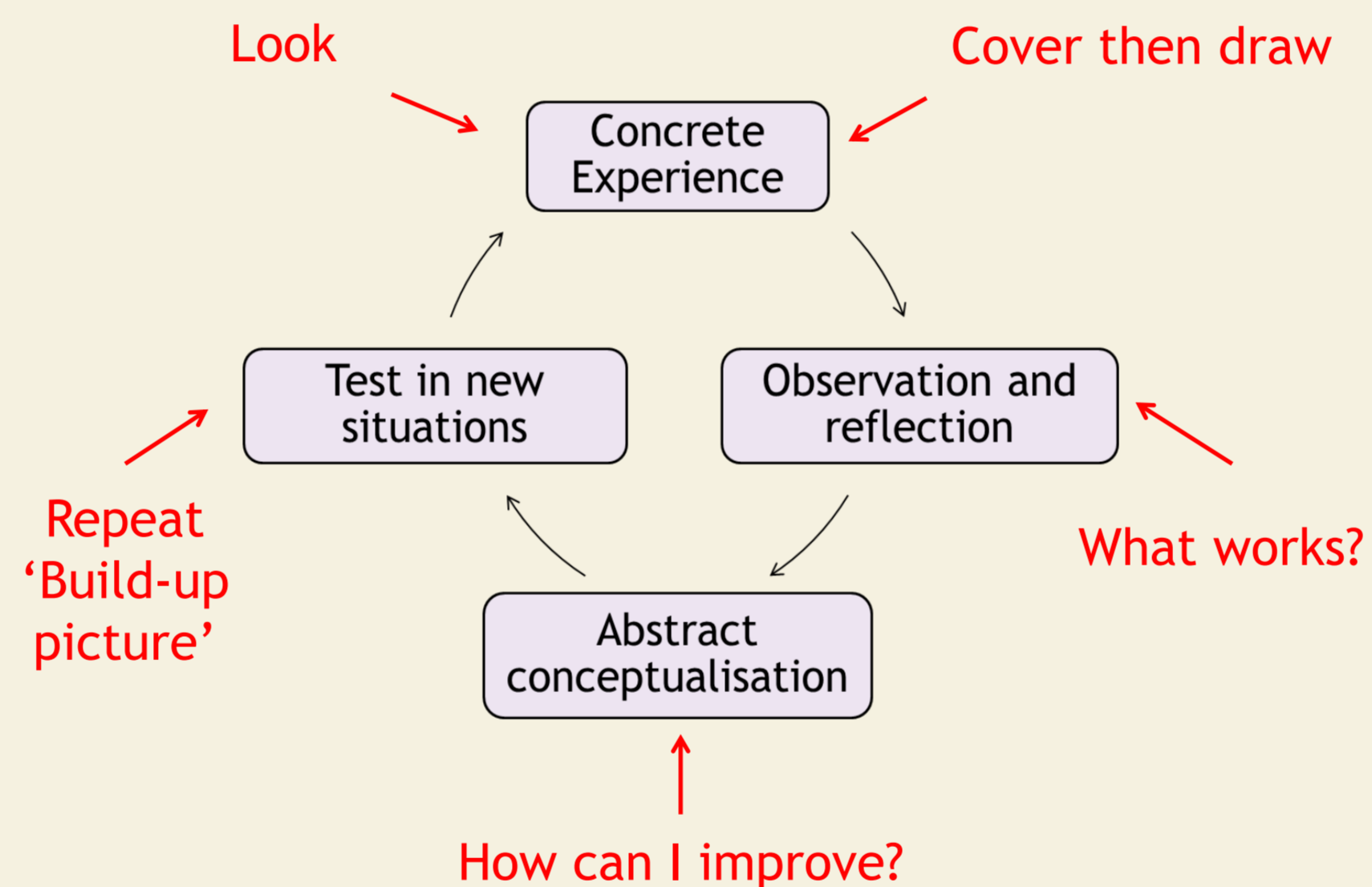


Figure 3: The drawing task is based on the experiential learning model - in which students 'build-up' a picture of the anatomy using a look- cover- draw- reflect- re-draw technique

Evaluation

A mixed - method research model will not only identify if drawing is effective, but also how and why.

- Quantitative assessment will involve pre- and post- testing with 15 multiple choice questions (MCQs). Additionally end-of year results will allow for long-term follow up.
- Qualitative assessment with a questionnaire and a focus group will identify student perceptions on learning and the benefits of the drawing session.

Students as partners

- My review and study design will be used as a template for future student partner projects and research studies.
- Future students will be involved in implementing the study and analysing data.
- I have established and chair a reference committee including art and medical students to oversee the whole project and will organise a pilot study.



Figure 4: Student - partner approach: presenting the project to artists and anatomy staff

Future impact

- If drawing is effective, it can be integrated into the medical curriculum at Newcastle and disseminated widely. However, negative data will allow research to focus on other novel techniques.
- This methodology, including generating an evidence-based approach to evaluating teaching and learning in anatomy, can be encouraged.

Conclusion

1. Drawing as a learning tool worth investigating. This study design can be used as a framework to investigate the benefits of other techniques such as modelling.
2. The details of the study design including the methodology, drawing intervention, evaluation have been established. These include generating necessary resources including the MCQs, questionnaire, templates and student handouts.

References

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