

Improving Medical Student Confidence in Visual Acuity Assessment

A Single-Centre Quality Improvement Project

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Introduction

A recent systematic review investigating undergraduate ophthalmology education suggests low confidence in clinical skill performance¹. Visual acuity (VA) assessment is an expected competency of graduate doctors in the UK yet is underperformed by junior doctors².

This project aims to address this need by improving confidence in VA assessment in medical students.

66.7%
Lacked confidence in VA testing at graduation

53.4%
Lacked confidence in VA testing in clinical practice

93.3%
Lacked confidence in interpreting VA testing

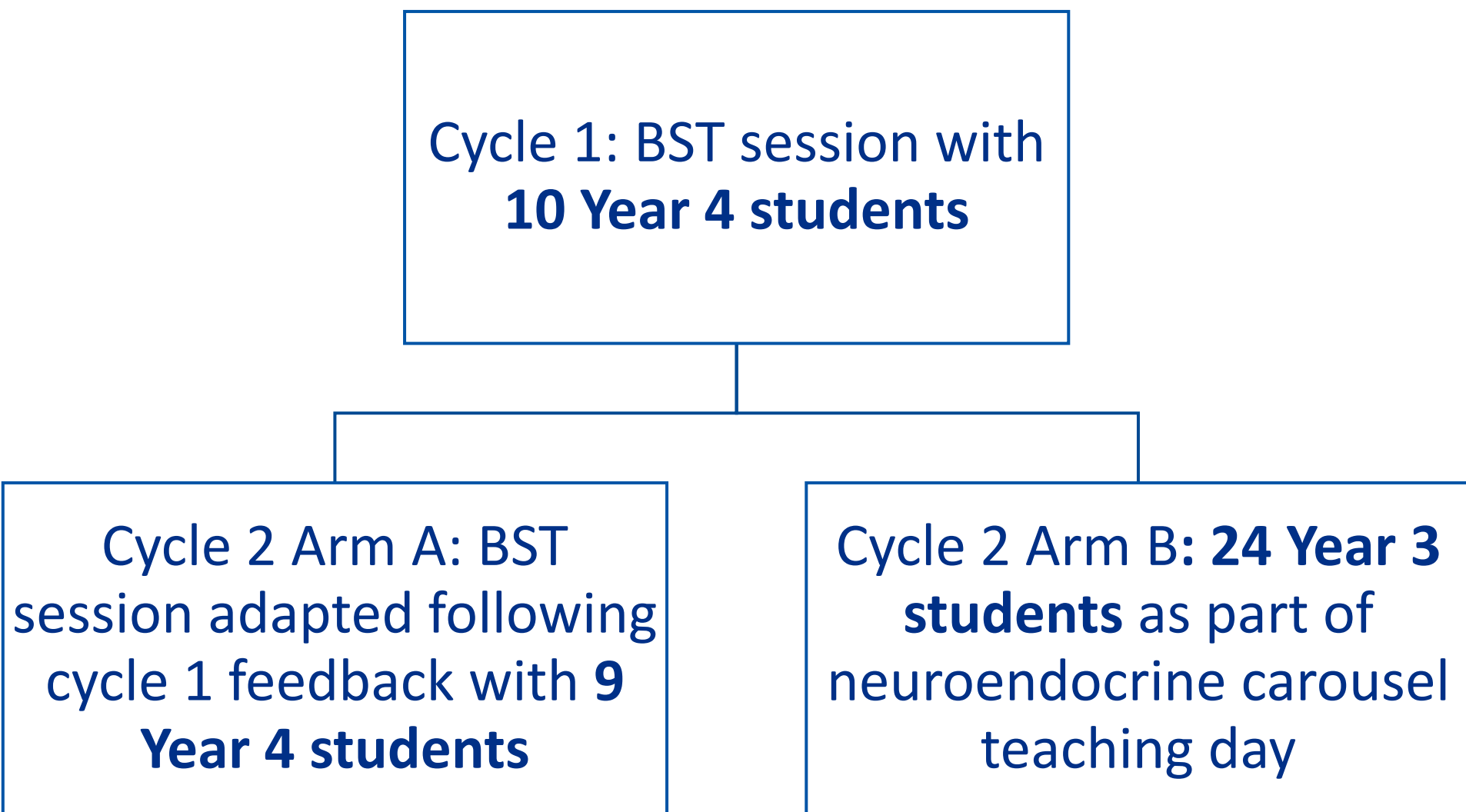
Recent local data showing resident doctor confidence in visual acuity assessment.

Methods

A PDSA approach was used. In cycle 1, Year 4 students received a structured bedside VA teaching session (BST).

Cycle 2 was designed as a split-arm intervention following cycle 1 learning that students had low prior-coverage of VA despite being a curriculum requirement for Year 3.

Both cycles completed the same pre- and post-intervention confidence questionnaire using a 5-point Likert scale.

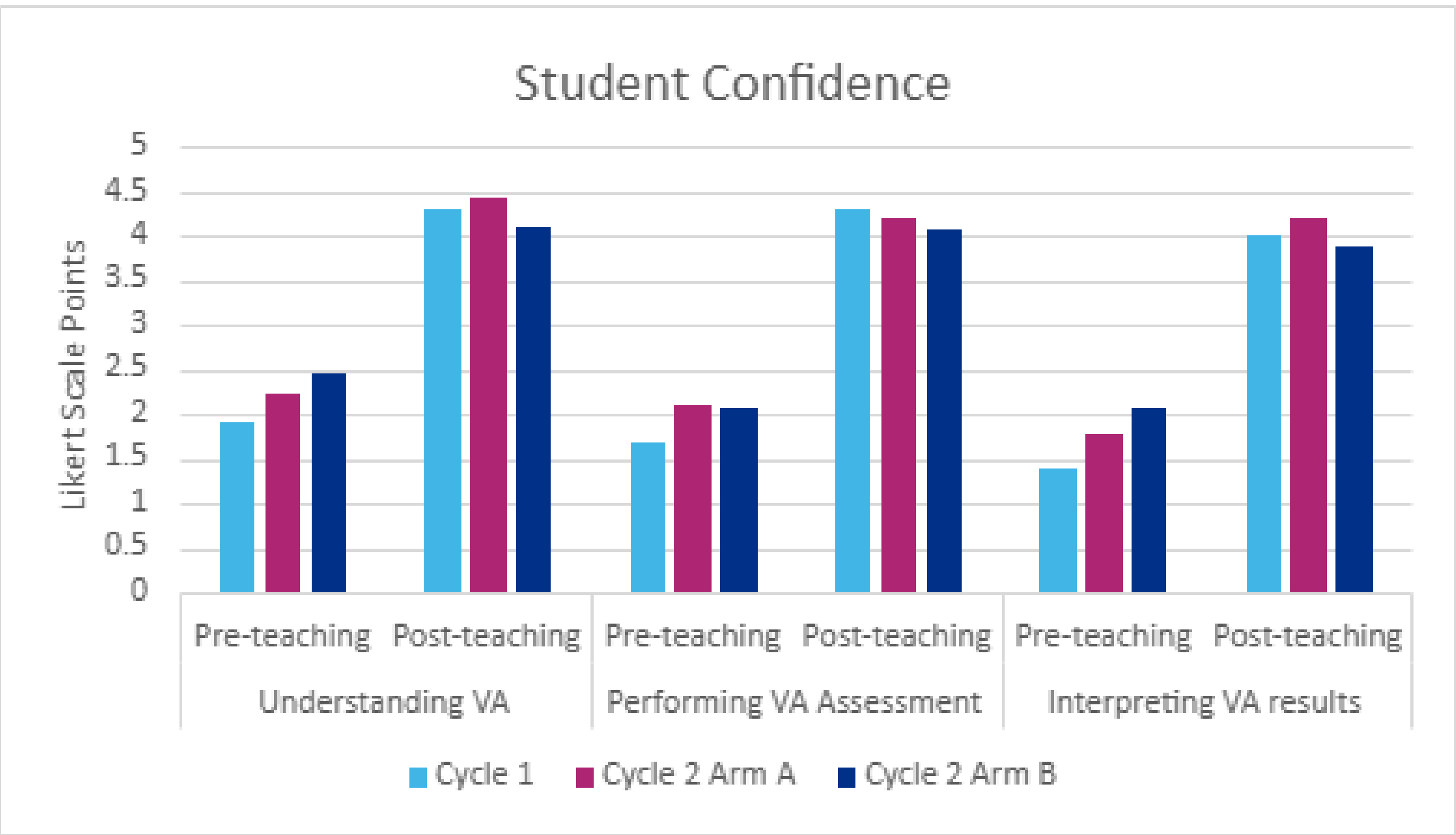


Results

Cycle 1 (n=10) showed an increase in understanding, performance and result interpretation of 2.4, 2.6 and 2.6 respectively (p=0.005).

Following cycle 1, improvement suggestions from students involved inclusion of a post-session handout which was implemented in Arm A of cycle 2 alongside a longer session which was identified as a limitation by the facilitator.

Cycle 2 Arm A (n=9) showed an increase of 2.22, 2.11 and 2.44 respectively (p=0.008). Cycle 2 Arm B (n=24) showed an increase of 1.67, 2 and 1.79 respectively (p<0.001).



The intervention was highly valued by students, with 100% of participants recommending the session to peers. Improvements suggested including peer-to-peer practice and additional post-session resources, which are being implemented in subsequent cycles.

Conclusion

Structured teaching sessions has improved medical students' confidence in understanding, performing and interpreting VA assessment across both Year 3 and Year 4.

These findings demonstrate that targeted, skills-based teaching effectively addresses a recognised gap in undergraduate ophthalmology training and supports targeted integration of VA assessment into earlier stages of the curriculum.

In further cycles, we aim to assess skill competence alongside confidence.

References

- Hussain S, Aziz R, Cheloni R, et al. (October 09, 2025) A Systematic Review of the Adequacy of Undergraduate Ophthalmology Education in the United Kingdom. Cureus 17(10): e94186. doi:10.7759/cureus.94186.
- Ang GS, Dhillon B. Do junior house officers routinely test visual acuity and perform ophthalmoscopy? Scott Med J. 2002 Jun;47(3):60-3. doi: 10.1177/0036933300204700305. PMID: 12193006.

