



**ADELAIDE MEDICAL
STUDENTS' SOCIETY**
— EST 1889 —

AMSS 2018 Assessment Survey Report

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Executive Summary

In recent years, the Adelaide Medical Students' Society (AMSS) has annually collated feedback regarding assessment from Years 1-5 of the MBBS program at the University of Adelaide via an online survey. This is to ensure that the student opinion on end-of-year assessment can be represented, considering that this is not included in the SELTs used by the University of Adelaide. Given the focus of these surveys on end-of-year assessments, feedback from Year 6 students is not sought. This particular report is informed by the "AMSS 2018 Assessment Survey" of the MBBS students at the University of Adelaide. We believe that the methods, sample size, and informed view of student opinions collectively allow this document to be taken as an accurate reflection of student opinion. It is intended that this report offers practical, useful feedback as well as suggestions for optimising end-of-year assessment.

In 2018, students suggested the following areas had improved compared to 2017:

- Both pre-clinical and clinical students identified fewer errors in the written examination in 2018 compared with 2017. This suggests the process by which written examinations are screened for errors has improved and should be continued.
- Pre-clinical students had a more positive opinion regarding the way in which epidemiology and public health knowledge was assessed in the 2018 written examinations compared with 2017.
- Year 4 students responded positively to the new 2018 student-staff co-created Medical Home Unit learning objectives. This suggests this was a worthwhile project and could be expanded to include more clinical rotations in 2019.
- Year 5 students responded positively to the bi-directional access to metropolitan School of Medicine Teaching Series (SMTS) content and rural school Peer Assisted Learning – Medicine and Surgery (PALms) content that was provided via CANVAS to all Year 5 students in 2018, following this suggestion made in the 2017 report, and should be continued.
- Clinical student opinion improved from 2017 to 2018 regarding whether the MCQ examinations assessed students' knowledge accurately, and this is likely attributed to the fewer errors in the written examinations.

Pre-clinical students suggested the following previously identified areas may require continued and additional attention:

- Insufficient time available in the Clinical Reasoning Examination, which students felt limited their ability to demonstrate their best clinical reasoning.
- While students appreciate the common online resources, face-to-face teaching in the Year 3 Clinical Skills program at the Royal Adelaide Hospital is perceived inconsistent, in comparison with other clinical sites.
- Inconsistencies between rotation colours in the OSCEs.

Pre-clinical students suggested the following new area may require additional attention:

- Absence of real physical signs (real patients) in the physical examination stations of the Year 3 OSCE, which concerned students both in terms of not allowing students to demonstrate their knowledge, and in relation to readiness for Year 4.

Clinical students suggested the following previously identified areas may require continued and additional attention:

- Ongoing potential areas of improvement regarding the currently available learning objectives. Students reported feeling ill-informed regarding the existence of certain available learning objectives, confused by the inconsistencies among different objectives, and described learning objectives as ineffective in guiding preparation for end-of-year assessment, particularly the Year 4 Musculoskeletal Medicine rotation.
- Insufficient time available in the MCQ examinations.
- Poor quality of images in the MCQ examinations.
- Inconsistencies between rotation colours in the Year 5 OSCE.

Clinical students suggested the following new areas may require additional attention:

- The content and delivery of the Year 4/5 Exam Briefing.
- Unclear and sometimes conflicting instructions in specific stations in the Year 5 OSCE.

Hence, we suggest the consideration and implementation of the following recommendations.

Pre-clinical

- Removal of 1-2 short answer questions from the total number of short answer questions in the Clinical Reasoning Examinations to provide students with sufficient time to apply effective reasoning.
- Provide a more structured approach to the common online resources in the Year 3 Clinical Skills program, potentially with the introduction of Learning Pathways on CANVAS, to ensure students at all clinical sites are reassured that they are taught consistently.
- Provide students with clearer instructions regarding incident reporting in the OSCE, including potentially developing another process where perceived inconsistencies between OSCE rotation colours can be reported and acknowledged.
- Use, where possible, real patients rather than actors for the physical examination stations in the Year 3 OSCE.

Clinical

- Ensure clinical rotation learning objectives are available in a single location for each course, which is well publicised and easily accessible.
- Ensure there is no conflicting information between online Course Outlines and core clinical rotation handbooks, and ensure no alterations occur throughout the year.
- Continue the use of student-staff co-created learning objectives for Year 4 Medical Home Unit. Furthermore, there is a lot of student enthusiasm to extend this initiative to the other core clinical rotations, and students are very interested in leading other co-creation learning objective projects on future topics, specifically Year 4 Musculoskeletal Medicine.
- Replacing the current “one mark per minute” timing of the written MCQ examinations, with the return of 15-30 minutes’ review time, as previously implemented.
- Review the current process for ensuring appropriate image quality in the end-of-year MCQ examinations by evaluating images following printing.
- Provide students with clearer instructions regarding incident reporting in the OSCE, including potentially developing another process where perceived inconsistencies between OSCE rotation colours can be reported and acknowledged.
- Ensure congruity of information provided by presenters to students at the Year 4/5 examination briefing. This includes ensuring both the structure and nature of the examinations, specifically the Year 5 OSCE, is communicated simply, as well as ensuring the criteria for passing the examinations is conveyed consistently.

Furthermore, the process for responding to students' queries should include ensuring questions which cannot be answered verbally immediately are followed up in a written format.

- Ensure concordance of printed instructions outside and inside station rooms in the Year 5 OSCE.

Finally, although outside the scope of this survey, students have expressed a strong desire to obtain more detailed feedback regarding their performance in the end-of-year examinations. It is crucial to emphasise that students place great importance on receiving useful feedback on their performance in these examinations that enables them to identify their mistakes and improve. Pre-clinical students greatly benefit from the detailed feedback they currently receive regarding their end-of-year examinations. In contrast, the current absence of feedback causes significant stress to clinical students, who worry that they are making similar mistakes consistently without improving, and putting their future patients' at risk. We would recommend consideration of methods to provide more detailed feedback to all students, particularly clinical students.

Lastly, we acknowledge the efforts of other students who were involved in creating this report, as listed below:

- Emily Hammond: 2018 Team Education Secretary
- Daniel Sansome: 2018 Year 5 Student
- Don Kieu: 2018 Year 2 Student
- Teham Ahmad: 2018 Year 2 Education Representative, 2019 Junior Education Officer
- Malcolm Borg: 2018 Vice President (Education)

We sincerely thank the staff of the Adelaide Medical School for taking on-board the feedback from this report and would be very happy to provide any additional information.



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On behalf of the Adelaide Medical Students' Society

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Acronyms

APIC	means Year 5 Anaesthetics, Pain and Intensive Care rotation
CBL	means Case Based Learning
Clinical	means Years 4-6 of the Medical Program
CRE	means Clinical Reasoning Examination
HRH	means Year 5 Human Reproductive Health rotation
LMH	means Lyell McEwin Hospital
MCQ	means Multiple Choice Question
MHU	means Year 4 Medical Home Unit rotation
MKE	means Medical Knowledge Examination
MPPD	means Medical Professional and Personal Development
MSK	means Year 4 Musculoskeletal rotation
OSCE	means Objective Structured Clinical Examination
Pre-clinical	means Years 1-3 of the Medical Program
QEH	means the Queen Elizabeth Hospital
RAH	means the Royal Adelaide Hospital
SAQ	means Short Answer Question
SHU	means Year 4 Surgical Home Unit rotation
SMTS	means School of Medicine Teaching Series
SP	means Standardised Patient

Methods

Survey design

The surveys used to collect data for this report contained questions tailored to each year level. Respondents answered questions regarding the year level examinations they recently completed. Year 5 students also answered questions on all the clinical attachments they had completed throughout Year 4 and Year 5. The specific formats of the survey questions are described in the body of this report. In general, Likert scales without neutral midpoints were used to minimise central tendency bias. All questions included a 'cannot respond' response category to ensure respondents were not forced to make a statement that they did not agree with. At the end of some survey questions, respondents were asked to explain their answers via an optional free-text field.

Survey promotion

Participation was promoted to students enrolled in Years 1-5 of the University of Adelaide medical program in 2018. Prizes worth \$100 were funded by the AMSS and randomly provided to respondents to encourage participation. Respondents were asked to submit their student number to mitigate the potential for multiple responses from a single student.

Data Interpretation

Data from incomplete responses were included in this analysis. Both mode and mean values were considered in the analysis of Likert scale data. Graphs of responses to Likert scales were included to assist in data interpretation.

The following criteria were applied when categorising data from Likert scales from -2 to +2 with no neutral mid-point:

Positive response		mode > 0 and mean > +0.4
Negative response		mode < 0 and mean < -0.4
Equivocal response		mode = 0 or $-0.4 \leq \text{mean} \leq +0.4$

The following criteria were applied when categorising data from Likert scales from -2 to +2 with a neutral mid-point:

Positive response		$-0.4 < \text{mode} < +0.4$ and $-0.4 < \text{mean} < +0.4$
Negative response		mode ≤ -0.4 or $\geq +0.4$ and mean ≤ -0.4 or $\geq +0.4$

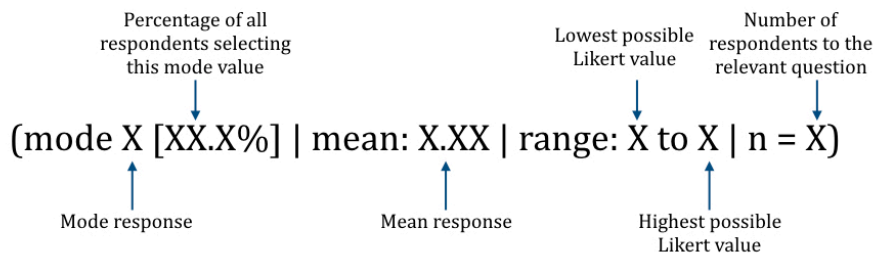
We acknowledge that this construct for categorising Likert results is notional and open to criticism or replacement with an alternative interpretative framework. However, the ultimate result of such categorisation was merely to identify the areas that student opinion suggests require additional attention. We acknowledge that there may be valid reasons as to why areas that attract 'equivocal' or 'negative' student opinion were in fact not in need of greater attention.

We have attempted to fully describe all data arising from the surveys informing this document, regardless of whether they were categorised as positive or equivocal or negative. We have not included graphs for every Likert scale present in the primary survey, due to concerns regarding the length of the report. In this report data that showed areas where student opinion was clearly positive

have been included, rather than just focussing on areas where opinion was negative or equivocal. This has illustrated the many excellent areas of the medical program, and also the areas that have improved in response to changes stemming from earlier feedback.

Data Presentation

Responses to Likert scales were presented in graphs and as follows:

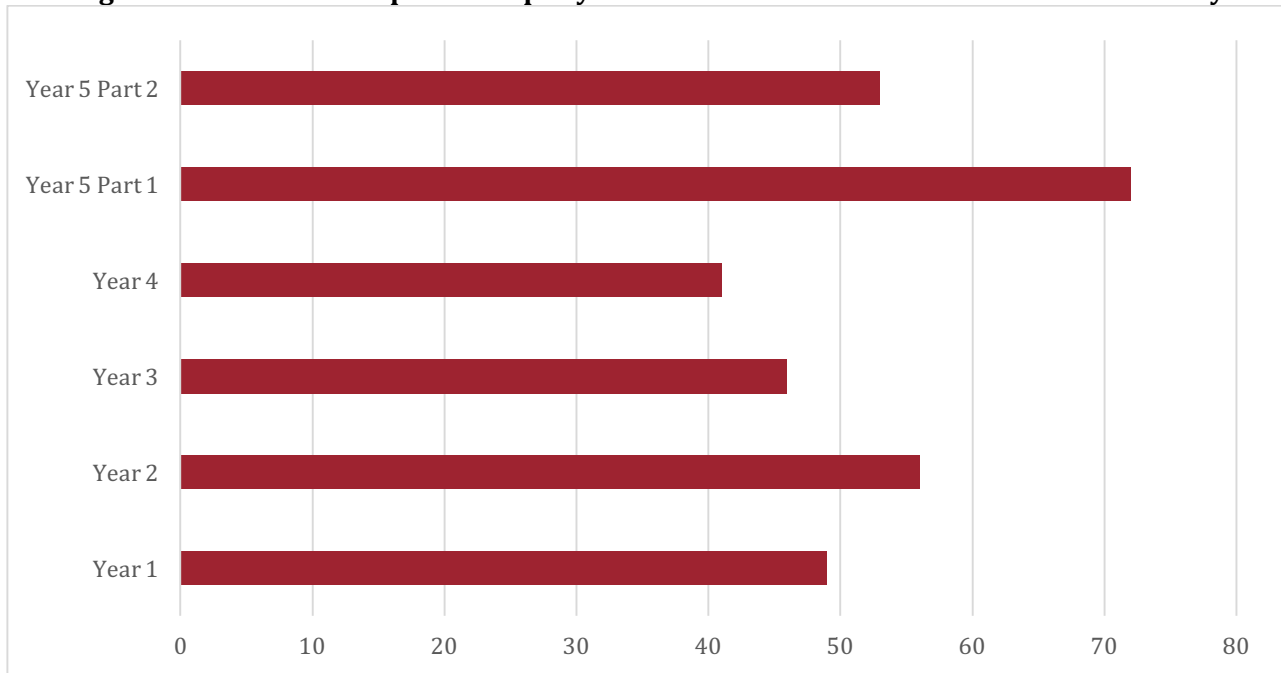


Demographics

The number of respondents per year level is demonstrated in the figure below.

Of note, in 2018, the Year 5 students completed the survey in two parts: Part 1 included questions regarding learning objectives and the written examination, and Part 2 included questions regarding the OSCE.

Figure 1. Number of respondents per year level for the 2018 AMSS Assessment Survey



Feedback on Examination Briefings

Method

Students in Years 1-5 in 2018 were asked to evaluate the quality of examination briefings by rating their agreement with a statement. For pre-clinical students, the statement was “I was well-informed regarding the general exam structure, format and content following the examination briefing video sessions.” For clinical students, the statement was “I was well-informed regarding the general examination structure, format and content following the examination briefing session.” Answers were obtained via Likert scale from -2 (representing strongly disagree) to +2 (representing strongly agree). No equivocal midpoint was provided to attempt to reduce central tendency bias. A “cannot respond” category was included to avoid forcing students to make statements that they did not agree with. At the end of the question, students were asked to explain their answers via an optional free-text field.

Pre-clinical

Pre-clinical students agreed that they were well informed regarding the general exam structure, format and content following their examination briefing session (mode +1 [48.3%] | mean: +1.35 | range: -2 to +2 | n = 143), which is an improvement from 2017 (mode +1 [54.3%] | mean: +0.81 | range: -2 to +2 | n = 175). There were 16 free-text comments, with 2 stating they would prefer the information earlier in the year and 4 comments stating they would like clearer information regarding content. In addition, 2 comments described difficulties in finding the recording or slides online.

Clinical

Clinical students generally agreed that they were well informed regarding the general exam structure, format and content following their examination briefing session (mode +1 [54.7%] | mean: +0.73 | range: -2 to +2 | n = 150). However, the 13 free-text responses were more negative and explained several weaknesses of the examination briefing. Overall, students described the session as poorly organised and containing several conflicting statements from staff, which increased student confusion. Following the session, fourth year students felt ill-informed regarding the content of their examinations (3 comments). Fifth year students were less likely than fourth year students to agree that they were well informed, particularly in regards to the OSCE. Numerous fifth year students commented that the examination briefing left them with the impression that there would not be an examiner in the room (2 comments), that there would be no interaction with the examiner (5 comments) and that there would be visible clock timers in the room (2 comments), none of which occurred in the OSCE. These impressions are summarised in the following quotes from two Year 5 students:

“It was quite unhelpful that the assessment document was incorrect, and that those running the session had conflicting statements regarding which exam was a barrier. I do not think it unreasonable to expect that these sorts of details are confirmed prior to the exam information session to make sure students are not confused further.”

“The exam briefing session was poorly organised and the people running the session were unable to answer simple questions regarding what exams were hurdles and what were not. They also could not answer with confidence if there were replacement OSCEs or not.”

Feedback on Learning Objectives

Clinical student awareness of learning objectives

Method

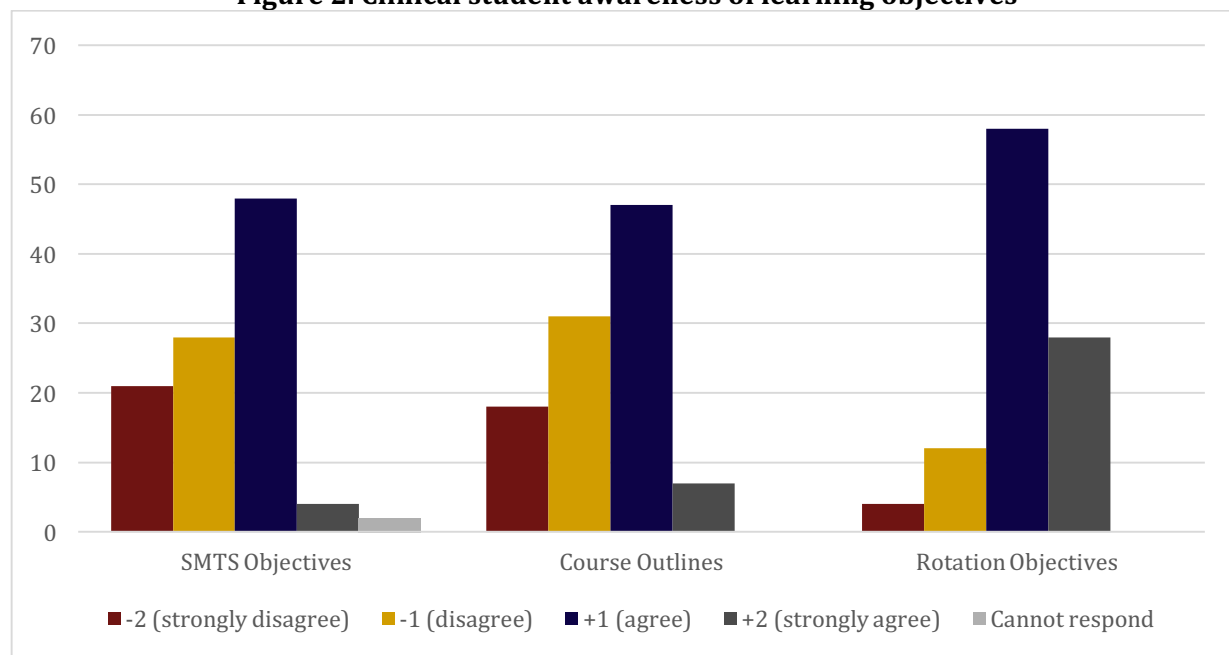
Students in Year 4 and 5 in 2018 were asked to evaluate their awareness of the different sources of learning objectives available to them, including clinical rotation objectives, SMTS objectives, and online course outlines, by rating their agreement with the following statement “I was well-informed regarding the existence of the following sources of learning objectives”. Answers were obtained via Likert scale from -2 (representing strongly disagree) to +2 (representing strongly agree). No equivocal midpoint was provided to attempt to reduce central tendency bias. A “cannot respond” category was included to avoid forcing students to make statements that they did not agree with. At the end of the question, students were asked to explain their answers via an optional free-text field.

Results

Year 4 students disagreed that they were aware of SMTS Objectives on CANVAS (mode -2 [38.5%] | mean: -0.72 | range: -2 to +2 | n = 39), were equivocal regarding awareness of the online course outlines (mode +1 [51.3%] | mean: +0.15 | range: -2 to +2 | n = 39) and agreed that they were aware of clinical rotation objectives (mode +1 [53.9%] | mean: +1.05 | range: -2 to +2 | n = 39). Specifically, the free-text responses indicate that SMTS objectives were difficult to find or not publicised (3 comments) and that students were unaware of MSK-specific objectives (3 comments).

Year 5 students were generally equivocal regarding awareness of SMTS Objectives on CANVAS (mode +1 [54.7%] | mean: +0.23 | range: -2 to +2 | n = 64) and the online course outlines (mode +1 [42.2%] | mean: -0.19 | range: -2 to +2 | n = 64) but agreed that they were aware of clinical rotation objectives (mode +1 [58.7%] | mean: +0.84 | range: -2 to +2 | n = 64). Of the 6 free-text responses, 2 commented that learning objectives in general were difficult to find. An additional concern was raised by Year 5 rural students who commented that they were not aware of any of these resources and thus felt disadvantaged (2 comments).

Figure 2. Clinical student awareness of learning objectives



Contribution of learning objectives to examination preparation

Method

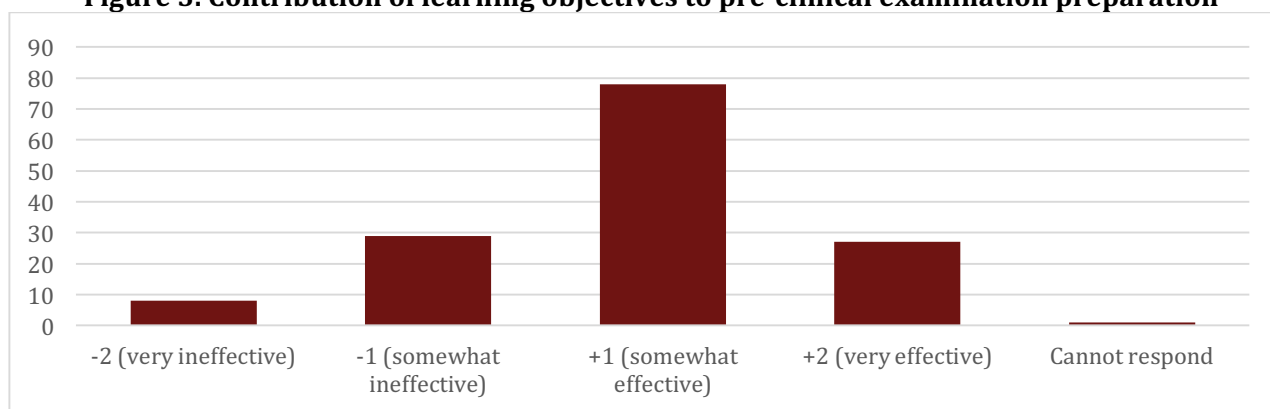
Students in Years 1-5 in 2018 were asked to rate the efficacy of the learning objectives provided in guiding their learning for their end-of-year examinations. Pre-clinical students were asked to evaluate the learning objectives from CBL, MPPD, Clinical Skills and Lectures with a single score. Clinical students were asked to evaluate the learning objectives from SMTS and each core rotation with separate scores. Answers were obtained via Likert scale from -2 (representing very ineffective) to +2 (representing very effective). No equivocal midpoint was provided to attempt to reduce central tendency bias. A "cannot respond" category was included to avoid forcing students to make statements that they did not agree with. At the end of the question, students were asked to explain their answers via an optional free-text field.

Pre-Clinical

Overall, pre-clinical students responded positively about using the provided learning objectives to guide their examination preparation (mode +1 [55.0%] | mean: +0.60 | range: -2 to +2 | n = 143). However, 28 free-text responses conveyed a more negative response to learning objectives, with a predominating theme that learning objectives, especially CBL learning objectives, were too vague to be helpful (27 comments). Additionally, Year 3 students emphasised that Clinical Skills learning objectives were not clear, which hindered their OSCE preparation (4 of 6 comments). These concerns are well-described in the following comment [Year 2 student]:

"Lecture learning objectives were seldom present and would be helpful in covering the key content of the lecture. CBL learning objectives were vague and did not provide students enough information to know what to learn and revise. Additionally, they did not always match what was being taught in lectures (and what ultimately gets examined) causing great confusion for many students... Clinical skills learning objectives were useful however direction was often lacking regarding the [specifics] of certain physical exams particularly when the videos provided were dated and not followed by SCAPs... Better consistency in what is required for these exams would be greatly appreciated by students."

Figure 3. Contribution of learning objectives to pre-clinical examination preparation



Clinical

Year 4 students were generally equivocal that the learning objectives provided were effective in guiding their learning for the end of year examinations. In detail, the psychiatry learning objectives were seen most positively (mode +2 [63.2%] | mean: +1.43 | range: -2 to +2 | n = 39), with 3 free-text comments specifically highlighting this, and the MSK learning objectives were seen most negatively (mode -2 [51.3%] | mean: -1.11 | range: -2 to +1 | n = 39). Furthermore, Year 4 students disagreed that

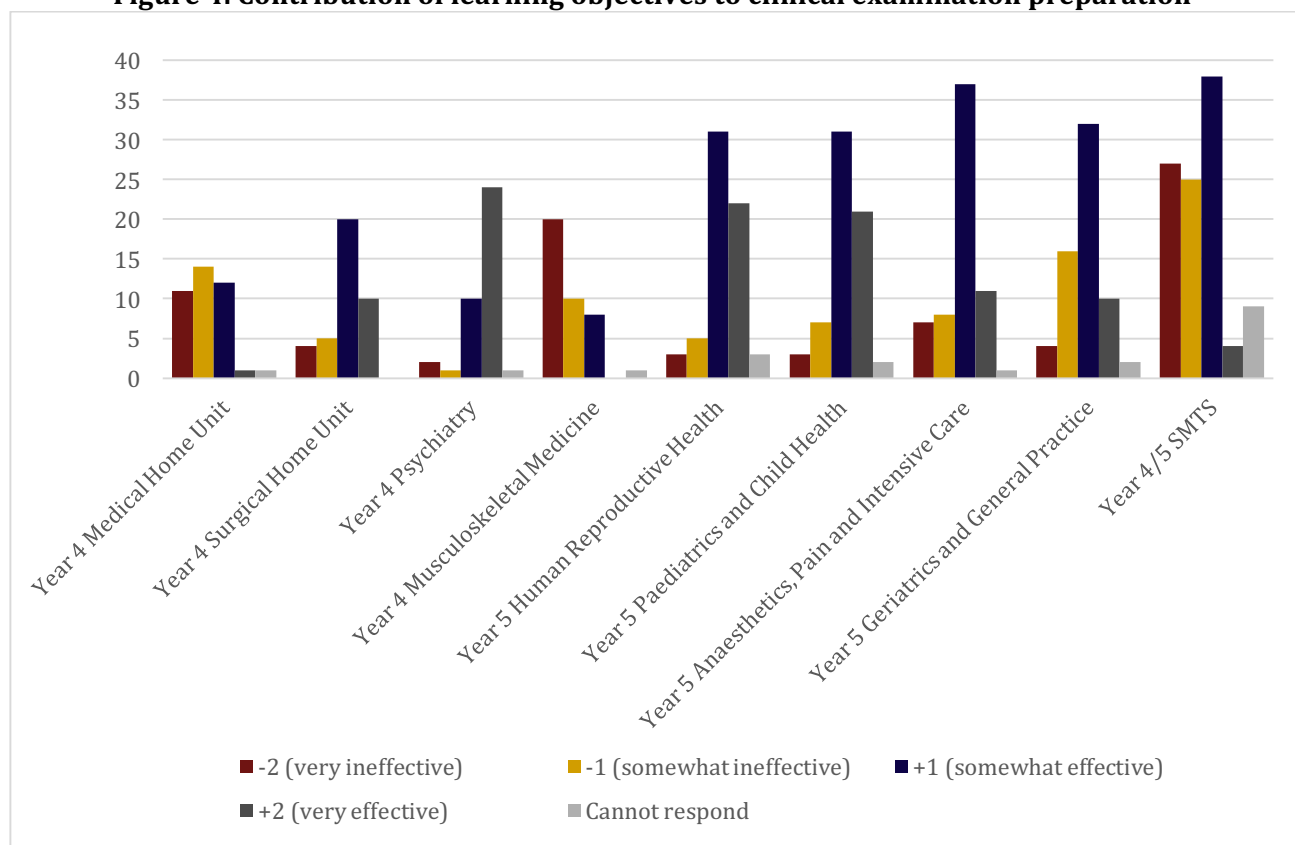
the original MHU objectives were useful (mode -1 [35.9%] | mean: -0.58 | range: -2 to +2 | n = 39), and strongly disagreed that the SMTS objectives were useful (mode -2 [41.0%] | mean: -0.61 | range: -2 to +2 | n = 39). It is pleasing to note that the SHU objectives were viewed positively (mode +1 [51.3%] | mean: +0.69 | range: -2 to +2 | n = 39). The free-text comments (10 comments) describes student's frustrations at not finding learning objectives useful in guiding examination preparation.

"Whilst I really appreciate all the objectives, I don't feel that they correlate well to what is examined in the end-of-year MCQ. There were definitely numerous questions outside of these objectives which is frustrating as topics come up that have not been specifically mentioned in any objective lists. An example of this is the ophthalmology content, which came up a few times in the exams but is not mentioned in the surgical or medical home unit objectives."

The student-staff co-created learning objectives for MHU were seen as very effective (mode +2 [61.5%] | mean: +1.44 | range: -2 to +2 | n = 39). Students generally felt that the student-staff co-created learning objectives for MHU were superior to the original MHU learning objectives (5 comments). However, several students commented that these objectives were too detailed (4 comments).

Year 5 students generally found the provided learning objectives somewhat effective in guiding their learning. Students were equivocal regarding particular learning objectives, including SMTS (mode +1 [40.6%] | mean: -0.19 | range: -2 to +2 | n = 64), MHU (mode +1 [34.4%] | mean: -0.18 | range: -2 to +2 | n = 64) and MSK (mode +1 [39.1%] | mean: -0.16 | range: -2 to +2 | n = 64). They agreed however, that the following had effective objectives: Geriatrics and GP (mode +1 [50.0%] | mean: +0.45 | range: -2 to +2 | n = 64), APIC (mode +1 [57.8%] | mean: +0.59 | range: -2 to +2 | n = 64), SHU (mode +1 [48.4%] | mean: +0.78 | range: -2 to +2 | n = 64), Paediatrics (mode +1 [48.4%] | mean: +0.97 | range: -2 to +2 | n = 64), HRH (mode +1 [48.4%] | mean: +1.05 | range: -2 to +2 | n = 64), and Psychiatry (mode +1 [50.0%] | mean: +1.13 | range: -2 to +2 | n = 64).

Figure 4. Contribution of learning objectives to clinical examination preparation



Feedback on Written Examinations

Timing of written examinations

Method

Students in Years 1-5 in 2018 were asked to evaluate the appropriateness of the timing of their written examinations. Answers were obtained via Likert scale from -2 (representing too little time) to +2 (representing too much time). An equivocal midpoint was provided to represent timing as “appropriate.” A “cannot respond” category was included to avoid forcing students to make statements that they did not agree with. At the end of the question, students were asked to explain their answers via an optional free-text field.

Pre-clinical

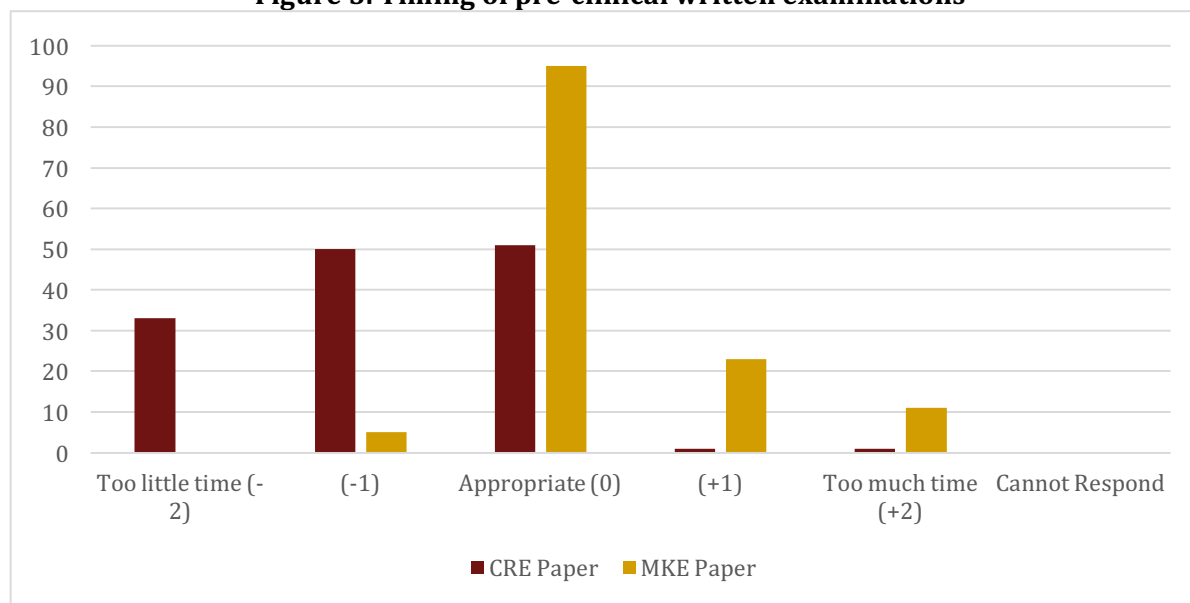
Pre-clinical students were equivocal regarding the timing of the written examinations for both the CRE paper (mode 0 [38.0%] | mean: -0.80 | range: -2 to +2 | n = 136) and the MKE paper (mode 0 [71.0%] | mean: +0.30 | range: -2 to +2 | n = 134).

However, all 28 free-text responses commented that the CRE paper was not allocated adequate time. 14 comments suggested that students felt rushed, and that this compromised their ability to adequately demonstrate their knowledge (6 comments). 7 comments suggested that extra time should be allocated to the CRE paper, ranging from an extra 10-30 minutes. The following comment [Year 3 student] expresses this concern:

“I found that I was pushed for time to answer all the SAQ questions adequately and as a result lost marks solely [sic] from a lack of time. An extra 10 minutes would have been sufficient to cover this. It may be worth considering having a 2-hour exam with maybe one additional SAQ to ensure adequate time and assessment of medical knowledge.”

There were no further comments regarding the MKE paper and data from individual year levels suggests that this paper was appropriately timed.

Figure 5. Timing of pre-clinical written examinations



Clinical

Clinical students considered the time allocated for their MCQ Examinations was insufficient (mode 0 [50.7%] | mean: -0.65 | range: -2 to +2 | n = 142). This view was consistent regarding both Year 4 MCQ papers and the single Year 5 MCQ paper. All 11 free-text responses from the Year 5 cohort suggested a more negative opinion, with the most common view being that there was insufficient time to read the stems and consider the information, including pressure to skim read stems, resulting in students feeling anxious they may have misread questions, and also the inability to have time to review difficult questions (11 comments). Another theme was that working at a mark a minute pace for three hours was an unrealistic expectation that compromised students' ability to demonstrate competency as their ability to read all MCQs thoroughly was inhibited (8 comments). These concerns were well-expressed in the following statement:

"There was barely enough time to read the stem and answer the question, let alone consider all the options and really use our knowledge to make sure we were answering the question to the best of our ability. It seemed like the exam was a test of how fast we can read and fill in bubbles, rather than our actual knowledge."

Figure 6. Timing of clinical written MCQ examinations

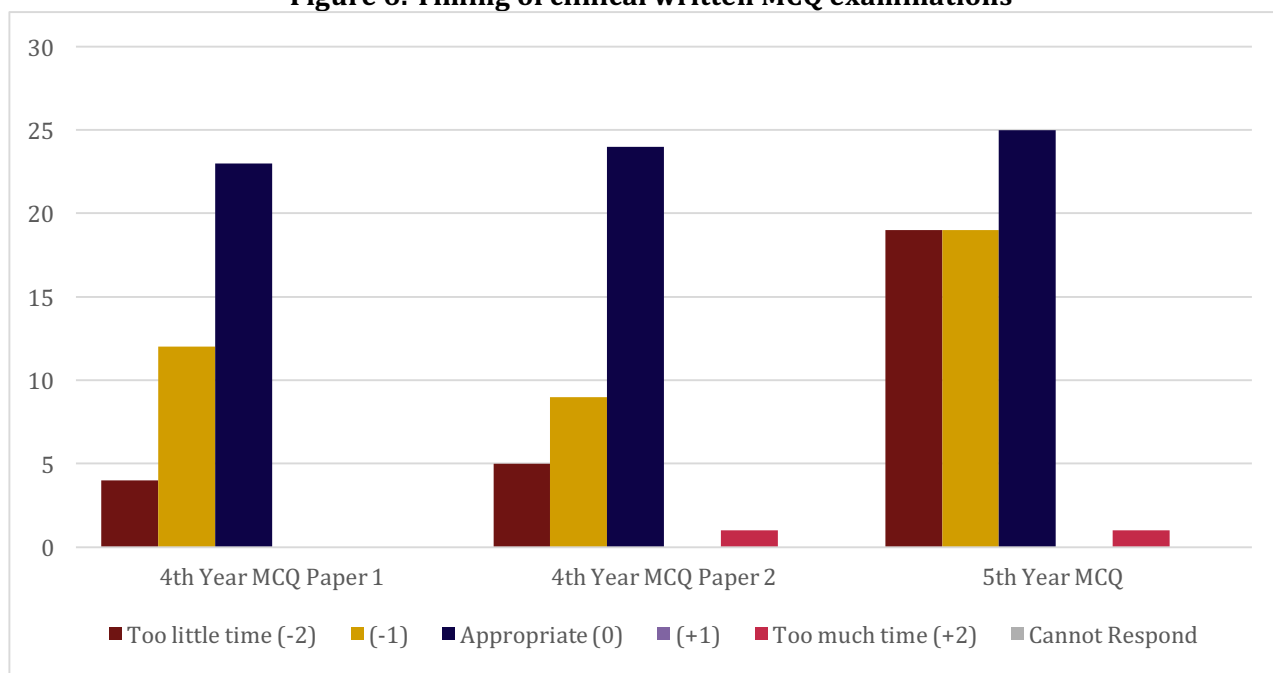


Image quality in written examinations

Method

Students in Years 1-5 in 2018 were asked to evaluate the quality of images provided in the end-of-year examinations by rating their agreement with the statements "The images provided were appropriate in clearly matching the questions asked" and "The images provided were appropriate in image quality/resolution". Answers were obtained via Likert scale from -2 (representing strongly disagree) to +2 (representing strongly agree). No equivocal midpoint was provided to attempt to reduce central tendency bias. A "cannot respond" category was included to avoid forcing students to make statements that they did not agree with. At the end of the question, students were asked to explain their answers via an optional free-text field.

Pre-clinical

Pre-clinical students agreed that the images provided were appropriate in clearly matching the questions asked (mode +1 [63.0%] | mean: +1.20 | range: -2 to +2 | n = 136), and considered the quality/resolution of the images to be suitable (mode +1 [59.0%] | mean: +1.10 | range: -2 to +2 | n = 135). The 6 free-text comments supported the quantitative data.

Clinical

Clinical students agreed that the images clearly matched the questions asked (mode +1 [71.8 %] | mean: +1.64 | range: -2 to +2 | n = 103). Quantitatively there has been continued improvement from 2017 (mode +1 [38.5%] | mean: -0.33 | range: -2 to +2 | n = 156).

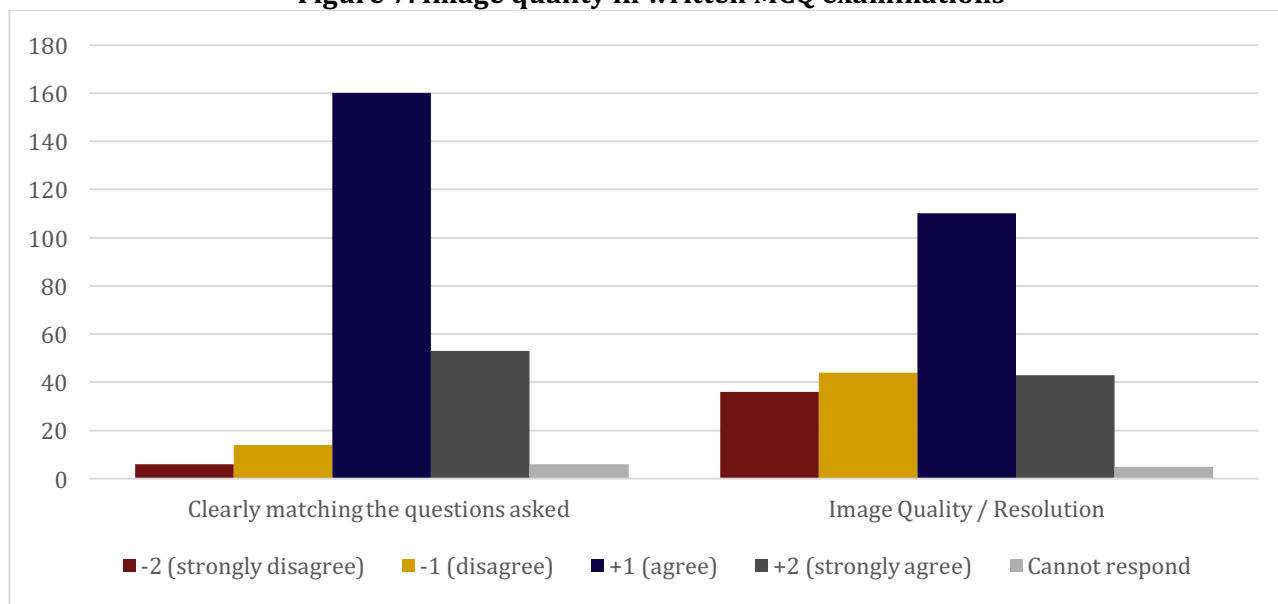
However, Year 4 students disagreed that there was appropriate image quality/resolution (mode -1 [41.0%] | mean: -0.77 | range: -2 to +2 | n = 39), with the 15 free-text responses reflecting this negative opinion. However, it is important to note that this is still an improvement from 2017 (mode -2 [33.8%] | mean: -0.62 | range: -2 to +2 | n = 305). The most common view was that x-rays in particular were difficult to interpret due to their pixilation (11 comments). The difficulties that result from the perceived lack of image quality are well-summarised by:

"X-rays were very poor quality, which made it very difficult to identify features such as fractures. The hip X-ray was particularly hard to read, there were several breaks in the femoral cortex that could have been fractures but could have just as easily been pixilations."

While Year 5 students appeared to agree that there was appropriate image quality/resolution (mode +1 [34.4%] | mean: -0.48 | range: -2 to +2 | n = 64), it is important to note that options strongly disagree, disagree and agree all received similar response rates with 31.3%, 28.1% and 34.4% of responses respectively. All 17 free-text responses suggested a more negative opinion, with the most common view being that x-rays in particular were difficult to interpret (12 comments) with low contrast mentioned as a reason for difficulty (5 comments). Again, it is important to note that this is still an improvement from 2017 (mode -2 [33.8%] | mean: -0.62 | range: -2 to +2 | n = 305).

"I understand that it may be difficult to print out good quality images, but if you cannot manage to do that then you shouldn't include those questions to begin with."

Figure 7. Image quality in written MCQ examinations



Assessment of core subject areas in pre-clinical written examinations

Method

Students in Years 1-3 in 2018 were asked to evaluate how well their understanding of key concepts was assessed in their end-of-year written examinations by rating their agreement with the following statement “The questions in the following areas were a reasonable test of my knowledge and well-represented the key concepts taught”. The areas assessed included: anatomy, physiology, histology, pathology, clinical skills and reasoning, epidemiology and public health, and professional and ethical behaviour. Year 2 and 3 students had the added area “pharmacology”, and Year 2 students had the added area “genetics”. Answers were obtained via Likert scale from -2 (representing “strongly disagree”) to +2 (representing “strongly agree”). No equivocal midpoint was provided to attempt to reduce central tendency bias. A “cannot respond” category was included to avoid forcing students to make statements that they did not agree with. At the end of the question, students were asked to explain their answers via an optional free-text field.

Results

Pre-clinical students were positive regarding questions testing most key concept areas including: physiology (mode +1 [74.0%] | mean: +1.00 | range: -2 to +2 | n = 136), pathology (mode +1 [52.0%] | mean: +0.20 | range: -2 to +2 | n = 136), clinical skills and reasoning (mode +1 [65.0%] | mean: +1.10 | range: -2 to +2 | n = 136), professional and ethical behaviour (mode +1 [76.0%] | mean: +1.10 | range: -2 to +2 | n = 136), pharmacology (mode +1 [65.0%] | mean: +0.70 | range: -2 to +2 | n = 93) and genetics (mode +1 [49.0%] | mean: +0.90 | range: -2 to +2 | n = 51).

In regards to anatomy specifically, pre-clinical students were generally positive (mode +1 [64.0%] | mean: +0.60 | range: -2 to +2 | n = 136). However, while students in Year 1 (mean: +0.72) and 3 (mean: +0.76) were positive about questions regarding anatomy, students in Year 2 were equivocal (mean: +0.37).

In addition, in regards to epidemiology and public health, pre-clinical students were generally positive (mode +1 [64.0%] | mean: +0.60 | range: -2 to +2 | n = 136). However, while students in Year 1 (mean: +0.83) and 3 (mean: +0.66) were positive about questions regarding epidemiology and public health, students in Year 2 were equivocal (mean: +0.33). This represents an improvement from the negative opinion of 2017 (mode -1 [32.8%] | mean: -0.56).

In contrast, pre-clinical students were of equivocal opinion regarding questions testing histology (mode +1 [52.0%] | mean: +0.20 | range: -2 to +2 | n = 136). This key concept area provided the most contrast between the three cohorts. Year 1 students were positive (mean: +0.61), Year 3 students were equivocal (mean: +0.38) and Year 2 students were negative (mean: -0.20). Interestingly, in 2017 students were generally positive regarding questions testing histology (mode +1 [51.6%] | mean: +0.80).

The feedback provided in the 20 free-text comments was consistent with the quantitative data regarding testing of anatomy, epidemiology and public health and histology. This is well summarised by the following comment (Year 2 student):

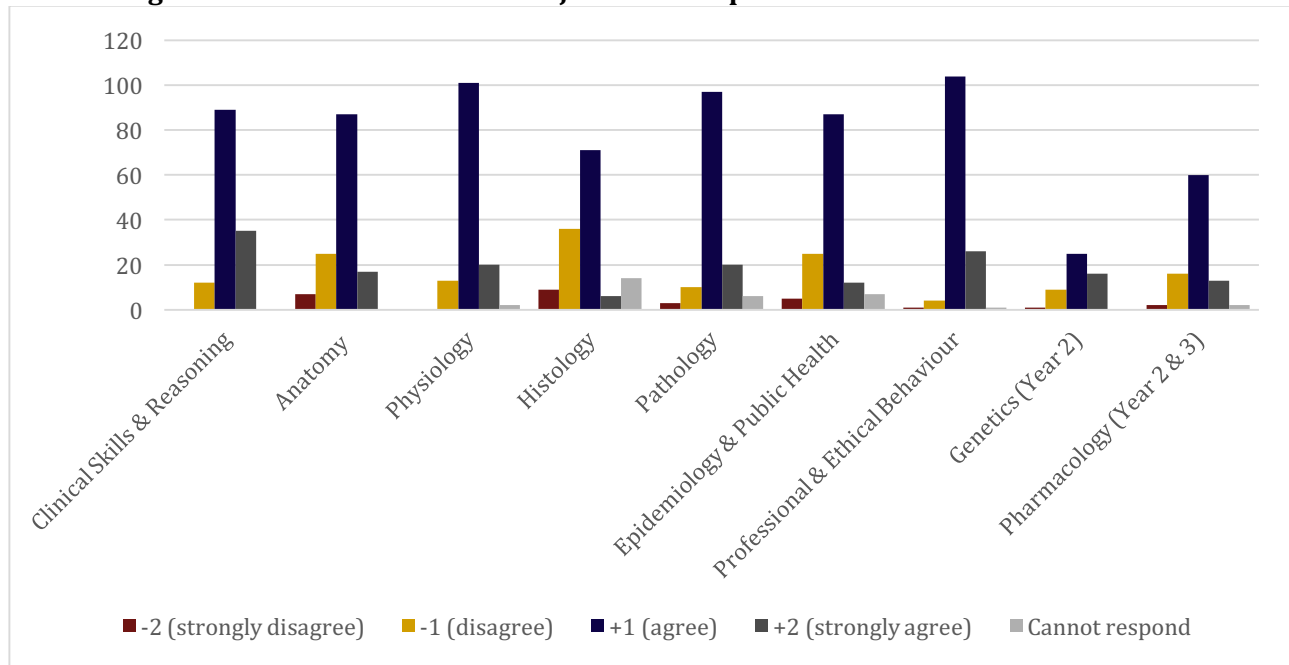
“Histology was not examined well (hardly any questions), epidemiology questions were very specific and real answers differed between sources (i.e. BMJ & UpToDate), [and] pharmacology content [was] tested [too] specifically [with] almost none of the core/base principles.”

Interestingly, a theme in the Year 2 free-text comments (5 comments) centred on the lack of pharmacology questions in the written examinations, despite it being considered a core focus of Year

2. Many students described pharmacology being a large focus in both lectures and CBL sessions, yet was minimally examined to students' frustration. This is well summarised by the following comment (Year 2 student):

"Pharmacology was taught to us as an important component of our learning... however, there was next to no pharmacology in either [Semester 1 or Semester 2] MKE this year."

Figure 8. Assessment of core subject areas in pre-clinical written examinations



Assessment of pre-clinical student competency by written examinations

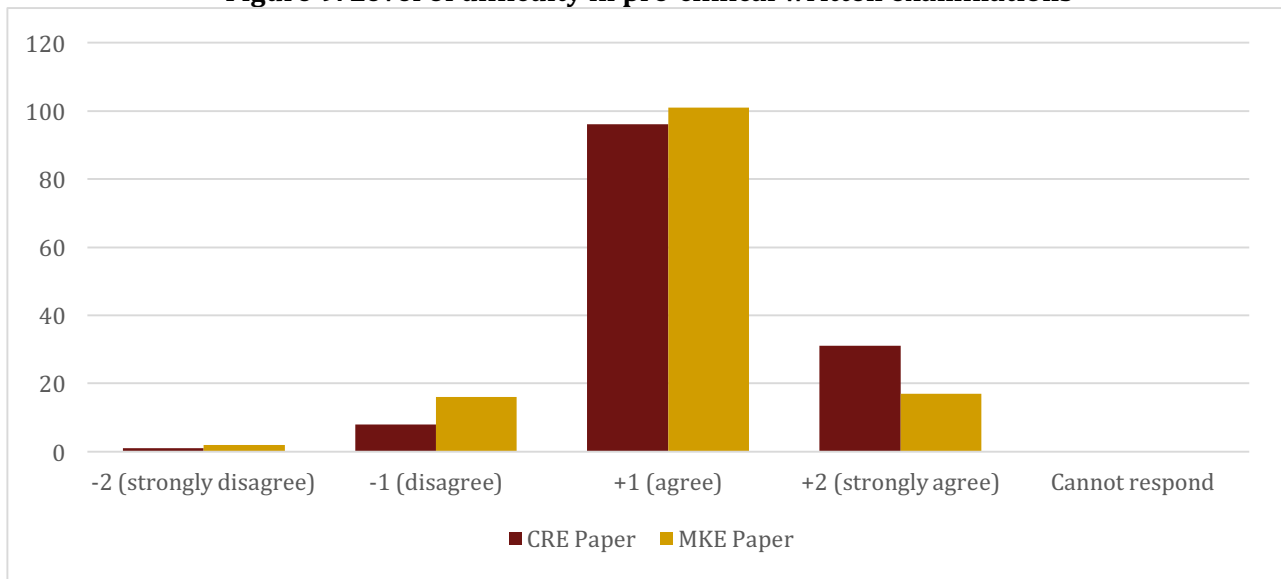
Method

Students in Years 1-3 in 2018 were asked to evaluate whether the level of difficulty of their written examinations was appropriate. Answers were obtained via Likert scale from -2 (representing "strongly disagree") to +2 (representing "strongly agree"). No equivocal midpoint was provided to attempt to reduce central tendency bias. A "cannot respond" category was included to avoid forcing students to make statements that they did not agree with.

Results

Students generally regarded the level of difficulty of the CRE papers as appropriate (mode +1 [71.0%] | mean: +1.10 | range: -2 to +2 | n = 136), and this is consistent from 2017. Students generally regarded the level of difficulty of the MKE papers as appropriate (mode +1 [74.0%] | mean: +0.80 | range: -2 to +2 | n = 136), and this is in contrast to 2017, where students were overall equivocal.

Figure 9. Level of difficulty in pre-clinical written examinations



Assessment of core clinical rotations clinical in written examinations

Method

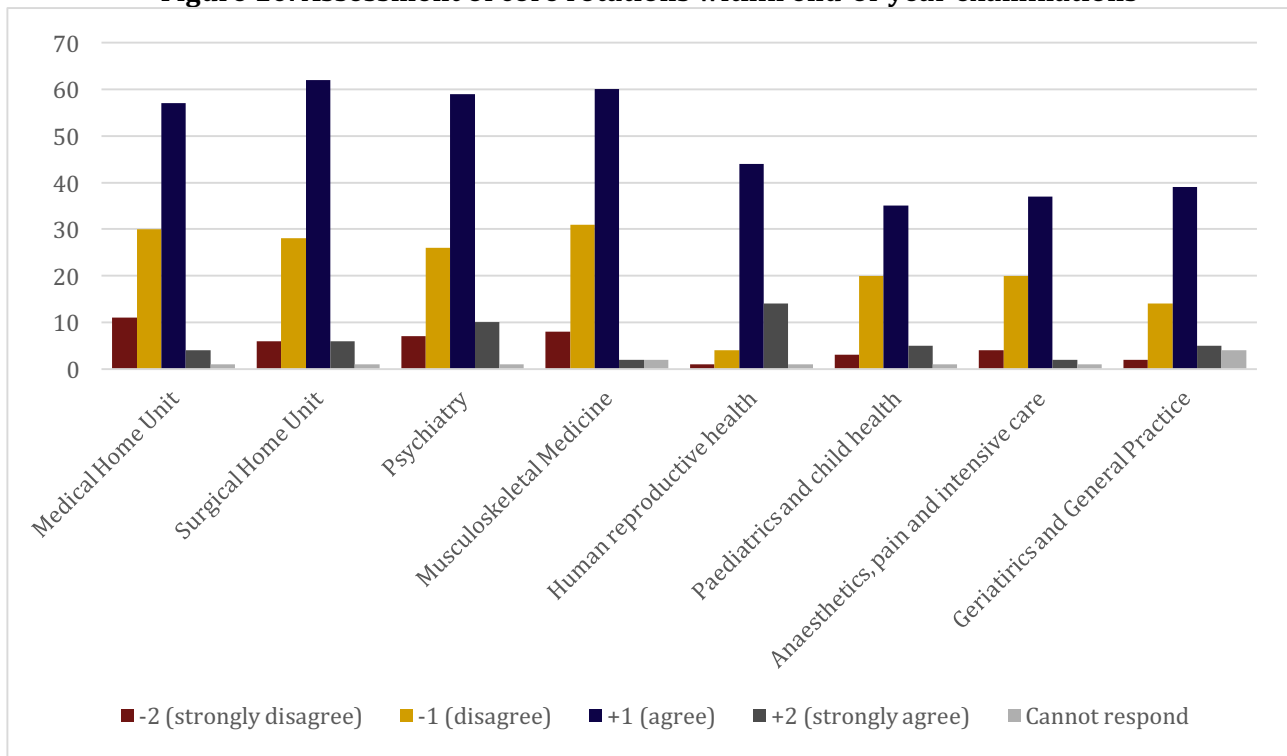
Students in Years 4 and 5 in 2018 were asked to evaluate how well their learning during core clinical rotations was assessed in their end-of-year written examinations by rating their agreement with the following statement “The questions from the following core rotations were a reasonable test of my knowledge and well-represented the key concepts taught.” Answers were obtained via Likert scale from -2 (representing strongly disagree) to +2 (representing strongly agree). No equivocal midpoint was provided to attempt to reduce central tendency bias. A “cannot respond” category was included to avoid forcing students to make statements that they did not agree with. At the end of the question, students were asked to explain their answers via an optional free-text field.

Results

Clinical students were either equivocal or positive in their opinions of whether the questions relevant to each of the core clinical rotations were appropriate. The rotations with positive opinion include: Year 5 Human Reproductive Health (mode +1 [68.8%] | mean: +1.05 | range: -2 to +2 | n = 64) and Year 5 Geriatrics and General Practice (mode +1 [60.9%] | mean: +0.52 | range: -2 to +2 | n = 64). The rotations with equivocal opinion include: Year 4 MHU (mode +1 [69.2%] | mean: +0.13 | range: -2 to +2 | n = 103), Year 4 SHU (mode +1 [61.5%] | mean: +0.33 | range: -2 to +2 | n = 103), Year 4 Psychiatry (mode +1 [64.1%] | mean: +0.38 | range: -2 to +2 | n = 103), Year 4 MSK (mode +1 [59.0%] | mean: +0.17 | range: -2 to +2 | n = 103), Year 5 Paediatrics and Child Health (mode +1 [54.7%] | mean: +0.30 | range: -2 to +2 | n = 64) and Year 5 APIC: (mode +1 [57.8%] | mean: +0.21 | range: -2 to +2 | n = 64). Of 19 comments, 14 were negative. The predominant themes were a disproportionate number of questions from the varying core rotations (8 comments), particularly regarding an excess of venous thromboembolism-related questions in the Year 5 MCQ (3 comments), and that many questions tested knowledge above the level of a graduate medical student (3 comments). One student commented:

“I am mainly happy with all of the subjects; however, I feel like the heavy emphasis on distinguishing between different management strategies, especially surgical ones, is above the level of appropriateness for 4th years – this is stuff that consultants and registrars would be doing.”

Figure 10. Assessment of core rotations within end-of-year examinations



Assessment of clinical student competency by written examinations

Method

Students in Years 4 and 5 in 2018 were asked to evaluate the efficacy of their written MCQ Examination in assessing student competency by rating their level of agreement with the following statements “In general the MCQs were of an appropriate level of difficulty”, “In general the MCQs were clearly worded (I could tell what was being asked)”, “In general the MCQs were on content I felt prepared for”, and “In general the MCQs were of a format that allowed me to display good clinical reasoning.” Answers were obtained via Likert scale from -2 (representing strongly disagree) to +2 (representing strongly agree). No equivocal midpoint was provided to attempt to reduce central tendency bias. A “cannot respond” category was included to avoid forcing students to make statements that they did not agree with. At the end of the question, students were asked to explain their answers via an optional free-text field.

Results

Clinical students were generally equivocal regarding whether the MCQ examinations assessed student competency accurately. Most students were equivocal regarding the appropriateness of the level of difficulty (mode +1 [60.2%] | mean: +0.18 | range: -2 to +2 | n = 103), the clarity of wording (mode +1 [43.7%] | mean: -0.27 | range: -2 to +2 | n = 103) and the focus on content that students felt prepared for (mode +1 [51.5%] | mean: -0.03 | range: -2 to +2 | n = 103). This is in contrast to 2017, where students strongly disagreed with the above 3 statements.

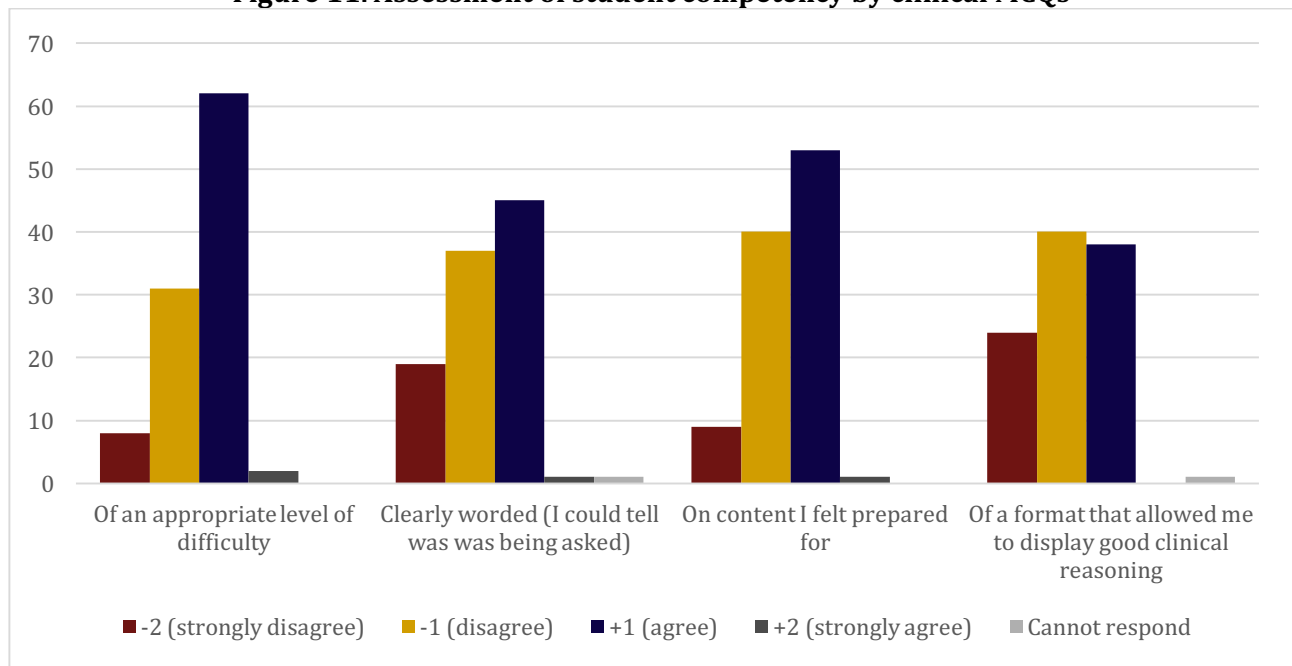
In contrast, clinical students did not consider the MCQs to be of a format that allowed them to display good clinical reasoning (mode -1 [38.9%] | mean: -0.49 | range: -2 to +2 | n = 103), an opinion which was consistent with 2017.

Of 37 free-text responses, most were negative. The predominant themes included poor clarity of wording (12 comments) and a lack of testing of clinical reasoning by the MCQ examinations (14

comments). Further comments suggested that the latter finding may have a multifactorial basis, being attributed to a focus on peripheral details rather than core course content (4 comments), the provision of multiple reasonable answers (3 comments), an inability to explain reasoning (3 comments), the ability to guess answers using learned examination technique (2 comments), the specialist-level setting of certain questions (2 comments) and the exclusion of key clinical data so as to create unrealistic clinical scenarios (2 comments). Certain free-text responses suggested ways of alleviating this perceived issue including using fewer MCQs requiring identification of the “best management option” (3 comments) and/or using an SAQ examination format (2 comments). One such comment explained:

“...Examiners should move away from “what is the next best management” and then listing 4 equally appropriate management plans which are often done concurrently or one after the other. This format does not allow students to demonstrate their clinical knowledge effectively.”

Figure 11. Assessment of student competency by clinical MCQs



OSCE Feedback

Timing of OSCE stations

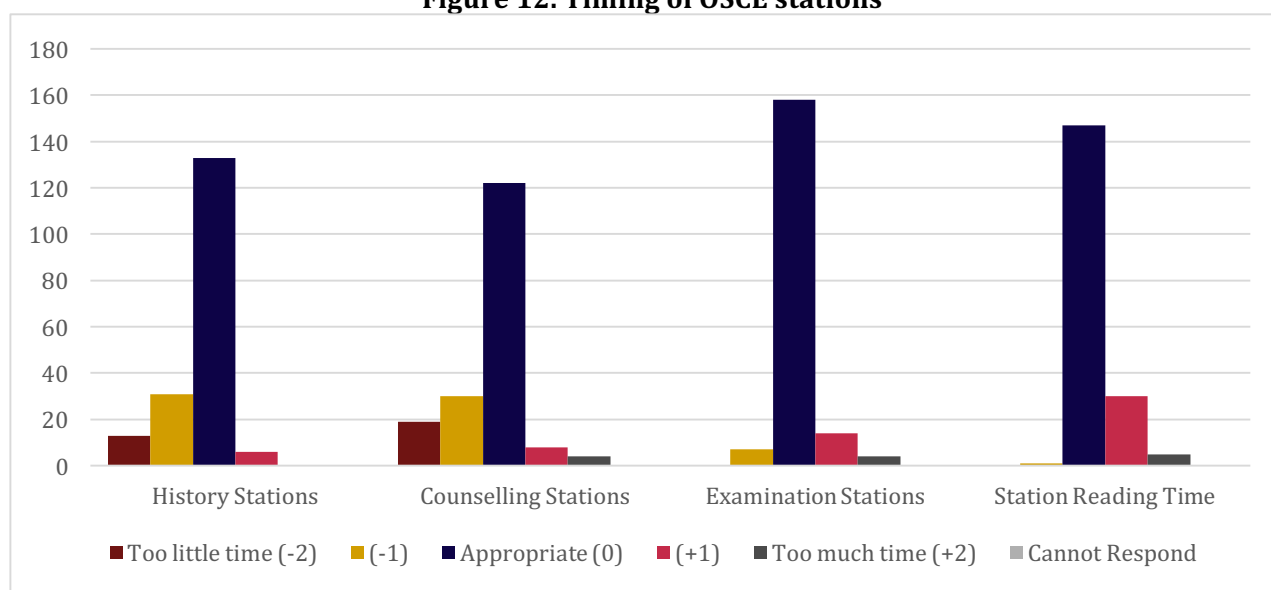
Method

Students in Years 1-3 and 5 in 2018 were asked to evaluate whether the amount of time allocated to history, counselling and examination OSCE stations, as well as OSCE station reading time, was appropriate. Answers were obtained via Likert scale from -2 (representing “too little time”), 0 to +2 (representing “too much time”). An equivocal midpoint was provided to represent timing as “appropriate.” A “cannot respond” category was included to avoid forcing students to make statements that they did not agree with.

Results

Students in all year levels regarded the timing for OSCE stations as appropriate including history stations (mode 0 [73.0%] | mean: -0.27 | range: -2 to +2 | n = 183), counselling stations (mode 0 [67.0%] | mean: -0.28 | range: -2 to +2 | n = 183), examination stations (mode 0 [86.0%] | mean: +0.08 | range: -2 to +2 | n = 183), and station reading time (mode 0 [80.0%] | mean: -0.21 | range: -2 to +2 | n = 183).

Figure 12. Timing of OSCE stations



Evaluation of stations used the OSCE

Method

Students in Years 1-3 and 5 in 2018 were asked to evaluate various aspects of the OSCE stations by rating their level of agreement towards the following statements “The stations within the OSCE were of an appropriate level of difficulty”, “The stations within the OSCE had clear instructions provided at each station as to what was expected”, “The stations within the OSCE had individual stations which were consistent between rotation colours”, and “The stations within the OSCE had examiners who were helpful and professional in their conduct”. Year 3 students were additionally asked to rate their level of agreement with the statement “The stations within the OSCE were taught effectively within the

Year 3 Clinical Skills and MPPD program” In a follow-up question, Year 3 students were also asked at which hospital their clinical skills program was based. Answers were obtained via Likert scale from -2 (representing strongly disagree) to +2 (representing strongly agree). No equivocal midpoint was provided to reduce central tendency bias”. A “cannot respond” category was included to avoid forcing students to make statements that they did not agree with. At the end of the question, students were asked to explain their answers via an optional free-text field.

Pre-clinical

Year 1 and 2 students agreed with all the above statements: that their OSCEs were of an appropriate level of difficulty (mode +1 [61.0%] | mean: +1.40 | range: -2 to +2 | n = 94) and had clear instructions provided at each station (mode +1 [57.0%] | mean: +1.40 | range: -2 to +2 | n = 94), that the individual stations were consistent between rotation colours (mode +1 [47.0%] | mean: +1.30 | range: -2 to +2 | n = 94) and had examiners who were helpful and professional in their conduct (mode +1 [48.0%] | mean: +1.30 | range: -2 to +2 | n = 102). However, the free-text comments from Years 1 and 2 represented a more negative opinion. There were 11 comments which expressed that there was in fact variation between the rotation colours, particularly with regards to abnormalities present in some physical examination stations but not in others and in terms of questioning by examiners. One such comment noted:

“We were informed that examiners would not be asking questions... however some stations and rotations had this and some did not... The SPs had variable findings among different stations (e.g. some had foot ulcers in the diabetic foot exam and some didn't) ... The MPPD station was variable amongst rotation colours... some SPs were particularly more difficult to deal than others creating a lot of inconsistency in students' ability to know their knowledge and skills.”

Students in Year 3 were generally more equivocal in their responses, and all free-text responses were of a negative nature. While Year 3 students found there were clear instructions provided at each station (mode +1 [71.0%] | mean: +0.90 | range: -2 to +2 | n = 42), they were equivocal regarding the level of difficulty of the OSCE (mode +1 [60.0%] | mean: +0.20 | range: -2 to +2 | n = 42), the consistency of stations between rotation colours (mode +1 [52.0%] | mean: +0.10 | range: -2 to +2 | n = 42), the helpfulness and professionalism of SPs and examiners (mode +1 [61.0%] | mean: +0.90 | range: -2 to +2 | n = 41).

16 comments expressed that the histories were not representative of the content learned in Year 3 CBL and Clinical Skills. In particular, students commented on the erectile dysfunction history, muscle pain histories and the prescribing station. 11 comments expressed negative opinions about the absence of real physical signs in the examination stations, both in terms of not allowing students to demonstrate their knowledge, and also being an inadequate assessment of readiness for Year 4. One student noted:

“I feel that key concepts that myself and many other students focused on were not included in [the] exam, with other exams/histories included that were not the focus of the teaching (e.g. histories on myalgia and erectile dysfunction, and using SPs instead of patients for the examination did not give us the opportunity to comment on real abnormalities).”

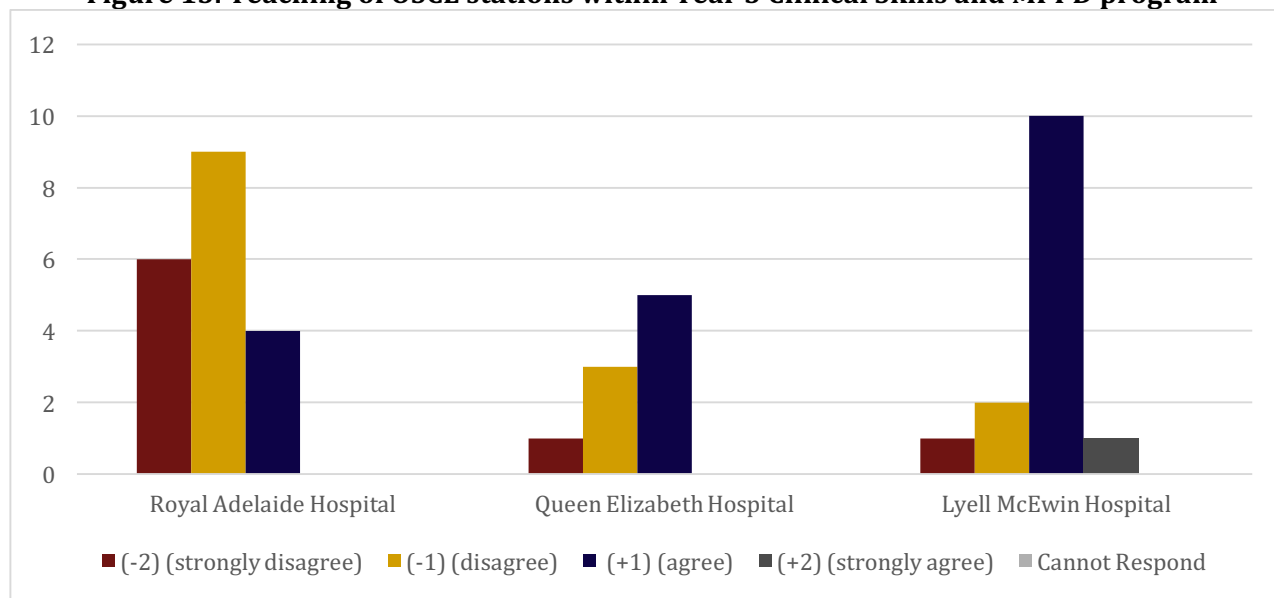
13 comments noted that there was inconsistency between the rotation colours, particularly with respect to the physical signs acted out by SPs in the acute abdomen physical examination station. One student noted:

“For the acute abdomen exam all the patients seemed to demonstrate different signs across the different rotations.”

Students in Year 3 were equivocal about whether OSCE stations were taught effectively within their clinical skills and MPPD program (mode +1 [45.0%] | mean: -0.20 | range: -2 to +2 | n = 42). Further

sub-analysis revealed that students based at the Lyell McEwin Hospital and Queen Elizabeth Hospital agreed that the teaching of the content examined in the OSCE was effective. Students based at the Lyell McEwin Hospital considered their clinical skills program to have effectively covered the content of the OSCE stations (mode +1 [71.4%] | mean: 0.00 | range: -2 to +2 | n = 14), and students based at the Queen Elizabeth Hospital agreed as well (mode +1 [55.6%] | mean: +0.20 | range: -2 to +2 | n = 9). In contrast, students based at the Royal Adelaide Hospital did not consider their clinical skills program to have effectively covered the content of the OSCE stations (mode -1 [47.4%] | mean: -1.33 | range: -2 to +2 | n = 19).

Figure 13. Teaching of OSCE stations within Year 3 Clinical Skills and MPPD program



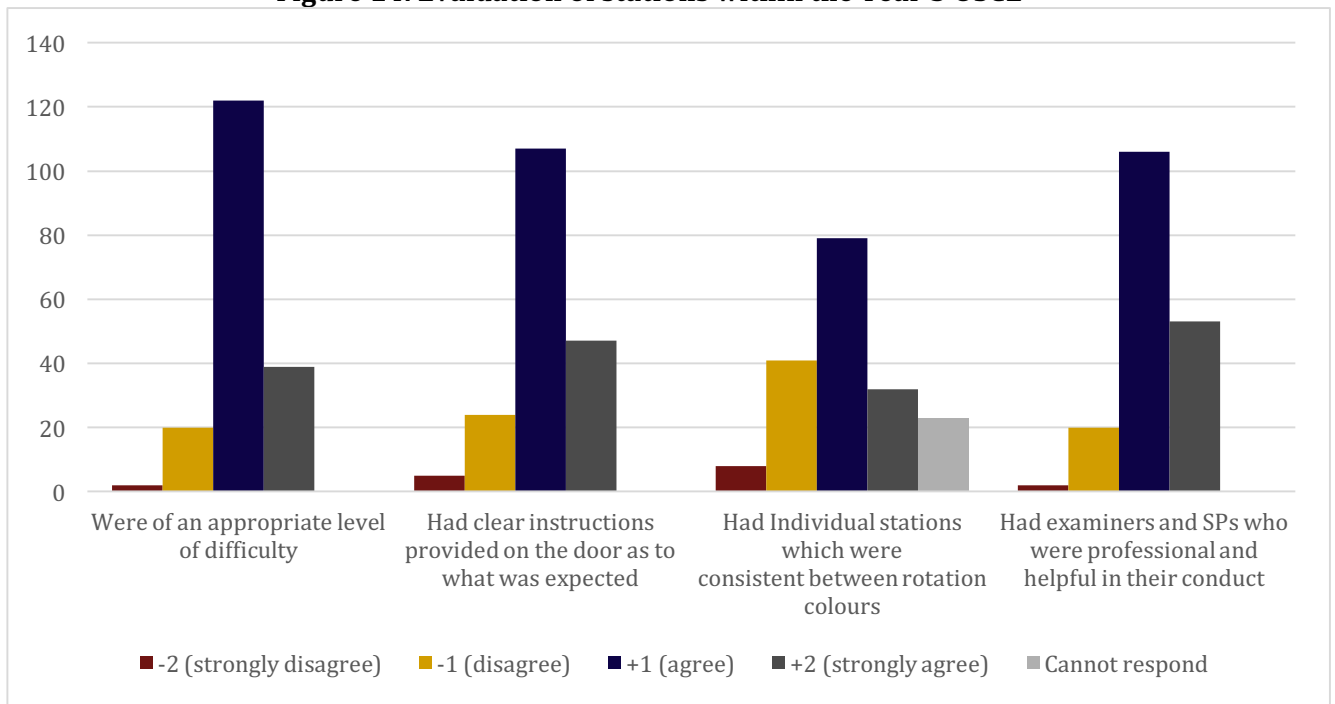
Clinical

Year 5 students generally agreed that the OSCE stations were of an appropriate level of difficulty (mode +1 [85.1%] | mean: +0.83 | range: -2 to +2 | n = 47) and that they had examiners and SPs who were professional and helpful (mode +1 [68.1%] | mean: +0.60 | range: -2 to +2 | n = 47). They were more equivocal in regards to having clear instructions provided (mode +1 [48.9%] | mean: -0.11 | range: -2 to +1 | n = 47) and they disagreed that individual stations were consistent between rotation colours (mode -1 [48.9%] | mean: -0.45 | range: -2 to +1 | n = 47).

34 free-text responses were of a more negative opinion with two main themes; unclear station instructions and consistency between rotation colours. Specifically, 4 comments described the heart failure station having both poor instructions and SP differences, with some SPs acting short of breath (2 comments) and some SPs being rude (3 comments). In addition, 4 comments described the COPD station as unclear. Students felt there was insufficient time to discuss both smoking cessation (including assessing readiness to quit, non-pharmacological cessation strategies, and pharmacological cessation strategies) and the other aspects of COPD management (including relevant puffers, vaccination, pulmonary rehabilitation, exacerbation action plan, and lung cancer screening) in thorough detail. It was unclear as to which of these should be discussed in depth versus mentioned briefly, within the time constraints of the station.

Lastly, 8 comments highlighted that the station instructions outside the room for the acute abdomen station clearly stated to take the patient's vital signs, but the station instructions printed inside the room the instructions omitted this. This inconsistency caused conflict between student's and examiners about what the task was, with some examiners stopping students from taking the vital signs, and other examiners allowing students to take the vital signs.

Figure 14. Evaluation of stations within the Year 5 OSCE



Opportunity to demonstrate learning in the OSCE

Method

Students in Years 3 and 5 in 2018 were asked to evaluate the appropriateness of the OSCE as a method of assessment by rating their level of agreement with the following three statements: “I was provided with an adequate opportunity to demonstrate my knowledge in the history stations”, “I was provided with an adequate opportunity to demonstrate my knowledge in the counselling stations”, and “I was provided with an adequate opportunity to demonstrate my knowledge in the examination stations”. Answers were obtained via Likert scale from -2 (representing strongly disagree) to +2 (representing strongly agree). No equivocal midpoint was provided to reduce central tendency bias”. A “cannot respond” category was included to avoid forcing students to make statements that they did not agree with. At the end of the question, students were asked to explain their answers via an optional free-text field.

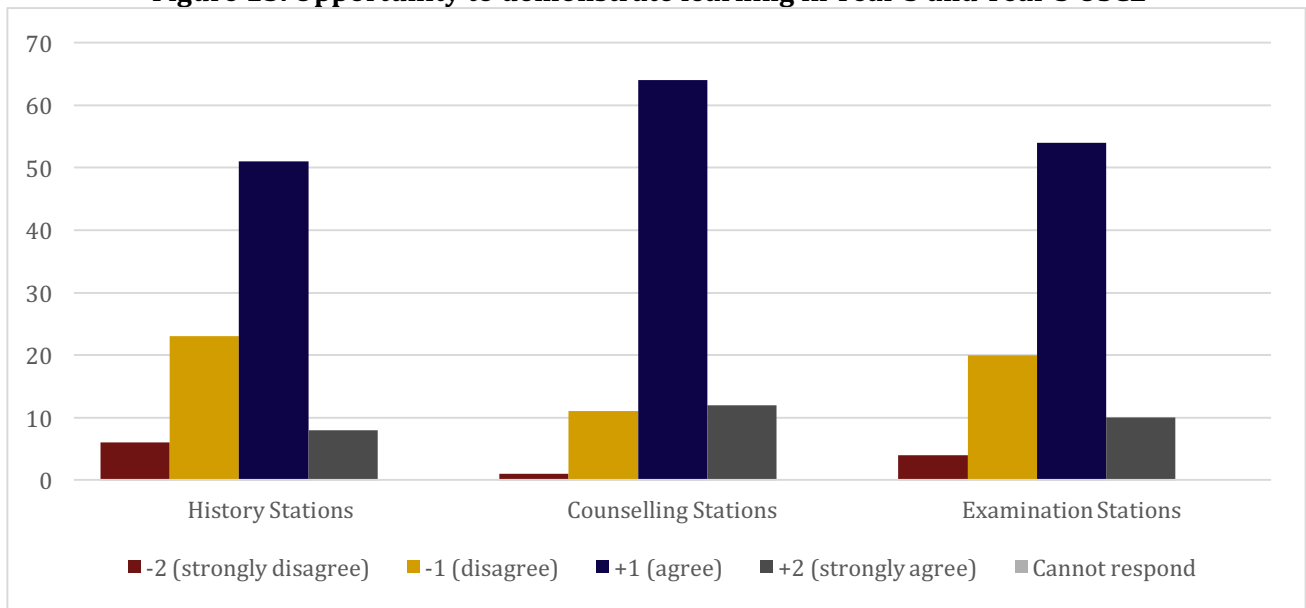
Pre-clinical

Year 3 students agreed that the counselling stations (mode +1 [77.4%] | mean: +0.92 | range: -2 to +2 | n = 62) and history stations (mode +1 [61.3%] | mean: +0.50 | range: -2 to +2 | n = 62) provided an adequate opportunity to demonstrate learning. In contrast, Year 3 students were equivocal regarding the examination stations (mode +1 [64.5%] | mean: +0.34 | range: -2 to +2 | n = 62).

Clinical

Year 5 students generally agreed that the OSCE stations provided an adequate opportunity to demonstrate learning, with examination stations being the highest rated (mode +1 [76.6%] | mean: +0.85 | range: -2 to +2 | n = 47), followed by counselling stations (mode +1 [76.6%] | mean: +0.64 | range: -2 to +2 | n = 47). However, they were equivocal regarding history stations (mode +1 [63.8%] | mean: +0.34 | range: -2 to +2 | n = 47).

Figure 15. Opportunity to demonstrate learning in Year 3 and Year 5 OSCE



General Feedback on Examinations

Assessment of content learnt throughout the year

Method

Students from Years 1-5 in 2018 were asked to evaluate how reasonable the end-of-year examinations were in assessing content studied during the year by rating their agreement with the statement “The examinations as a whole were a reasonable representation of what I had studied/learnt throughout the year and allowed me to demonstrate my overall knowledge from [current year level].” Answers were obtained via Likert scale from -2 (representing strongly disagree) to +2 (representing strongly agree). No equivocal midpoint was provided to attempt to reduce central tendency bias. A “cannot respond” category was included to avoid forcing students to make statements that they did not agree with. At the end of the question, students were asked to explain their answers via an optional free-text field.

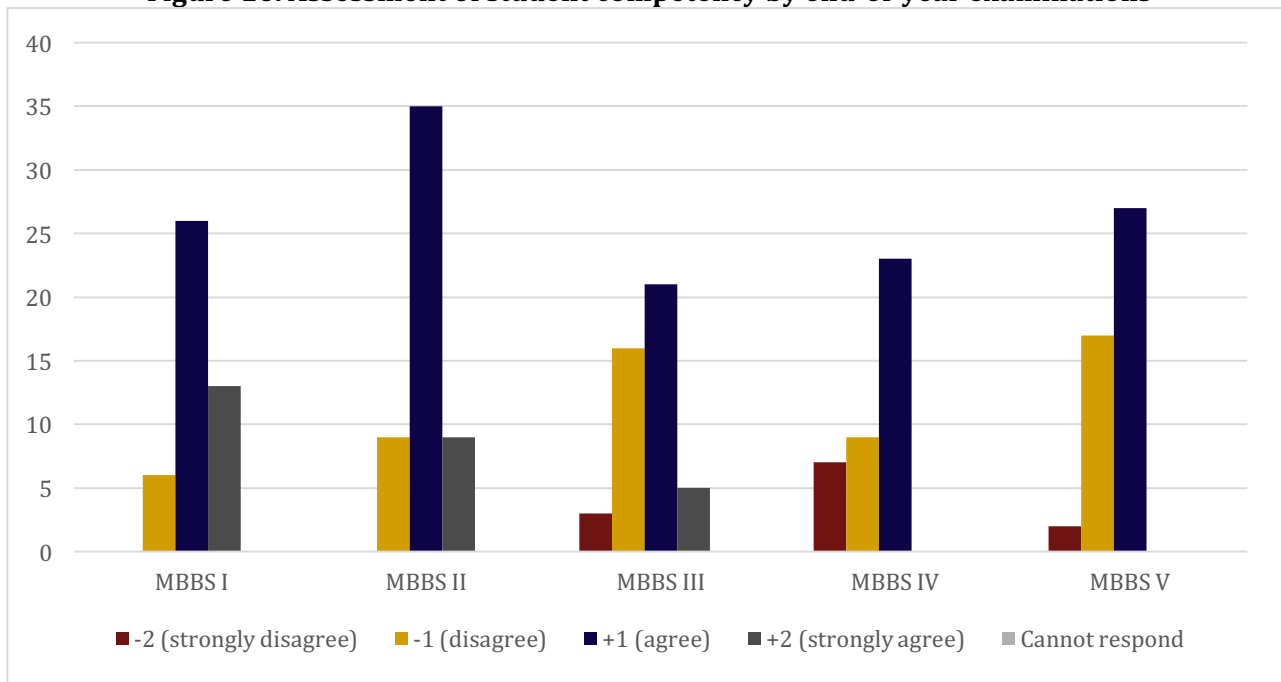
Pre-clinical

Overall, pre-clinical students were positive regarding the end-of-year examinations as a reasonable assessment of the content studied during the year (mode +1 [57.3%] | mean: +0.68 | range: -2 to +2 | n = 143). However, there were 28 free-text responses generally of a more negative nature. The predominant theme was that the MKE assessed peripheral knowledge rather than core course content (8 comments). No such comments were directed at the Year 1-3 CREs, while two Year 1 students noted that practice examinations would have been helpful in preparing for the format of the CRE. While the Year 1 and 2 cohorts were overall positive in their responses, the Year 3 cohort were overall equivocal (mean: +0.20). In the free-text comments, Year 3 students noted a focus on peripheral content in the MKE (2 comments) and in the OSCE history stations (5 comments).

Clinical

Clinical students were equivocal regarding the end-of-year examinations as a reasonable assessment of the content studied during the year (mode +1 [58.8%] | mean: +0.07 | range: -2 to +2 | n = 85). Of the 31 free-text responses, 28 were negative. 3 students commented that the focus of the MCQs was appropriate or more appropriate than in previous years. However, the predominant themes were that the MCQ examinations focused on peripheral, rather than core, content (7 comments) and that there was poor correlation between examination content and learning on Year 4 rotations (3 comments).

Figure 16. Assessment of student competency by end-of-year examinations



Feedback on Year 2 Electives

Method

Students in Year 2 in 2018 were asked to evaluate their Semester 2 elective by rating their agreement with the following four statements “The elective prepared me reasonably for the examination/assessment tasks performed”, “The elective was worthwhile and informative”, “The elective allowed me to pursue a field of interest”, and “The elective was an overall positive experience”. Answers were obtained via Likert scale from -2 (representing strongly disagree) to +2 (representing strongly agree). No equivocal midpoint was provided to attempt to reduce central tendency bias. A “cannot respond” category was included to avoid forcing students to make statements that they did not agree with. At the end of the question, students were asked to explain their answers via an optional free-text field. Students were then asked which elective they completed to permit evaluation of individual electives.

Results

Overall, students regarded their elective as a positive experience (mode: +2 [62.0%] | mean: +1.38 | range: -2 to +2 | n = 50). Students generally considered their elective to be worthwhile and informative (mode: +2 [62.0%] | mean: +1.26 | range: -2 to +2 | n = 50), and found that their elective prepared them reasonable for the examination/assessment tasks (mode: +2 [48.0%] | mean: +1.16 | range: -2 to +2 | n = 50). Students also agreed that their elective allowed them to pursue a field of personal interest (mode: +2 [56.0%] | mean: +1.25 | range: -2 to +2 | n = 50). Of the respondents, 45 stated the elective they completed, with 12 completing Applied Anatomy of Cranial Nerves, 12 completing Applied Anatomy of Thorax and Abdomen, 11 completing International Health 4 completing Limb Dissection, 2 completing Fundamentals of Biological Psychiatry, 2 completing Big Challenges in Public Health and 2 completing Contemporary Understanding of Disease and Treatment. Free-text comments were generally positive. In particular, 10 comments were positive regarding the three anatomy dissection electives.

Figure 17. Evaluation of Year 2 Electives

