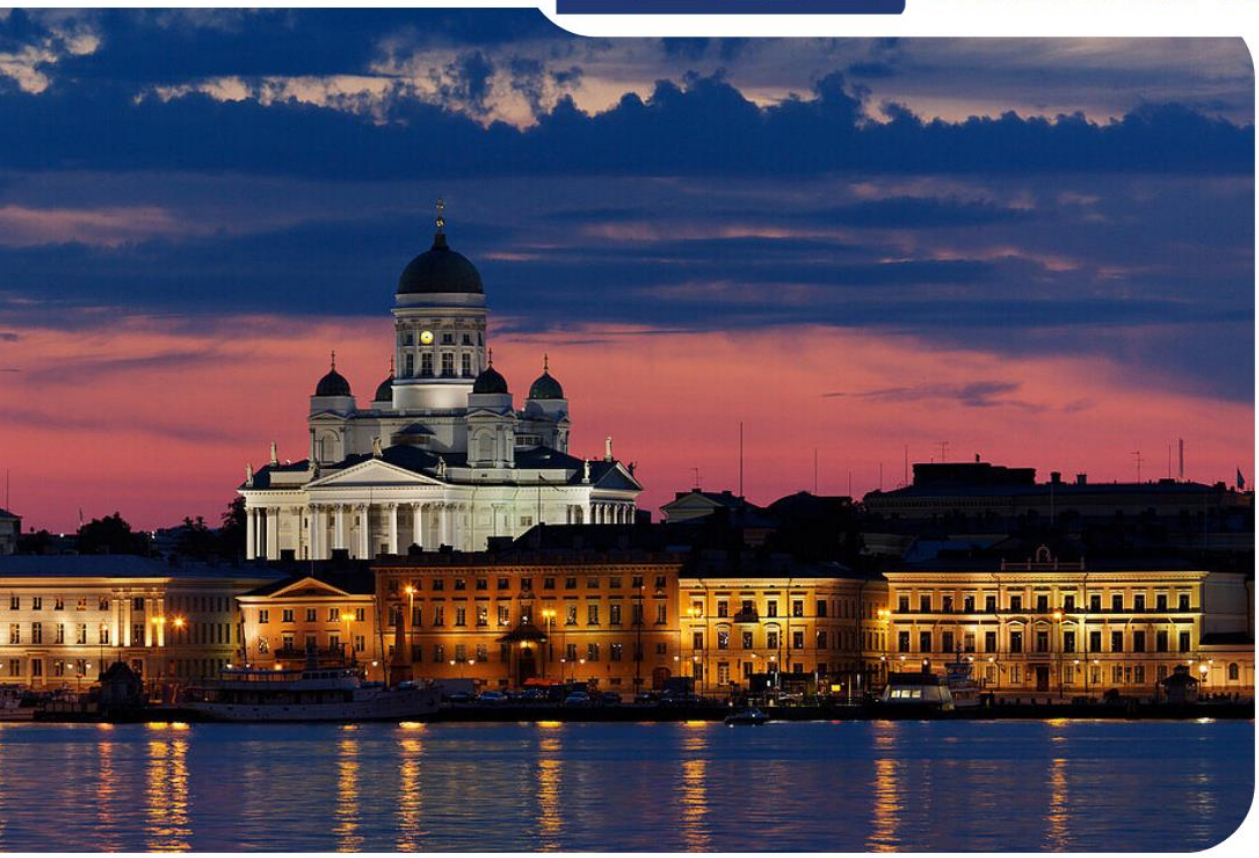
2022

EBA

ANNUAL EUROPEAN CONFERENCE ON ASSESSMENT IN MEDICAL EDUCATION

HELSINKI 10-12 NOV 2022



ABSTRACT BOOK

2022 ANNUAL EUROPEAN CONFERENCE ON ASSESSMENT IN MEDICAL EDUCATION
E B A
HELSINKI 10-12 NOV 2022

Content

COMMITTEES 3

VENUE 4

PROGRAM 5

SPONSORS 8

SHORT PRESENTATIONS 11

WORKSHOPS 23

POSTERS 25

COMMITTEES

INTERNATIONAL ORGANIZING COMMITTEE

Johanna Louhimo

Adrian Freeman

Cees van der Vleuten

Iain Robinson

Carlos Collares

Jose Miguel Pego

Lubberta de Jong

Eduardo Pleguezulos

Paata Tsagareishvili

LOCAL ORGANIZING COMMITTEE

Johanna Louhimo

Eeva Pyörälä

Terhi Karaharju-Suvanto

Jussi Merenmies

Teemu Masalin

Juha Laakkonen

Mika Laitinen

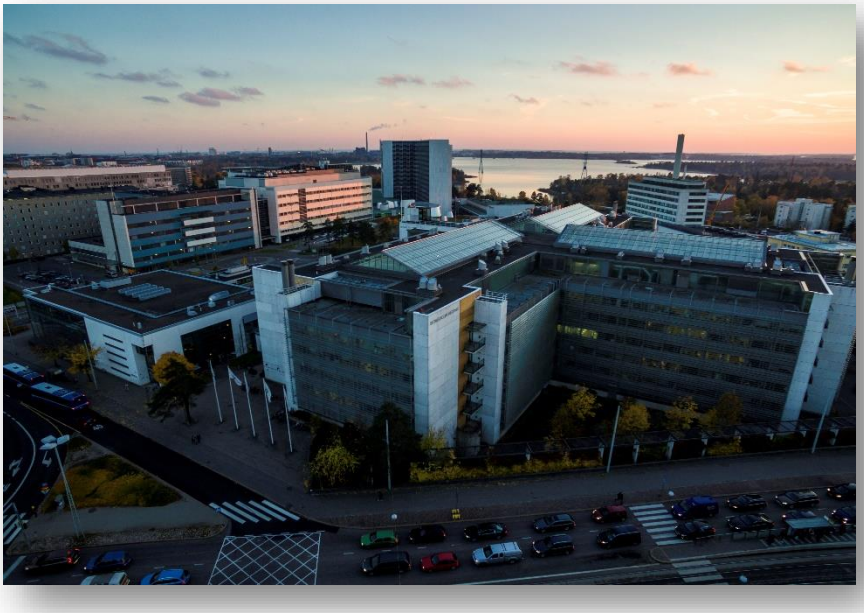
VENUE

UNIVERSITY OF HELSINKI

Biomedicum 1, Haartmaninkatu 8, 00290 Helsinki.

Biomedicum 1 is located in Meilahti Hospital Campus of University of Helsinki, Faculty of Medicine.

Biomedicum 1 houses many of the teaching, meeting and research facilities of the Faculty of Medicine, University of Helsinki.



Welcome Reception

Will take place on the 10th of November at the Biomedicum. This service will cater wine and cheese.

WIFI

Eduroam: Use your personal information to log in.

Biomedicum Wireless Visitor: Free Network

PROGRAM

THURSDAY 10.11.2022

PRE-CONFERENCE WORKSHOPS

08h30-12h00 **Evidence based principles of assessment workshop - Room**: Meeting room (kok) 8-9
Speaker: Assistant Prof. Carlos Collares

13h30-15h00 **Item Writing Workshop - Room**: Meeting room (kok) 8-9
Speaker: Assistant Prof. Carlos Collares

CONFERENCE

13h30-14.30 **EBMA Council of Participants Meeting (Hybrid) - Room**: Meeting room (kok) 5-6

15h30 **Opening up the conference - Room**: Lecture hall (LS) 2
President of EBMA Prof. Adrian Freeman & Chair of LOC
Adjunct Prof. Johanna Louhimo

15h35 **Plenary session - Room**: Lecture hall (LS) 2
Moderator: Prof. Adrian Freeman
Speaker: Prof. Cees van der Vleuten "Three paradigms in assessment: where are you?

17h00 **Welcome reception in Biomedicum** (Conference venue) - **Room**: C1 Lobby area

FRIDAY 11.11.2022

09h30 **Plenary session – Moderator Adjunct Professor Johanna Louhimo - Room:** Lecture hall (LS) 1
Speaker: Assistant Prof. Eeva Pyörälä "Sustainable Assessment in Health Professions Education"
Speaker: Prof.Kati Hakkarainen "Design and Implementation of a National Digital Progress Test"

11h00 Coffee/tea - **Room:** C1 Lobby area

11h30 **Parallel sessions:**
- Workshop: Programmatic Assessment – Chantal Albicher, Chloe Bras, and Lubberta de Jong - **Room:** Seminar room (SH) 3 (Hybrid)
- Symposium: Workplace Based Assessment – Prof. Cees van der Vleuten - **Room:** Seminar room (SH) 1-2
- Workshop: "Starting from scratch - how to start with the EPAs" – Assistant Prof. Leila Niemi-Murola - **Room:** Meeting room (kok) 8-9

13h00 Lunch - **Room:** B1 Lobby area

14h00 **Parallel sessions:**
- Oral Short presentations: Themes: Programmatic assessment, Progress testing, Systems of assessment: Fiona Culley (SA), Paata Tsagareishvili (SA), Magnus Hultin (PT)
- Poster presentations – Poster walk for posters 1-7 - **Room:** C1 Lobby area
- Workshop: Item Response Theory – Assistant Professor Carlos Collares - Room: Meeting room (kok) 8-9

15h30 Coffee/tea - **Room**: C1 Lobby area

16h00 **Dame Lesley Southgate Lecture - Room:** Lecture hall (LS) 1
Moderator: Prof. Cees van der Vleuten
Speaker: Prof. Chris Watling "Reconsidering formative assessment: Time for a new approach?"

19h00 Conference dinner - **Töölönranta Restaurant, Helsinginkatu 56, 00260 Helsinki**

SATURDAY 12.11.2022

09h00 **EBMA Board Meeting (Hybrid) - Room:** Tower Hospital building

10h00 **Parallel sessions:**

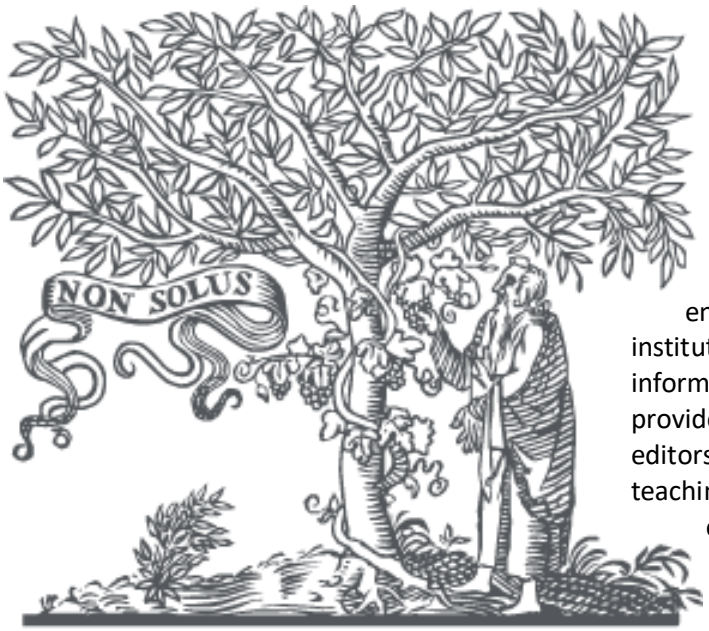
- Oral Short presentations: Themes: Assessment technologies and methods, Simulation: Paul Millin (ATM), Carlos Collares (S), Claudia Schlegel (ATM), Nataliia Lopina (S), Ben Smith (ATM Alphaplus), Gil Myers (ATM), Yun-Fung Wang (ATM) - **Room:** Seminar room (SH) 3 (Hybrid)
- Poster presentations: Poster walk for posters 8-14
- Symposium: Remote online assessment - Assistant Professor Eeva Pyörälä - **Room:** Seminar room (SH) 1-2

11h30 Coffee/tea - **Room:** C1 Lobby area

12h00 **Plenary session -** Themes: Assessment technologies and methods, Simulation - **Room**: Lecture hall (LS) 2
Moderator: Assistant Prof. Eeva Pyörälä
Speaker: Assistant Prof. Anne Nevgi & Dr. Terhi Karaharju-Suvanto "Academics' emotions related to assessment"

13h00 Closing of the Conference - **Room**: Lecture hall (LS) 2

SPONSORS



ELSEVIER

For more than 135 years, Elsevier has specialised in health science content across the entire curriculum, ensuring students, faculty, and institutions have access to reliable and relevant information. As the premier health science information provider, Elsevier attracts the leading authors and editors in their fields. Our content is shaped for diverse teaching and learning purposes, providing students and educators with a wide range of options for achieving successful outcomes.

AlphaPlus is an education service organisation that specialises in standards, assessment and certification. We work with around 30 professional bodies, including many working in medical and healthcare certification. We help our clients design, develop, deploy and evaluate qualifications and their underpinning assessments, including extensive work on psychometrics around test validity and reliability, standard setting and assessment performance management.

As part of AQA Education – the UK's largest provider of school age qualifications, we also work across national assessment programmes in academic and vocational assessment, which includes running national onscreen assessment programmes. This breadth of experience – in different UK education sectors, and across the range of international assessment organisations we work with, gives us depth of insight into modern approaches to effective, practical and valid assessment.

AlphaPlus
Part of the AQA group

The Academy of Medical Educators (The Academy), established in 2006, is a charitable organisation which exists to advance medical education for the benefit of the public.

It is the professional organisation for all those involved in the training and education of doctors, physician associates, dentists and veterinary surgeons.

The Academy is the standard setting body for medical educators in the UK. Its *Professional Standards* define the level of competence that medical educators should achieve at each point in their careers. The *Standards* provide a recognised framework for professionals to demonstrate expertise in medical education through accreditation as a medical teacher. Recognition by AoME demonstrates skills and competence when applying for revalidation, promotion and approval as a trainer.

The Academy has over 1100 members across the UK and beyond, who benefit from: access to a network of medical educators at every level of career progression; regular newsletters, mailings and updates via the online community; a programme of academic meetings and events, including the annual Calman Lecture and national spring and autumn conferences; special interest groups; and AoME awards and prizes.

SHORT PRESENTATIONS

A PARADIGM SHIFT IN ASSESSMENT OF SCIENTIFIC SKILLS IN UNDERGRADUATE MEDICAL EDUCATION

Charlotte Goss (United Kingdom)[1]; Fiona Culley (United Kingdom)[1]; Prabha Parthasarathy (United Kingdom)[1]; Ken Macleod (United Kingdom)[1]; Alison Mcgregor (United Kingdom)[1]; Amir Sam (United Kingdom)[1]
1 - Imperial College London
Keywords: Biomedical Science, Assessment, Active Learning

Background,
The General Medical Council's publication 'Outcomes for Graduates' places emphasis on UK doctors being able to integrate biomedical science, research and scholarship with clinical practice. In response, a new paradigm of assessment was introduced for the intercalated Bachelor of Science program at Imperial College School of Medicine in 2019. This innovative approach involves authentic 'active learning' assessments analogous to tasks encountered in a research environment and intends to test a wider range of applied scientific skills than traditional examinations.

Summary of work
Written assessments include a 'Letter to the Editor', scientific abstract, and production of a lay summary. A clinical case study titled 'Science in Context' presents a real or virtual patient, with evaluation of current and emerging evidence within that field. Another assessment emulates the academic publishing process: groups submit a literature review and engage in reciprocal peer review of another group's work. A rebuttal letter accompanies the final submission, detailing how feedback was addressed. Scientific presentation skills are developed through tasks including a research proposal pitch, discussion of therapies or diagnostics, or review of a paper. A data management assignment develops skills in hypothesis generation, performing analysis, and drawing conclusions. Finally, students conduct an original research project which is assessed via a written report in the format of a research paper and an oral presentation involving critical analysis of their project.

Discussion, Conclusion & Take-Home Message
We aspire to train clinicians who apply scientific principles to critique the evidence base of medical practice and possess the skillset to conduct high-quality research underpinned by the principles of best clinical *and* academic practice. Assessment drives learning, and active learning has been demonstrated to enhance academic performance and reduce attainment gaps in science education. We therefore believe this strategy will help to successfully shape our students as future scientists and scholars as well as clinical practitioners and professionals.

References
1. General Medical Council. Outcomes for Graduates 2018 [online standards and outcomes guideline for medical schools]. General Medical Council; 2018. Available from: https://www.gmc-uk.org/-/media/documents/dc11326-outcomes-for-graduates-2018_pdf-75040796.pdf. Accessed September 23, 2021.
2. Akobeng AK. Principles of evidence based medicine. *Archives of Disease in Childhood* 2005;90:837-840.
3.Lehane E, Leahy-Warren P, O'Riordan C, et al. Evidence-based practice education for healthcare professions: an expert view. *BMJ Evidence-Based Medicine.* 2019;24**:**103-108.
4. Szajewska H. Evidence-Based Medicine and Clinical Research: Both Are Needed, Neither Is Perfect. *Ann Nutr Metab* 2018;72(Suppl 3):13-23.
5.Gibbs G, Simpson C. (2004) Conditions Under Which Assessment Supports Students' Learning. *Learning and Teaching in Higher Education.* (1): 3-31. Available from: http://eprints.glos.ac.uk/3609/1/LATHE%201.%20Conditions%20Under%20Which%20Assessment%20Supports%20Students%27%20Learning%20Gibbs_Simpson.pdf [Accessed December 4, 2021].
6. Struyven, K, Dochy F, Janssens S. Students' perceptions about evaluation and assessment in higher education: a review. *Assessment & Evaluation in Higher Education*. 2005; 30:4, 325-341.
7.Bloxham S, Boyd P. The evidence base for assessment practice in higher education. In: Bloxham S, Boyd P, editors. *Developing effective assessment in Higher Education: a practical guide.* [Online] Maidenhead, UK, Open University Press, 2007:15-30. Available from: https://contentstore.cla.co.uk/EReader/Index?guid=2cfc6bd2-bed1-e611-80c7-005056af4099&pcid=1511427&t=eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJqdGkiOiJiMzY5NzNlYy1kOTY2LTRhZmQtYWE3MC1lM2ZkMDM1NGE0MTUiLCJuYmYiOjE2MjQwMTA3NjQsImV4cCI6MTYyNDAxMTA2NCwiaWF0IjoxNjI0MDEwNzY0LCJpc3MiOiJEQ1MiLCJhdWQiOiJSZWFkZXIifQ.7w-rNsWuhnoXFcWJglfbNKXGzgbYR5733_jqBV3LKzY [Accessed December 5, 2021].
8. Sandrone S, Scott G, Anderson WJ, Musunuru K. Active learning-based STEM education for in-person and online learning. *Cell*. 2021;184(6):1409-1414.
9.Wieman C, Gilbert S. "Taking a Scientific Approach to Science Education, Part I – Research. *Microbe* 2015a;10(4): 152–

156.10. Sahoo S, Mohammed CA. Fostering critical thinking and collaborative learning skills among medical students through a research protocol writing activity in the curriculum. *Korean J Med Educ*. 2018; 30(2):109-118.
11. Scott IA, Hubbard RE, Crock C, Campbell T, Perera M. Developing critical thinking skills for delivering optimal care. *Intern Med J*. 2021;51(4):488-493.
12. Royce CS, Hayes MM, Schwartzstein RM. Teaching Critical Thinking: A Case for Instruction in Cognitive Biases to Reduce Diagnostic Errors and Improve Patient Safety. *Acad Med.* 2019;94(2):187-194.
13.Freeman S, Eddy SL, McDonough M, et al. Active learning increases student performance in science, engineering, and mathematics. *Proc Natl Acad Sci.* 2014;111(23):8410-8415.
14. Theobald EJ, Hill MJ, Tran E, et al. Active learning narrows achievement gaps for underrepresented students in undergraduate science, technology, engineering, and math. *Proc Natl Acad Sci*. 2020;117(12):6476-6483.
15. Bonwell CC, Sutherland TE. The active learning continuum: Choosing activities to engage students in the classroom. *New directions for teaching and learning.* 1996 Sep;1996(67):3-16.
16. Loughry ML, Ohland MW, Moore DD. Development of a theory-based assessment of team member effectiveness. *Educational and Psychological Measurement.* 2007; 67:505-524.
17. Ohland MW, Loughry ML, Woehr DJ, et al. The comprehensive assessment of team member effectiveness: Development of a behaviorally anchored rating scale for self and peer evaluation. *Acad Manag Learn Edu*. 2012;11:609-630.
18. Loughry ML, Ohland MW, Woehr DJ. Assessing Teamwork Skills for Assurance of Learning Using CATME Team Tools. *Journal of Marketing Education*. 2014;36(1):5-19.

PERCEPTION OF TEACHING AND ASSESSMENT OF CLINICAL REASONING IN MD CURRICULA AMONG DAVID TVILDIANI MEDICAL UNIVERSITY ACADEMIC STAFF

Paata Tsagareishvili (Georgia)[1]; Tamar Talakvadze (Georgia)[1]; Sergo Tabagari (Georgia)[1]; Nino Tabagari (Georgia)[1]
1 - David Tvildiani Medical University
Keywords: Clinical Reasoning, Assessment Methods, Teaching Methods, Undergraduate Medical Education

Background,
Clinical Reasoning (CR) is considered as foundational to health professions practice (1). Its deficit is associated with medical errors (2). The aim of the study was to explore perception, attitude and confidence in teaching and assessment of CR by academic staff of David Tvildiani Medical University (DTMU), and evaluation of teaching and assessment tools in this context.

Summary of work
A Descriptive, cross-sectional survey was administered to the academic staff of DTMU delivering Basic and Clinical Sciences (BCS), and Clinical Medicine (CM) Courses. An electronic survey was distributed by email to DTMU academic staff.

Summary of results
Achieved response rate was 26 % (n=58). The results showed: for BCS staff all teaching methods used within program were of equal importance (highly important, >80%) for teaching CR, while CBL (100%), PBL (96.2%) and using of High Fidelity Simulators (92.3%) predominated among CM staff, though other methods were also important (>80%). Both, BCS and CM staff evaluated poorly written assessments for CR assessment (62.5% and 46.1% respectively). Interestingly, clinicians were more skeptical towards OSCE (66.2%) compared to BCS staff (87.5%), however all of them showed highest evaluation of WBAs for CR assessment. High interest of absolute majority of DTMU academic staff (BCS-90.6%, CM-96.2%) in getting additional information on CR, its teaching and assessment methods reflected their attitude towards CR and its importance

Discussion, Conclusion & Take-Home Message
Academic staff had relevant perception of CR for MD curriculum and their courses as well. Their responses showed the need for coexistence of various methods for CR teaching and assessment, which complies with other studies (3). Unlike other studies, DTMU academic staff is not skeptical and does not doubt possibility of teaching CR (4).
Evaluation of attitude and readiness of academic staff for teaching and assessment of CR is useful for planning development using programmatic assessment approach.

References

1. Joy Higgs, Gail M. Jensen, Stephen Loftus, Nicole Christensen. Clinical Reasoning in the Health Professions-Elsevier (2019).

2. Norman GR, Eva KW. Diagnostic error and clinical reasoning. Med Educ. 2010;44(1):94–100.

3. van der Vleuten C, Newble D. How can we test clinical reasoning? Lancet. 1995;345(8956):1032–4.

4. Kononowicz AA, Hege I, Edelbring S, Sobocan M, Huwendiek S, Durning SJ. The need for longitudinal clinical reasoning teaching and assessment: Results of an international survey. Med Teach. 2020;42(4):457–62. Available from: https://doi.org/10.1080/0142159X.2019.1708293

VALIDATING A NATIONAL PROFICIENCY TEST FOR IMGS BY USING IT SIMULTANEOUSLY AS A PROGRESS TEST FOR MEDICAL STUDENTS

Magnus Hultin (Sweden)[1]; Anders Själander (Sweden)[1]
1 - Umeå University
Keywords: International medical graduates, Proficiency test, Progress test

Background
A new proficiency test was instituted 2016 in Sweden for international medical graduates (IMGs) from outside EU/EES. The first part consists of a theoretical test with 180 MCQ/SBA items, which qualifies for the practical exam, an 18-station OSCE. The pass rate is determined with Angoffs method. The items are new for each test and have been criticized for being too difficult. Are the items related to the Swedish curriculum? Are the items too difficult?

Summary of work
The results for 22 theoretical tests given 2016-2022 were analysed descriptively. The theoretical test was given twice a semester. Angoff's method was applied to determine the pass level with 10 experienced medical teachers reading and discussing the items. 140 items from the six latest theoretical tests were simultaneously given as a progress test at a medical program. The medical program has 1100 active students, and they take a progress test once a semester. Due to covid-19, the progress test was given online as a formative open exam while the IMGs took the test online on campus in a physically proctored setting.

Summary of results
From 2016 to 2022, 3854 theoretical tests were taken by 1736 IMGs divided on 22 different occasions. The overall pass rate was 23% (8.5-43.4% min-max). The internal consistency (Chronbach's alpha) was never less than 0.92.
From February 2021 the progress test was given to an increasing number of classes. Students in the beginning of the program had somewhat better than random results, while > 76% of the students in the final classes had scores above the IMG pass rate.

Discussion, Conclusion & Take-Home Message
The items on the proficiency test are relevant to knowledge obtained while studying for a medical license. The items are not too difficult, as judged by the performance of medical students. Angoff's method for setting the pass rate appears to produce a relevant cut-off.

DELIVERING REMOTELY INVIGILATED ASSESSMENTS: THE PENINSULA EXPERIENCE.

Paul Millin (United Kingdom)[1]; Caroline Langmead (United Kingdom)[1]; Jolanta Kisielewska (United Kingdom)[1]; Daniel Zahra (United Kingdom)[1]; Rebecca Glanville (United Kingdom)[1]; Marie Manly (United Kingdom)[1]; Steven Burr (United Kingdom)[1]; Tom Gale (United Kingdom)[1]
1 - University of Plymouth

Background,
Delivering in-person assessments to large cohorts of students was made impossible by the Covid-19 pandemic. In order to continue assessment under these circumstances the Peninsula Medical School (PMS) and Dental School (PDS) implemented the remote delivery of assessments via an online platform commencing in October 2020.

Summary of work
PMS was beginning to adopt QuizOne® as a remote delivery platform to accommodate increasing student numbers. Adoption was accelerated in response to the pandemic. Staff were trained how to invigilate via video feed. Students were trained in the use of the platform and the conduct expected of them. Regular meetings with QuizOne developers were scheduled to resolve issues as they arose. This presentation reviews the challenges encountered and what lessons have been learnt.

Summary of results
Throughout 2020 and 2021 all PMS, PDS, Physician Associate and Diagnostic Radiography knowledge-based assessments were delivered online; 47 tests were delivered using 105 trained remote invigilators and 1150 individual students have been assessed multiple times.
Implementation issues included: challenges aligning test materials across creation and delivery platforms due to different data architectures, poor student video feeds, unreliable internet connections and frequent software upgrades.
Mitigations developed included: compulsory student camera tests prior to assessments, the option to sit assessments on campus if necessary, adapting rules of conduct for students, post-test meetings including detailed invigilator reports, and review of standard setting.
Between the initial remote assessments and the most recent, invigilator reported video issues dropped from 70 (10%) to 12 (1.5%) and student emails dropped from 45 to almost zero. To date only three students have been cited for academic offences.

Discussion, Conclusion & Take-Home Message

1. Develop comprehensive criteria for platform selection and select one where you can work closely with the developer.

2. Constantly monitor platform performance, test performance and student performance.

3. Invest in and develop invigilators with training and support.

PRACTICUM SCRIPT, A CLINICAL REASONING SIMULATOR: RESULTS OF AN INTERNATIONAL MULTICENTER EXPERIENCE AT THE UNDERGRADUATE LEVEL

Eduardo Pleguezuelos (Spain)[1]; Eduardo Hornos (Spain)[1]; Carlos Collares (Netherlands)[2]; Amir Sam (United Kingdom)[3]; Adrian Freeman (United Kingdom)[4]; Cees Van Der Vleuten (Netherlands)[2], Laksha Bala (United Kingdom)[3]
1 - Practicum Foundation- Institute of Applied Research in Health Sciences Education; 2 - Maastricht University; 3 - Imperial College London; 4 - European Board of Medical Assesssors
Keywords: clinical reasoning, simulation, medical students, Practicum Script

Background,
The development of effective approaches for training and assessing clinical reasoning, under conditions of uncertainty, remains a great challenge within medical education. This study aimed to investigate the utility of the simulation-based program Practicum Script (https://universities.practicumscript.education/) as a clinical reasoning training methodology, based on the dual process theory, in undergraduate teaching and assessment.

Summary of work
Medical schools implemented Practicum Script as a formative tool for final year students. The assessment material consisted of 20 internal medicine clinical cases, drawn from real patients. Cases were validated by 20 experienced internists from 16 faculties across Europe, USA and Latin America. For each clinical case, students were asked to generate hypotheses in a 'free-text' format, assign them a probability estimate and justify them. Subsequently, they had to report, in 5 different clinical scenarios, how new data might affect the likelihood of their original hypotheses. Feedback was based on experts' opinions, and clinical evidence.

Summary of results
1502/2457 (61%) volunteer students from 21 medical schools in 10 countries completed all cases. 89,8% of responders to a satisfaction survey rated the experience as "excellent" or "good". Cronbach's alpha coefficients were excellent for hypothesis generation (alpha = 0.909, 95% CI = 0.902-0.916) and hypothesis argumentation (alpha = 0.926, 95% CI = 0.920-0.931) and adequate for knowledge application (alpha = 0.786, 95% CI = 0.768-0.803). Goodness-of-fit indices RMSEA and SRMR, from confirmatory factor analysis, were also adequate: 0.025 and 0.059, respectively.

Discussion, Conclusion & Take-Home Message
Our findings support the conclusion that Practicum Script is a useful resource to help students strengthen their clinical reasoning skills with evidence of reliability and validity. The analysis of the data using a cognitive diagnostic modelling approach shall be further explored.

References

Practicum Script can meaningfully contribute to improve the clinical care decisions of future physicians, by helping students to develop effective thinking skills to manage complexity and uncertainty in clinical practice.

PEER REVIEW AS AN ASSESSMENT METHOD IN MEDICAL EDUCATION

Claudia Schlegel (Switzerland)[1]; Jörg Goldhahn (Switzerland)[1]

1 - Federal Institute of Technology ETH Zürich
Keywords: Peer review, Assessment, Learning, Medical Student, essay

Background,
At the end of the 12 week module called "Interprofessional Patient Pathway", the Bachelor of Medicine students had to write an essay about the patient pathway of a patient in their personal environment. The completed paper, entitled "Bring your own Patient", was to be uploaded to the Moodle platform. It was planned, that each student would be randomly assigned an essay to be read and evaluated by another student.

Summary of work
Electronically, each student received an essay from a peer. Each peer read and analysed the essay and wrote a feedback, which was sent back to the author via Moodle. The students had three days to complete this task. The structure of the review was the same as that of the Journal for Medical Education.
However, at the same time, the papers and associated peer reviews were read by the faculty to see if there were any big differences in their levels.

Summary of results
All one hundred students each read a paper by a peer and provided feedback. The peer feedbacks by the students were differentiated and - surprisingly for us - open and honestly formulated.

Discussion, Conclusion & Take-Home Message
In this way, the students had the opportunity to compare their own work with that of another, learned to analyse a peer's work and formulate the feedback in a way that the reader can accept and learn from. This win-win approach allows students to learn from each other at eye level.

References

CJ Harrison, KD Könings, L Schuwirth, V Wass, C Van der Vleuten (2014) Barriers to the uptake and use of feedback in the context of summative assessment, Advances in Health SciencesEducation, 1-17

Schuwirth LW, Van der Vleuten CP. Programmatic assessment: From assessment of learning to assessment for learning. Med Teach. 2011;33(6):478-85. doi: 10.3109/0142159X.2011.565828. PMID: 21609177.

GMS Journal for Medical Education, Gesellschaft für Medizinische Ausbildung ISSN 2366-5017, GMS | GMS Journal for Medical Education | GMS Zeitschrift für Medizinische Ausbildung (egms.de)

Kristanto, Y. DKristanto, Y. D. (2018). Technology-enhanced pre-instructional peer assessment: Exploring students' perceptions in a Statistical Methods course. REiD (Research and Evaluation in Education), 4(2), 105-116. https://doi.org/10.21831/reid.v4i2.20951. (2018). Technology-enhanced pre-instructional peer assessment: Exploring students' perceptions in a Statistical Methods course. REiD (Research and Evaluation in Education), 4(2), 105-116. https://doi.org/10.21831/reid.v4i2.20951

TWO CONCEPTS IN SIMULATION TRAINING: ASSESSMENT OR COMPETENCY FORMATION?

Nataliia Lopina (Ukraine)[1]
1 - Simulation Training Platform "The Global electronic database of clinical cases simulation scenarios"
Keywords: Simulation, Branching scenarios, Clinical cases simulators, Assessment, Competencies

Background,
We need to improve the availability of simulation training. It is necessary widespread implement simulation training not only in undergraduate medical education but also on the postgraduate stage.
We must take into account two conceptually important directions in organizing simulation training. It has significance to provide an objective structured assessment of knowledge and competencies, and in addition, we need to have simulation training to form competencies.

Summary of work
We developed cognitive branching technology for building learning scenarios of clinical cases that facilitate the formation of competencies [1, 2]. At the same time, we created simulators for an objectified structured assessment of competencies. During the year, we analyzed user interests and the dynamics of passing different formats of simulation training in our platform.

Summary of results
We have identified two areas in simulation training - examination and training. Branching clinical cases scenarios were more interesting for undergraduate medical education for deep involvement in the clinical situation. For postgraduate medical education, preference was given to interactive simulators of clinical cases. The exam mode of the simulator will be preferred for the assessment of knowledge and competencies. The training mode of simulation training with branching for repeated training until the necessary competencies are fully mastered will be preferred for the formation of competencies. We should implement differentiated simulation training in both undergraduate and postgraduate medical education.

Discussion, Conclusion & Take-Home Message
The implementation of the two concepts of simulation training should be based on the objectives of the training. Both concepts and simulation training modes can be combined. Consideration should be given based on the target audience and goals of the simulation training.
We must keep a balance between these two concepts, and while assessing, do not forget about the formation of competencies. We must introduce differentiated simulation training, depending on what goal we are pursuing at the moment: competency assessment or formation.

References

1. Lopina N. Clinical case quest simulator as a new form of competency formation and assessment in medical education. EBMA Annual Conference 6-8 April, 2022 THE VIRTUAL CONFERENCE «Past, Present and Future Assessment in Medical Education».

2. Lopina N. Simulation training of the present, simulation training of the future in continuing medical education. Association of Medical Schools in Europe: AMSE 2021 Virtual Conference «Medical Schools of the Future – Towards Purposeful Innovation» Congress 6-9 October 2021 in Vilnius University, Lithuania, p.23.

ITEM RESPONSE THEORY-BASED STANDARDS MAINTENANCE IN MEDICAL ASSESSMENTS: A CASE STUDY

Ben Smith (United Kingdom)[1]; Matthew Turner (United Kingdom)[1]
1 - AlphaPlus Consultancy Ltd
Keywords: Item response theory, Standard setting, Test equating, Validity, Fairness

Background,
The standard setting process determines the minimum level of mastery required to award a candidate a particular grade or passing status (Cizek & Bunch, 2006). Getting standard setting right is critically important, especially in medical assessments. But many professional assessments standard set in a very different manner to arguably 'lower stakes' school exams, which have largely adopted 'standards maintenance' approaches (Ofqual, 2011).
An example of such a medical assessment is the General Pharmaceutical Council (GPhC)'s, registration assessment, which historically used the modified Angoff method to set the pass mark. However, GPhC encountered 'creep' in the rating of items over time in a manner analogous to the 'halo effect' (Nisbett & Wilson, 1977), which would have led to the pass mark being inflated without intervention.

Summary of work
AlphaPlus has worked with GPhC since 2016 and helped move the registration assessment to a gold standard Item Response Theory (IRT) standards maintenance approach in 2020, avoiding the issues caused by needing to set the standard using expert judgement each year. This was made possible by GPhC's long-established practice of seeding anchor items into their assessments each diet.

Summary of results
This presentation will detail how the transition from expert judgement to statistical maintenance was successfully conducted. It will focus on the challenges faced and how they were overcome, and the benefits reaped as a result; chief amongst which is the elimination of doubts about whether the pass marks each year are truly comparable.

Discussion, Conclusion & Take-Home Message
Issues similar to the creep of Angoff ratings over time can occur in any approach that repeatedly sets a new standard each year, incentivising the use of a statistical standards maintenance approach. GPhC's successful transition to such an approach provides a case study other professional assessments could make use of to improve the consistency of their standards over time.

References

Cizek, G. J., & Bunch, M. B. (2006). Standard setting. *Handbook of test development*, 225-258.

Ofqual (2011). *Maintaining standards in GCSEs and A levels in summer 2011*. Downloaded from http://webarchive.nationalarchives.gov.uk/20110718105952/http://www.ofqual.gov.uk/files/2011-05-16-maintaining-standards-gcses-and-alevels-summer-2011.pdf on 23rd June 2016.

Nisbett, R. E., & Wilson, T. D. (1977). The Halo Effect: Evidence for Unconscious Alteration of Judgments. *Journal of Personality and Social Psychology*, *35*(4), 250-256.

CLICKSTREAMS AND CLICKMAPS: MAPPING CANDIDATE BEHAVIOUR IN ONLINE UNDERGRADUATE ASSESSMENTS

Gil Myers (United Kingdom)[1]; Alison Sturrock (United Kingdom)[1]; Chris Mcmanus (United Kingdom)[1]
1 - University College London Medical School
Keywords: Computer-based Testing, ClickMap, Feedback, Assessment Strategies, Collusion

Background,
Computer-based tests (CBTs) provide detailed data on how candidates answer single best answer questions in time-limited assessments. Typical data consists of a 'ClickStream' – keyboard and cursor actions for navigating questions, choosing answers, and returning to (or changing) answers. Events are timed to 0.01secs, generating large amounts of data. Interpreting this data is difficult. We will describe 'ClickMaps', which allow rapid visual appraisal of candidate behaviours.

Summary of work
Using data from summative undergraduate assessments at UCL medical school, we have collated patterns of behaviour or 'ClickMaps' generated by candidates taking randomly ordered CBTs in a high-stakes assessment. From these behaviour patterns, we will present our inference of several distinct approaches students use during assessments. Based on these we can start to consider how different student groups manage their assessments and the impact of their strategies on results. Data visualisation is an art as much as a science, but modern computer graphics software allows the creation of high-quality images which when well devised can exploit principles of neural, perceptual and cognitive processing[1].
Collusion remains a concern in any high-stakes assessment. We will review the 'ClickMaps' from this perspective.

Summary of results
We will present common patterns of behaviour, or 'ClickMaps', generated from invigilated undergraduate summative assessments, focusing on how students check and change their answers. Detailed comparison of 'ClickMaps' provide insights into the process by which collusion may have occurred[2,3]. 'ClickMaps' allow greater investigation of benefits from changing answers.

Discussion, Conclusion & Take-Home Message
Students use different strategies in time-limited assessments. 'ClickStream' data provide powerful ways to assess this behaviour. 'ClickMaps' provide understandable visual feedback, supporting candidates to gain insight and adopt enhanced exam-taking strategies. Given candidate use various strategies, which differ in effectiveness, some might perform better by employing a different strategy, including checking and changing answers during assessment. Faculty may also use 'ClickStreams' to support collusion detection in CBTs.

References

1. SCHWABISH, J. 2021. The Practice of Visual Data Communication: What Works. *Psychological Science in the Public Interest,* 22, 97-109.

2. MCMANUS, I., STURROCK, A., MYERS, G. et al 2022. ClickStreams: Mapping candidate behaviour in online undergraduate and postgraduate assessments. *Association for the Study of Medical Education (ASME): Annual Scientific Meeting.* Aberdeen

3. ORAM, H., O'NEILL, V., CULLEN, K. et al 2022. Investigations of candidate behavioural approaches to computer-delivered examination papers using clickstream analysis. *Association for the Study of Medical Education (ASME): Annual Scientific Meeting.*

DEBRIEFING TRAINING SHOULD BE GIVEN TO EXAMINERS BEFORE SITUATED SIMULATION EXAM

Yun-Fung Wang (Taiwan)[1]; Li-Chen Chang (Taiwan)[2]; Yu-Hsuan Hou (Taiwan)[3]; Chia-Hung Chen (Taiwan)[3]; Chao-Yu Hsu (Taiwan)[3]
1 - Division of Respiratory Therapy, Ditmanson Medical Foundation Chia-Yi Christian Hospital; 2 - Clinical Medicine Research Center, Ditmanson Medical Foundation, Chia-Yi Christian Hospital; 3 - Department of Medical Education, Ditmanson Medical Foundation, Chia-Yi Christian Hospital
Keywords: debriefing training, examiners, situated simulation exam

Background
Debriefing is an important stage in the situated simulation exam (SSE). Here, we investigated the importance of debriefing training before SSE through qualitative study.

Summary of work
SSE was held for respiratory therapy interns on July 12, and August 10, 2022. Before SSE, training of debriefing for examiners was arranged. SSE lasted for 15 minutes, including a 5-minute debriefing. During the exam, a senior medical educator watch the process and video recording of the process was performed. Within days after SSE, the senior medical educator arranged one-to-one instruction for the examiners by watching their own videos. After one-to-one instruction, the examiners were asked to be interviewed if they agreed. The interview was conducted by a researcher. Qualitative study was based on observation records and verbatim transcripts of the interview.

Summary of results
A total of 6 (5 females and 1 male) examiners were in the SSE. All of them agreed to be interviewed after one-to-one instruction. The qualitative study revealed that the examiners did not know how to give feedback for students due to fear of hurting students' self-esteem before training of debriefing. After training, the examiners understood to make constructive questions for students by using reflective skill to increase the students' motivation for learning. Moreover, the examiners considered that a teaching attitude of student-centered can be transformed after training of debriefing.

Discussion, Conclusion & Take-Home Message
Making constructive questions and transforming a teaching attitude of student-centered can be formed after training. Training of debriefing for examiners before SSE is very important.

WORKSHOPS

AN HONEST DISCUSSION ABOUT IMPLEMENTING A PROGRAMMATIC ASSESSMENT, TIPS, TRICKS AND STRUGGLES.

Chantal Albicher (Netherlands)[1]; Chloe Bras (Netherlands)[1]
1 - Amsterdam UMC, lokatie AMC
Keywords: implementation, programmatic assessment, changing culture, networking

Background
In March 2021 the faculty of medicin at the University of Amsterdam started with a new curriculum for the master of medicin. The evaluation of the former program reported that student missed feedback and transparency of assessment. On the view of the faculty their was a wish to have a better view on longitudinal growth in the assessments and rich narrative feedback. These were some of the reasons for us to start with programmatic assessment.

Learning objectives
Share perspectives on implementation of a new system in medical education.
How to communicate during this process.
How to perceive an environment during the clinical phase where assessment for learning becomes more important than assessment of learning.

Workshop Structure
We will start with a short presentation (max 10 min) about the programmatic assessment program at de Faculty of Medicin - University of Amsterdam. The why, the how and the challenges we met and meet during the implementation of the programmatic assessment.
Afterwards we will facilitate an open and honest discussion with the participants, in which we can use statements to lead the discussion. We want to share expertise, tips and tricks about implementing a new program and share our choices within the programmatic assessment design.

Take-Home Message
Changing a culture takes time and it helps if you have a network of critical friends

POSTERS

PO01 - IMPROVING LEARNING EFFECT OF INTER-PROFESSIONAL PRACTICE BY FOCUSED DISCUSSION

Cheng-Wei Yu (Taiwan)[1]; I-Ling Kuo (Taiwan)[1]; Li-Chen Chang (Taiwan)[2]; Yu-Hsuan Hou (Taiwan)[3]; Chao-Yu Hsu (Taiwan)[3]; Chia-Hung Chen (Taiwan)[3]; Ting-Yu Kuo (Taiwan)[1]
1 - Department of Nutrition, Ditmanson Medical Foundation, Chia-Yi Christian Hospital; 2 - Clinical Medicine Research Center, Ditmanson Medical Foundation, Chia-Yi Christian Hospital; 3 - Department of Medical Education, Ditmanson Medical Foundation, Chia-Yi Christian Hospital
Keywords: learning effect, inter-professional practice, focused discussion

Background
Inter-professional practice (IPP) with multidiscipline teamwork can provide better care for patients. However, learning of IPP is not easy. Here, we assess the learning effect of IPP by focused discussion.

Summary of work
IPP training meeting was scheduled. All medical staff was welcomed. Before the training meeting, a case was selected and 4 questions (2 biomedical, 1 psychological and 1 social) were made during pre-course meeting. The discussion of each question will be focused on “problem”, “assessment”, “management”, and “suggestion” for each medical profession during training meeting. A focus group interview was performed after the IPP training meeting. The qualitative study was analyzed based on the interview.

Summary of results
IPP training meeting was performed on July 6, 2022. A total of 39 medical staff joined the training meeting. However, only 4 instructors agreed to be interviewed. The qualitative study revealed that the focused discussion can effectively discuss patients’ problems in a limited time, and avoid the discussion that are too divergent, and preparing reports are more directional. Furthermore, discussions between different medical professions are more specialized and diverse than before.

Discussion, Conclusion & Take-Home Message
The discussion focused on the 4 aspects of “problem”, “assessment”, “management”, and “suggestion” during IPP meeting can improve learning effect. The focused discussion can be applied in the IPP meeting.

PO02 - THE USE OF META-ETHNOGRAPHY TO GUIDE IMPLEMENTATION STRATEGIES

Christina Gummesson (Sweden)[1]; Pia Lindberg (Sweden)[1]; Nina Lundegren (Sweden)[1]
1 - Malmö University
Keywords: meta-ethnography, evidence informed implementation strategies, e-portfolio

Background
For implementation of new assessment strategies, an evidence-informed approach is desired. Thus, the assessment method should be supported by current evidence, and similarly the implementation process could be informed through research. Implementation research can be done using various approaches and research methods. However, it seems that interview studies are an important source of information.
To utilize previous qualitative information, one may simply read the papers to be informed by each individual study. However, another approach may be to search the literature systematically and analyse the qualitative information as a data source. Several ways of conducting literature reviews are available, but it seems that the analysis of qualitative studies is less common.
In this presentation we would like to present how meta-ethnography can be used as a method to develop knowledge on the implementation of e-portfolio.

Summary of work
Meta-ethnography is a systematic literature review through seven steps described by Noblit and Hare (1988), and further elaborated on by Britten et al (2002) and France et al (2019), in brief consisting of a systematic review, a stepwise qualitative analysis and synthesis.
Four different databases were used for our literature search.

Summary of results
Through the seven steps, we analyzed the data both from "first order information" (published quotations) and "second order information" (researchers' interpretation, analysis, and discussion) to reach a "third order interpretation" (our synthesis).
We will present the steps and our findings, using our search on implementation of e-portfolio in dental education as a model.
Our analysis and synthesis yielded two main themes and five sub-themes with aspects important to consider when implementing e-portfolio.

Discussion, Conclusion & Take-Home Message
We found meta-ethnography to broaden our knowledgebase beyond each separate study and believe it could add to the understanding of other aspects of assessment as well, in areas where primary studies are using qualitative methods.

References

Noblit, G.W., et al., *Meta-Ethnography: Synthesizing Qualitative Studies*. 1988: SAGE Publications.

Britten, N., et al., *Using meta ethnography to synthesise qualitative research: a worked example.* J Health Serv Res Policy, 2002. **7**(4): p. 209-15.

France, E.F., et al., *Improving reporting of meta-ethnography: the eMERGe reporting guidance.* BMC Medical Research Methodology, 2019. **19**(1): p. 25.

PO03 - USING TECHNOLOGY TO CHANGE THE CULTURE OF FEEDBACK IN UNDERGRADUATE PORTFOLIO - WHAT ARE THE IMPACTS?

Charlotte Hammerton (United Kingdom)[1],Carys Phillips (United Kingdom)[1]; Clare Wadlow (United Kingdom)[1]; Alison Sturrock (United Kingdom)[1];
1 - University College London Medical School
Keywords: portfolio, feedback, assessment, undergraduate, change

Background
UCL medical school (UCLMS) identified the need for change after understanding students' dissatisfaction with the portfolio and related feedback. Consistent with existing literature, students wanted timely, meaningful feedback (1,2). However, they found the portfolio system a myriad of complex forms, sent to supervisors via e-mail "tickets", that largely yielded delayed, unhelpful feedback.

Summary of work
Aiming to positively change the culture around portfolio feedback, UCLMS introduced a new, streamlined portfolio allowing for real-time feedback at the point of encounter. Form2 hosts the simplified forms, which students can complete in real time, documenting their own feedback, with immediate supervisor approval. The option to send a 'ticket' for delayed, written feedback remained. The completed forms, which make up the students' portfolio, are presented within the Academic Student Record (ASR). This displays a summary, including clear progress indicators and all feedback. The portfolio changes are evaluated pragmatically with a mixed methods approach incorporating focus groups (of students and educators) and descriptive statistical analysis of form completion data.

Summary of results
Initial monitoring shows 57% of the 23,500 forms were completed in real-time. Student feedback from focus groups is overall positive so far. Emerging themes including ease of use, increased engagement, more timely and higher quality feedback, increased reflection and likelihood of changing practice and student empowerment. Some barriers to portfolio feedback remain, including supervisor availability and lack of familiarity with the new system and that immediate feedback can lack depth. Evaluation is ongoing.

Discussion, Conclusion & Take-Home Message
We anticipate the discussion to centre around how these technologically enabled changes have impacted the culture of feedback within the UCLMS portfolio from both students and educator perspectives, including how this relates to current literature. Take home messages are anticipated to highlight potential impacts of the apparent shift towards real-time feedback, for example, in terms of engagement and feedback quality and our own learning points.

References

(1) Ramani S, Krackov SK. Twelve tips for giving feedback effectively in the clinical environment. Med Teach. 2012;34(10):787-91. doi: 10.3109/0142159X.2012.684916. Epub 2012 Jun 25. PMID: 22730899.
(2) Branch, William T. Jr. MD; Paranjape, Anuradha MD, MPH Feedback and Reflection, Academic Medicine: December 2002 - Volume 77 - Issue 12 Part 1 - p 1185-1188

PO04 - CLINICIAN EDUCATORS' CONCEPTIONS OF ASSESSMENT: DIFFERENT ASSESSMENT PARADIGMS

Danica Sims (South Africa)[1]; Francois Cilliers Francois Cilliers (South Africa)[2]
1 - University of the Western Cape; 2 - University of Cape Town
Keywords: conceptions, clinician educators, exit-level assessment

Background
In pursuing assessment excellence, clinician-educators who design and implement assessment are pivotal. Their assessment practice at exit-level influences student learning and, consequently, has implications for future patient care. Faculty development for conceptual change is one strategy to ensure sound assessment practice, but how clinician-educators perceive and understand assessment remains largely unknown.

Summary of work
To explore clinician[FC1] -educators' conceptions of assessment, a phenomenographic study was undertaken. Thirty-one clerkship convenors in three diverse Southern settings were interviewed in three cycles of iterative data collection and analysis. The final consolidated outcome space was developed by first using each dataset to construct a separate outcome space. Then, in rounds two and three, the new and existing datasets were recursively analysed to synthesise subsequent outcome spaces.

[FC1]9731 words total at start

of which 5442 are text

Target: 9289

Summary of results
Four hierarchically-inclusive conceptions of assessment were identified: passive operator, awakening enquirer, active owner and scholarly assessor. Six dimensions were elucidated to describe and distinguish each conception: purpose of assessment, temporal perspective, role and responsibility, accountability, reflexivity and emotional valence. Additionally, three factors that appeared to track the progressive nature of the conceptions were identified: professional identity, assessment literacy and self-efficacy.
Discussion, Conclusion & Take-Home Message
These conceptions encompass and extend previously described conceptions across different educational levels, disciplines and contexts, suggesting applicability to other settings. There is some evidence of a relationship between conceptions and practice, suggesting, together with the hierarchical nature of these conceptions, that targeting conceptions during faculty development may be an effective approach to enhance assessment practice.

PO05 - USING LONGITUDINAL ASSESSOR FEEDBACK TO MONITOR MARKING PATTERNS, INFORM TRAINING, AND IMPROVE STUDENT CONFIDENCE.

Iain Robinson (United Kingdom)[1]; Daniel Zahra (United Kingdom)[1]; Josephine Cockerill (United Kingdom)[1]; Steven Burr (United Kingdom)[1]; Kara Stevens (United Kingdom)[1]; Robert Jeffery (United Kingdom)[1]; Tim Ley (United Kingdom)[1]; James Edwards (United Kingdom)[1]
1 - University of Plymouth Peninsula Medical School
Keywords: Longitudinal, assessor, analysis, marker, profile

Background
The Plymouth University Peninsula School of Medicine Bachelor of Medicine / Bachelor of Surgery programme (BMBS), offers students modules in which they choose from a range of themes within which to study and be assessed; the student selected component modules. Themes include: biomedical sciences, education, healthcare settings, medical humanities and quality improvement projects. The modules are delivered by university staff, healthcare workers and external contractors with specialist expertise. Given the diversity of offerings, many individuals, from assorted backgrounds, are assessing variable numbers and groups of students over multiple academic years at all stages of the BMBS programme.
This inevitably and understandably leads students and staff to question how fairness is maintained across these different assessors and themes. Whilst there is a rigorous training programme for new assessors, benchmarking processes, and close psychometric scrutiny of scores within each theme of study, we have recently supplemented this with longitudinal scoring analyses sent to assessors on their marking patterns over the entirety of their involvement.

Summary of work
The current work presents examples of these assessment summaries and discussion of how they have been co-created between academic, clinical, and support staff in order to provide meaningful, accessible, and understandable summaries of large amounts of assessment data to a heterogeneous assessor group.

Summary of results
Individual assessors are provided histogram summaries of their scores. This feedback format is consistent with benchmarking feedback, and is thus familiar and accessible, allowing individuals to compare their marking patterns with their assessment group as a whole.
Module leads are provided with forest plots which allows rapid visualisation of individual marker profiles, facilitating identification of assessors using e.g. a small range of marks, marking sequentially and skewed scores.

Discussion, Conclusion & Take-Home Message
Feedback has allowed module leads to follow up with individual assessors, ensuring their marks are justified, as well as informing the benchmarking and training processes.

PO07 - STARTING FROM SCRATCH – EVOLUTION OF EPAS IN FINLAND

Leila Niemi-Murola (Finland)[1]; Asta Toivonen (Finland)[1]; Mervi Ryytty (Finland)[2]; Arja Helin-Salmivaara (Finland)[3]
1 - University of Helsinki; 2 - University of Oulu; 3 - Helsinki University Hospital
Keywords: EPA, competency framework, instruction

Background
In Finland, we have had traditional, time-bound (five to six years) postgraduate medical training with minimal number of formative assessments. The National Study Guide defining the outcomes was published in 2020 and CanMEDS was chosen as the framework. To construct a shared mental model, several reviews introducing the basic terms, definitions and concepts have been published in national medical journals. In 2021, every medical specialty (N = 50) was asked to construct at least one EPA and in 2022 they were asked to have five. The aim of this study was to analyze the EPAs to localize areas indicating need for intensified support.

Summary of work
The number of EPAs was obtained from the annual National Study Guides 2020-22. The data of the EPA descriptions were collected from the national webpage and the electronic assessment system (ELSA). The content of the EPAs was searched for most frequent CanMeDS competencies in 2021-22.

Summary of results
The number of EPAs has increased rapidly. We were not able to retrieve the content of the 51 EPAs in 2020. The content of 118/286 of the EPAs in 2021 and 284/404 in the year 2022 were analyzed. In 2021 Communication was the most frequently appearing CanMEDS Competence (84.74%), followed by Medical Expertise and Collaboration. In 2022 the most frequent competency was Medical Expertise (94.60%), followed by Communication and Collaboration. The analysis revealed several misunderstandings and controversies in the EPA-descriptions.

Discussion, Conclusion & Take-Home Message
.Specialties are in the process of adopting EPAs and the amount of EPA descriptions is continually increasing Despite the published reviews and guidelines, the definitions VAI construct of the EPAs was not clear to all stakeholders. Implementing novel constructs takes time and nothing should be taken for granted. Instead, repeated and variable implementation measures are needed.

PO08 - STUDENTS' PERSPECTIVES ON AN ONLINE ADAPTIVE INTERNATIONAL PROGRESS TEST

Jolanta Kisielewska (United Kingdom)[1]; Paul Millin (United Kingdom)[1]; Neil Rice (United Kingdom)[2]; José Miguel Pêgo (Portugal)[3]; Steven Burr (United Kingdom)[1]; Thomas Gale (United Kingdom)[1]; Michal Nowakowski (Poland)[4]
1 - University of Plymouth; 2 - University of Exeter; 3 - University of Minho; 4 - Jagiellonian University
Keywords: Adaptive Progress Testing; Students' perspectives; Remote delivery

Background
Efficient delivery of healthcare programmes depends on reliable assessment that promotes deep learning and prepares prospective doctors to practice. The use of longitudinal progress testing has been shown to be effective in steering students' learning and monitoring development for over 40 years. Traditional progress testing involves routine assessment of learners against final programme outcomes. However, many educators aim for a better alignment between tested knowledge and students' individual needs for learning. Computerised Adaptive Progress Testing (CA-PT) offers this possibility.

Summary of work
Eight European medical schools developed an English language Online Adaptive International Progress Test (OAIPT, ERASMUS+ project) which included the delivery of three pilot tests to students in five European countries from all stages of undergraduate medicine: two following a traditional progress test style and one using an adaptive testing algorithm. Pilot study participants were invited to complete a feedback questionnaire to monitor their experiences with the test. Data were collected on sociodemographic variables, English language proficiency, and students' opinions on the progress test items, the test platform, and remote online delivery of the tests.

Summary of results
764 students from more than 40 nationalities responded to the questionnaire (a 63% response rate). 37% of students declared English as their first language, but over 98% declared competency in English. There was overwhelming student satisfaction with the delivery of the tests across all pilots. Students recognised that the adaptive test was better aligned with their stage of study and that it increased their motivation for learning.

Discussion, Conclusion & Take-Home Message
OAIPT provides better alignment of test items with students' knowledge level and may support an individualised approach to assessment for the learner. Our experience has demonstrated that adaptive progress testing is acceptable to learners and can be successfully implemented across different countries in medical schools with similar educational goals.

References
Thanks to all ERASMUS+ partners who contributed to the outcome of the project.

PO09 - WHAT ARE THE CHARACTERISTICS OF ENTRUSTABLE PROFESSIONAL ACTIVITIES (EPAS)? – THE PERSPECTIVES OF CLINICAL INSTRUCTORS

Ni Tseng (Taiwan)[2]; Li-Chen Chang (Taiwan)[1]; Yu-Hsuan Hou (Taiwan)[3]; Chia-Hung Chen (Taiwan)[3]; Chao-Yu Hsu (Taiwan)[3]
1 - Clinical Medicine Research Center, Ditmanson Medical Foundation, Chia-Yi Christian Hospital, Chia-Yi, Taiwan; 2 - Division of Respiratory Therapy, Ditmanson Medical Foundation Chia-Yi Christian Hospital, Chia-Yi, Taiwan; 3 - Department of Medical Education, Ditmanson Medical Foundation, Chia-Yi Christian Hospital, Chia-Yi, Taiwan
Keywords: EPA, learning performance, summative assessment

Background
Entrustable professional activities (EPAs) are used in medical education to evaluate the performance of trainees. Here, we investigated the characteristics of EPAs from the perspectives of clinical instructors by qualitative study.

Summary of work
EPAs were used for respiratory therapy interns who had a 6-week training course in our department since July. Four domains (including 2 for technical skill, 1 for clinical management and 1 for teamwork) were observed and assessed. The assessment forms of EPAs were filled out before end of the training course by clinical instructors. Within few days after the training course, the instructors were asked to be interviewed if they agreed. The focused group interview was conducted by a third-party researcher. The verbatim transcripts of the interview were analyzed for qualitative study.

Summary of results
Four clinical instructors (3 females and 1 male) joined the work, and all of them agreed to be interviewed. The interview last for 39 minutes. The qualitative study revealed that EPAs can provide (1) a more objective understanding of students' learning status due to evaluating students' learning performance over a period of time; (2) evaluate the students' learning performance by multi-faceted assessment, not only for technical skill but also for interpersonal communication. In addition, the instructors considered that EPAs can be a suitable tool for summative assessment.

Discussion, Conclusion & Take-Home Message
EPAs provide an objective and multi-faceted assessment. It is a good tool for summative assessment.

PO10 - WHAT INSTRUCTORS OVERLOOK WHEN PROVIDING FEEDBACK TO STUDENTS.

Ni Tseng (Taiwan)[1]; Li-Chen Chang (Taiwan)[2]; Yu-Hsuan Hou (Taiwan)[3]; Chia-Hung Chen (Taiwan)[3]; Chao-Yu Hsu (Taiwan)[3]
1 - Division of Respiratory Therapy, Ditmanson Medical Foundation Chia-Yi Christian Hospital, Chia-Yi, Taiwan; 2 - Clinical Medicine Research Center, Ditmanson Medical Foundation, Chia-Yi Christian Hospital, Chia-Yi, Taiwan; 3 - Department of Medical Education, Ditmanson Medical Foundation, Chia-Yi Christian Hospital, Chia-Yi, Taiwan
Keywords: assessment form, feedback, action plan

Background
The aim of the feedback is to improve students' performance. The purpose of this study was to investigate what instructors overlook when providing feedback to students.

Summary of work
The assessment forms including mini-clinical evaluation exercise (Mini-CEX), direct observation of procedural skill (DOPS) and case-based discussion (CbD) from medical professions were evaluated since August, 2022. The qualitative feedback (comments) of assessment form was evaluated by a senior medical educator using an evaluation form which containing 7 items. The evaluation form was designed using 5-point Likert scale: very bad (1); bad (2); neither good nor bad (3); good (4); and very good (5). Each item was analyzed for the research of medical education.

Summary of results
A total of 12 assessment forms (5 Mini-CEX, 5 DPOS and 2 CbD) from 6 medical professions were evaluated. Each assessment form was filled out by a different instructor. The item "feedback focused on observable behavior" scored the highest (4.85), followed by the item "enhanced recognition of good performance" (4.25). However, the item "action plan" had the lowest score (2.58). The average score for the instructors was 3.79.

Discussion, Conclusion & Take-Home Message
Most instructors understand that feedback should focus on observable behaviors. However, action plan is always ignored. Action plan should be emphasized when teaching feedback ability to instructors.

PO11 - CONSENSUS STUDY ON ENTRUSTABLE PROFESSIONAL ACTIVITIES FOR A POST-GRADUATE MEDICAL ROTATION IN PORTUGAL - A PROTOCOL

Nuno Fernandes (Portugal)[1,2]; João Ribeiro (Portugal)[1,3]; José Pêgo (Portugal)[4]
1 - Faculty of Medicine, University of Coimbra; 2 - Centro Hospitalar do Baixo Vouga, Aveiro; 3 - Coimbra University Hospital; 4 - School of Medicine, University of Minho
Keywords: Entrustable Professional Activities, Post-Graduate Medical Education, Workplace based assessments, competency based medical education

Background
Portuguese post-graduate medical education begins with a transitional foundation year which comprises 4 different rotations, the longest being Internal Medicine. In this study, entrustable professional activities (EPAs) are proposed as a framework of this Internal Medicine rotation and the assessment of the progression of the residents, enabling the incorporation of the principles of competency based medical education (CBME). In a previous study, the authors concluded on the definitions of success and failure in post-graduate medical education and its influencing factors. In the present study, the authors will use an e-Delphi methodology aiming to identify the key EPAs.

Summary of work
The authors will identify and invite key representatives of the various stakeholders. The participants accepted will be submitted to an educational package focusing on the principles of EPAs. In a second stage, the participants will receive individual questionnaires of each of the 3 rounds of the study. After the third round, a global analysis and discussion of the results will take place and the publication of the main findings will be prepared.

Summary of results
The authors of this study expect the participation of at least 15 experts. The study is designed with the objective of achieving a minimum consensus level of 75% and a response rate of 70%. Identified EPAs will be ranked by the achieved level of consensus.

Discussion, Conclusion & Take-Home Message
To the best knowledge of the authors, this is the first study designed to identify, develop, and implement EPAs in a post-graduate medical education program in Portugal. The EPAs with higher level of consensus will be proposed as the framework for the rotation, developed to further detail, and implemented in a future pilot study. The authors aim to improve the knowledge of the use of this consensus methodology and contribute to the better implementation of CBME strategies.

References

1. ten Cate, O., *Entrustability of professional activities and competency-based training.* Med Educ, 2005. **39**(12): p. 1176-7.

2. Humphrey-Murto, S., et al., *Using consensus group methods such as Delphi and Nominal Group in medical education research.* Med Teach, 2017. **39**(1): p. 14-19.

PO13 - ASSESSING COMPETENCIES IN THE CLINICAL WORKPLACE: EARLY LESSONS FROM AN IMPLEMENTATION ATTEMPT IN THE GP TRAINING

Vasiliki Andreou (Belgium)[1]; Sanne Peters (Australia)[2]; Jan Eggermont (Belgium)[1]; Birgitte Schoenmakers (Belgium)[1]
1 - KU Leuven; 2 - University of Melbourne
Keywords: competency-based medical education, workplace-based assessment, General Practice, postgraduate medical education

Background
For the last two decades, medical educators have extensively paid attention to competency-based medical education (CBME). CBME and assessment have been rapidly adopted to certify graduating physicians' readiness to practice. Although a plethora of papers focuses on developing and designing strategies for implementation of CBME, there is a need for a data-driven approach to inform future implementation paths.

Summary of work
In a pilot study, we developed a competency-based assessment protocol based on the CanMEDS competency framework and investigated its feasibility and acceptability in the workplace. The intervention comprised of two single assessment tools incorporating CanMEDS roles, key, and enabling competencies relevant for performing a clinical consultation. We implemented this intervention in the Flemish General Practitioner's (GP) Training program, involving both trainees and trainers. Between March 2021 and June 2021, the study participants had to use the tools for assessing competencies. For measuring our study outcomes, participants had to fill in a series of questionnaires, with closed and open-ended questions.

Summary of results
The competency-based assessment intervention facilitated workplace assessment and discussing negative feedback when needed. Participants found the tools time-efficient for workplace-based assessment. Additionally, competency growth and development became more visual after repeatedly using the tools. However, participants claimed that the competencies were formulated in a complex and unfamiliar language hindering the evaluation process.

Discussion, Conclusion & Take-Home Message
A competency-based assessment system for the workplace could be successfully implemented, with some considerations. On one hand, participants' answers illustrated that such as a system could accommodate workplace-based assessment and be time efficient. Nevertheless, translating the competencies into meaningful professional activities proved to be challenging and burdensome.

Take-home Message: To successfully implement CBME in the workplace, it is necessary to invest time and effort into developing and designing tools with easy-to-understand and close to practice language.

References
Anderson, H. L., Kurtz, J., & West, D. C. (2021). Implementation and Use of Workplace-Based Assessment in Clinical Learning Environments: A Scoping Review. *Academic Medicine, 96*(11S), S164-S174. doi:10.1097/acm.0000000000004366
Arain, M., Campbell, M. J., Cooper, C. L., & Lancaster, G. A. (2010). What is a pilot or feasibility study? A review of current practice and editorial policy. *BMC Medical Research Methodology, 10*(1), 67. doi:10.1186/1471-2288-10-67
Bok, H. G. J., Teunissen, P. W., Favier, R. P., Rietbroek, N. J., Theyse, L. F. H., Brommer, H., . . . Jaarsma, D. A. D. C. (2013). Programmatic assessment of competency-based workplace learning: when theory meets practice. *BMC Medical Education, 13*(1), 123. doi:10.1186/1472-6920-13-123
Carraccio, C., Englander, R., Van Melle, E., ten Cate, O., Lockyer, J., Chan, M.-K., . . . Collaborators, o. b. o. t. I. C.-B. M. E. (2016). Advancing Competency-Based Medical Education: A Charter for Clinician–Educators. *Academic Medicine, 91*(5), 645-649. doi:10.1097/acm.0000000000001048
Eldridge, S. M., Lancaster, G. A., Campbell, M. J., Thabane, L., Hopewell, S., Coleman, C. L., & Bond, C. M. (2016). Defining Feasibility and Pilot Studies in Preparation for Randomised Controlled Trials: Development of a Conceptual Framework. *PloS one, 11*(3), e0150205-e0150205. doi:10.1371/journal.pone.0150205
Hicks, P. J., Margolis, M. J., Carraccio, C. L., Clauser, B. E., Donnelly, K., Fromme, H. B., . . . Schwartz, A. (2018). A novel workplace-based assessment for competency-based decisions and learner feedback. *Med Teach, 40*(11), 1143-1150. doi:10.1080/0142159x.2018.1461204
Nousiainen, M. T., Caverzagie, K. J., Ferguson, P. C., Frank, J. R., & Collaborators, I. (2017). Implementing competency-based medical education: What changes in curricular structure and processes are needed? *Medical Teacher, 39*(6), 594-598.
Weller, J. M., Coomber, T., Chen, Y., & Castanelli, D. J. (2021). Key dimensions of innovations in workplace-based assessment for postgraduate medical education: a scoping review. *British Journal of Anaesthesia, 127*(5), 689-703.

PO14 - IMMEDIATE FEEDBACK AFTER SITUATED SIMULATION EXAM CAN MAKE A FAVORABLE IMPRESSION ON LEARNING FOR RESPIRATORY THERAPY INTERNS

Yun-Fung Wang (Taiwan)[1]; Li-Chen Chang (Taiwan)[2]; Chih-An Wang (Taiwan)[1]; Hsiao-Lan Chen (Taiwan)[1]; I-Wen Lai (Taiwan)[1]; Ya-Jhen Ji (Taiwan)[1]; Shao-Wei Chang (Taiwan)[1]; Hsu-Huei Wu (Taiwan)[1]; Chao-Yu Hsu (Taiwan)[3]; Chia-Hung Chen (Taiwan)[3]
1 - Division of Respiratory Therapy, Ditmanson Medical Foundation Chia-Yi Christian Hospital; 2 - Clinical Medicine Research Center, Ditmanson Medical Foundation, Chia-Yi Christian Hospital; 3 - Department of Medical Education, Ditmanson Medical Foundation, Chia-Yi Christian Hospital
Keywords: immediate feedback, situated simulation exam, interns

Background
Feedback is very important for learning. Here, we investigated the impression of immediate feedback during debriefing after situated simulation exam (SSE) for respiratory therapy interns by qualitative study.

Summary of work
Before SSE, debriefing training (including feedback) for instructors was arranged. A standardized patient was selected and trained few days before SSE. SSE was performed as the pre-test for respiratory therapy interns on July 12, 2022. The process included a 10-minute SSE and a 5-minute debriefing. After exam, the interview was conducted by a researcher if the interns agreed to be interviewed. The verbatim transcripts of the interview were used for qualitative study.

Summary of results
Three instructors and 5 interns attended the SSE. After the exam, all the interns agreed to be interviewed. The interview last for 43 minutes. The qualitative analysis found that immediate feedback after SSE can (1) improve the skills for equipment operation; (2) deepen understanding of the practical procedures; (3) improve the knowledge for patient's assessment; and (4) deepen understanding of the small details during practice. Moreover, the interns considered that immediate feedback make a favorable impression on learning after SSE.

Discussion, Conclusion & Take-Home Message
SSE can be used as a pre-test for interns. Immediate feedback make a favorable impression on learning after SSE.