Quality of Life of Medical Students in a Developing Country - Role of Social Support and Mental Health

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Aim

High quality of education for future doctors is very important and part of that process is their mental health. We aimed to assess the quality of life within medical students in a developing country with emphasis on the character of sociable corroborate mental health

Methods

We conducted a prevalence study in medical students of the faculty of medicine at the University of Khartoum in Khartoum, Sudan. We conducted a clustered random sampling in students of the second to sixth year and gathered 500 questionnaires 487 of which were valid to be analysed. The data collection tools involve three questionnaires; MOS social support survey along with depression, anxiety, and stress scale (DASS21) and WHO quality of life brief (WHOQOLB) questionnaire

Results

The ratio of males to females was 1:2. More than half of respondents showed dissimilar degrees of depression, anxiety and stress. Stepwise analysis showed significant association of physical health with depression, stress, and tangible support (P<0.001, R= 0 274,0 296,0.311 respectively) , psychological health with depression, emotional support, tangible support, and overall social support (P<0001, R= 0424,0 508,0 515,0.525 respectively) and social health with overall social support and stress (P<0 001. R=0 305, 0 337 respectively). There was no significant difference in mean of quality of life scores between males and, females and among different academic years (P>0.05

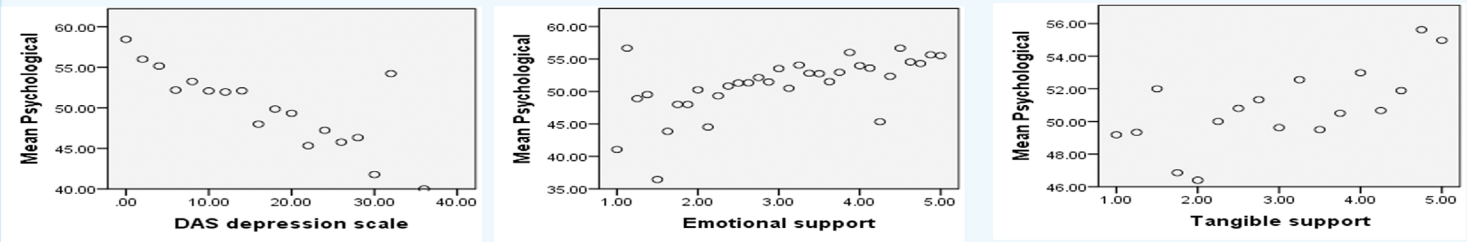

Figure (1): scatter plots of determinants of quality of psychological health

Conclusion

Social support had important impact on the quality of life of medical students, especially on aspects of psychological health and social life

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Fact of the Day

Brief Didactic Teaching to Enhance Medical Handovers

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Aim

The idea for 'Fact of the Day' (FOTD) arose from the North American residency programmes, where senior residents would be responsible for providing brief educational snapshots at the morning residents meeting. The aim of introducing this to Hairmyres was to improve the quality of acute medical handover, and to provide brief educational updates or interesting medical facts related to cases seen by the receiving team during the week, as a means of promoting discussion and reinforcing continuous learning.

FOTD occurs at the end of morning handover. An ideal FOTD should be brief, directed towards a case seen in the last 48 hours, and delivered by the consultant physician. Consultants are encouraged to use images, X-rays and ECGs as learning aids. The best facts are those not easily gleaned from textbooks or the internet, for example "systolic heart failure is rare in the presence of a normal ECG", with a sample ECG.

Method

An electronic survey was distributed to a range of medical professionals who attend the medical handover meeting. 33 respondents including nurses, FY1s, medical trainees and consultants were asked questions regarding the educational value of, and how to improve, the provision of FOTD.

Results

•FOTD was discussed at >90% of handovers
•81% thought it was a useful learning tool

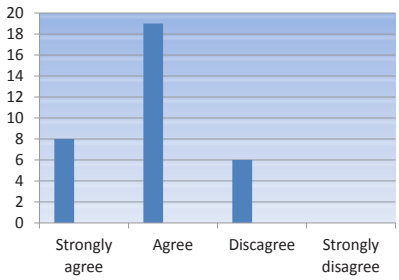

Figure 1. Survey response to "Fact of the Day is a useful learning tool"

Examples of FOTD recalled by hospital staff present at handovers:

- •Patients with liver disease with derranged clotting are often thrombophillic
- •Look out for euglycaemic diabetic ketoacidosis with SGLT2 inhibitors
- •Consider Stills disease as a cause of pyrexia of unknown origin
- •Consider discitis as cause for pyrexia

Suggestions from survey participants to improve FOTD:

"I find it useful for the consultant to share their reflection on their own learning from the day as it helps encourage me as a junior to reflect on my own practice"

"The consultant should offer a fact from their specialty each day that is perhaps underappreciated or that they see common errors in"

"FOTD could be published to reach a wider audience rather than only those attending handover"

Conclusions

Staff found FOTD to be a useful educational intervention, complementing handover and promoting continuous professional development.

Some of the suggestions that were made to improve this further included providing consultants with more specific FOTD guidelines, and recording each FOTD and publishing to a wider hospital audience. At Hairmyres we are planning to introduce a Twitter account which can be used as a medical education tool and a medium to share the FOTD on a daily basis.

For Further information please contact Dr Katie Ferguson (katie.ferguson@lanarkshire.scot.nhs.uk)

Global citizens, global partnerships: NHS Scotland and Zambia: A win win for all

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***NGOs*: *On Call Africa (SCIO)*: Gavin McColl, UK GP/Director On Call Africa**

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NHS Education for Scotland

Background/Aims

Health is global (1). Complex socio-economic factors (mass migration, environmental change, and trade), contribute to common health challenges (antibiotic resistance, food security, and disease control), which threaten global security. The UN Sustainable Development Goals (SDGs) are tackling these challenges (2). Scottish Government (SG) is committed to achieving the SDGs, which are universal to all nations whether high or low income, and focus on reducing poverty and inequality through sharing the best of Scotland's health expertise, and learning from other regions. This is integral to Scotland's International Development Strategy (IDS) (3) which focuses on Zambia, Malawi, Rwanda and Pakistan, enhancing opportunities for Global Health Partnerships (GHP). However, at a time of socio-economic austerity, and stretched health workforces, greater engagement from NHS Scotland is challenging. Through 4 Scottish GHP with Zambia, this poster illustrates that such engagement can be mutually beneficial (4) and can contribute to delivering Scotland's domestic health agenda (5).

Methods

The added value of GHP to Scotland is demonstrated through the work of 4 Scottish Global Health Collaborative (SGHC) membership groups which are partnered with projects in Zambia (6):

- University of Edinburgh Global Health Academy/Zambian UK Health Workforce Alliance (ZUKHWA)
- The Logie Legacy (SCIO)
- On Call Africa
- NHS Education for Scotland (NES)/Friends of Chitambo SCIO

Results/Outcomes

The work of the above 4 groups covers both educational and clinical processes **(See Table 1).**

***Benefits to Scotland*:**

Please see the attached handouts for more details!

Benefits to Zambia

On Call Africa:
***We….are really benefiting from the partnership with On Call Africa. The help rendered (includes) transport to the sites; service delivery; (and they) ...come with some doctors and…. train Community Health Workers and volunteers who will help reach the community."* District Director of Health, Southern Province, Zambia**

Friends of Chitambo SCIO/NES:
***"(The) Zambian National Formulary (ZNF) and (the book) 'Where there is no doctor', have helped me to manage clients without a doctor and to revise resuscitative procedures."* Hospital Midwife, Central Province, Zambia**

Table 1. Benefits of Global Health Partnerships to Scotland

Scottish Health Partners	Website	Zambian Partners	Website	Benefits to Zambia	Benefits to Scotland
University of Edinburgh Global Health Academy/Zambian UK Health Workforce Alliance (ZUKHWA)	http://www.ed.ac.uk/global-health/research/project-profiles/health-systems-strengthening/zukhwa	University Teaching Hospital (UTH), Lusaka, Zambia Lusaka Apex Medical School Ministry of Health (MOH)	http://www.lamu.edu.zm/	-Palliative care service development/improvement -Mentorship programme development -Coordination of NGOs/healthcare projects	-Sharing of Scottish health/educational expertise -Increased global health security -Development of global health community
NHS Borders/The Logie Legacy (SCIO)	http://www.nhsborders.scot.nhs.uk/corporate-information/;	St. Francis Hospital, Eastern Province, Zambia	https://www.supportstfrancishospital.org	-Hospital twinning -Health expertise exchange/volunteering -Healthcare training opportunities -Quality improvement of clinical care and public health	-Sharing of Scottish health and educational expertise -Workforce motivation -Leadership development -Clinical skills development -Training opportunities for NHS staff
On Call Africa	http://www.oncallafrica.org.uk/	District Health Offices in 9 communities in Kazungula and Zimba Districts, Southern Province, Zambia	http://www.oncallafrica.org.uk/where-we-work/	-Medical volunteering/exchange -Healthcare training development /delivery Training opportunities for Zambian doctors/clinical officers -Community Health Worker (CHW) training -Quality improvement of clinical care	-Sharing of Scottish health/educational expertise -Workforce motivation/satisfaction -Leadership development -Training development -Training opportunities/skills development for NHS doctors
NHS Education for Scotland (NES) Friends of Chitambo SCIO	http://www.nes.scot.nhs.uk/ www.friendsofchitambo.org.uk	Chitambo Hospital, Central Province, Zambia		-Quality improvement of emergency care services -Knowledge translation into action (K2A) for improved emergency care decision-making at the point-of-care -Healthcare training and support -International exchange/learning	-Sharing of Scottish health/educational expertise -Contributing to development of a sense of remote/rural healthcare community -Workforce motivation/satisfaction -Leadership development -Opportunities to test Scottish healthcare innovations e.g. K2A and digital communications in different global settings

On Call Africa
The exceptional benefit of working with On Call Africa is that (UK) doctors can help create something sustainable through education…What really makes a difference is watching the Community Health Workers develop during their training, making them the best people in these communities to take on the role, (and) elicit change."
Scottish Medical Volunteer, On Call Africa, 2016

For information email Jo Vallis: jo.vallis@nes.scot.nhs.uk OR jovallis@Hotmail.com

Conclusions

Greater NHS Scotland engagement in GHP is mutually beneficial to Scotland and Zambia. It helps to maintain Scotland's image as a 'good global citizen', committed to world health improvement and also contributes to delivery of the Scottish 2020 Vision for Health, especially as it applies to motivating and sustaining the Scottish health workforce.

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3. Scottish Government (December 2016) *Global Citizenship: Scotland's International Development Strategy*: http://www.gov.scot/Publications/2016/12/4633
4. THET (2016) In our mutual interest
5. Scottish Government A Route Map to the 2020 Visions for Helath and Social Care: http://www.gov.scot/Resource/0042/00423188.pdf
6. Scottish Global Health Collaborative (SGHC): www.scottishglobalhealth.org

NHS Borders | The Logie Legacy | On Call Africa | Scottish Government Riaghaltas na h-Alba gov.scot | Friends of Chitambo | Zambia UK Health Workforce Alliance

Prescribing Safely Together on the Ward (PSOW)

Testing and adapting a simulation OSCE designed for medical students as an interprofessional education activity for medical and pharmacy students

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OVERVIEW

Team working and closer involvement of pharmacists with healthcare teams are suggested to improve prescribing outcomes. A UK study of foundation doctors' prescribing errors recommended development of interprofessional education (IPE).

AIM

Aim of larger overarching NES-funded project:

Design, deliver and evaluate IPE between medical students at University of Dundee & pharmacy students at Robert Gordon University, Aberdeen

Aim of this pilot (PSOW):

To design an IPE activity adapted from "Prescribing on the Ward (POW)" medical OSCE for medical and pharmacy students

METHOD

Pilots
- Facilitated by qualified pharmacists
- Involved simulated patients

Pilot 1: med & pharm activities unchanged from existing POW OSCE

Pilot 2: med & pharm activities amended as per student feedback (PSOW)

Pilot 3: med only (in pairs) – activities as for Pilot 2 (PSOW)

Feedback from evaluation form (Pilot 1)

3 Medical 8 Pharmacy

"Much of the station related to physically writing up prescriptions rather than clinical check"

"there wasn't much involvement in terms of actually working together"

7 Medical 7 Pharmacy

8 Medical

Evaluation
Student: SPICE questionnaire before and after activity, evaluation form and focus group

OUTCOMES/RESULTS

Quantitative Data Analysis (SPICE questionnaires)

Pilot 1 (medical & pharmacy - original POW activities)	Pilot 2 (medical & pharmacy - activities amended PSOW)	Pilot 3 (medical only - activities amended PSOW)
No change/ improvement comparing scores before to after pilot ($P>0.05$)	**Significantly improved SPICE scores for 10/10 statements** comparing scores before to after pilot ($P<0.05$)	**No change/ improvement** comparing scores before to after pilot ($P>0.05$)

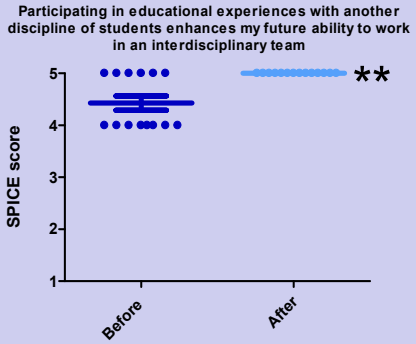

Figure 1. Example of results from question 5 of SPICE questionnaire, comparing scores before and after "PSOW" (pilot 2) n=14, $^{**}P<0.01$ compared to before pilot.

Qualitative Data Analysis (Focus Groups – Pilot 2)

Learning ABOUT each other

"I think they respected us and I think that is a big thing like some pharmacists I know, like, obviously I'm not one yet, but you do feel sometimes that medics undermine you".

Learning WITH each other

"quite fun working together with someone else and coming to the conclusion of a certain problem and that whole process was good."

Learning FROM each other

Knowing that pharmacists be there to ask, so you can always ask them about things… I didn't really realise you could rely on them so much and you really can and I think that's a really good resource"

"I thought it was quite good to see, got to see the… medical students skills with consultations with patients and I felt like theirs were probably better than ours because they have more experience than we do across the course."

CONCLUSIONS

Undergraduate training of medical and pharmacy students has been mainly uniprofessional in nature yet patient care is increasingly provided by interprofessional health care teams. The "PSOW" OSCE was adapted as a successful IPE activity for medical and pharmacy students; as described in the BEME review of IPE, customisation of the learning activity is essential. In the process students learnt with, from and about each other addressing the three components of the CAIPE definition.

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Paper versus electronic feedback in high stakes assessment

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Background

Electronic devices such as tablet computers are increasingly useful tools in medical education, particularly assessment.[1] As well as recording checklist items, they also allow examiners to type bespoke comments on performance, which is encouraged especially in borderline students.

Aims

We wished to explore:

- The impact of electronic devices upon quality and quantity of feedback provided
- Diffferences between electronically and paper recorded feedback
- Any relationship between electronically recorded feedback and student performance

Methods

We performed a retrospective database and exam sheet analysis to compare quantitative and qualitative feedback with traditional paper scoring sheets versus iPads™. The analysis was between feedback given in two consecutive years of a final year MBChB 15 station objective structured clinical examination (OSCE) at the University of Aberdeen.

Quality of comments (using a validated five-point rating scale, 1= lowest quality feedback, 5=highest quality),[1] number of examiner comments and words per comment were extracted and analysed using chi squared analysis and independent t-test.

Results

Data from 190 students (2850 exam papers) in 2015 (paper based marking) and 193 (2895 electronic data entries) in 2016 (iPad™ marking) were analysed.

An overall greater ($p < 0.001$) number of comments were given with iPad™ versus written feedback (table). For both written and iPad™ feedback, the majority of comments were quality rating 2 (76% versus 80% respectively). The use of iPads™ did not have a significant impact on quality of comments ($p=0.223$). More comments were given for borderline students from 44% in paper versus 74% for iPad™ feedback ($p<0.001$ for all global scores) (figure).

Table: Comparison between paper and electronic feedback

		Paper	iPad	P value
Overall number of comments N (%)		548 (20)	1226(42)	p<0.001
Total number of words		8015	15040	p <0.001
Mean number of words per comment (SD)		15 (11)	12 (8)	p<0.001
Mean number of words per station (SD)		2.9 (8)	5.2 (8)	p<0.001
Quality of comments N (%)*	1	32 (6)	67 (6)	
	2	417 (76)	983 (80	
	3	9 (2)	13 (1)	p=0.223
	4	86 (16)	161 (13)	
	5	4 (1)	2 (0)	

*** Scored using *Denison et al.* feedback quality reference scale**

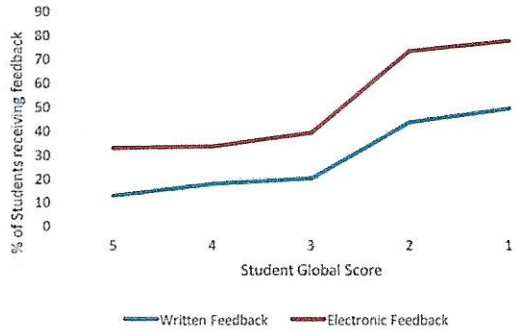

Figure: Proportion of students receiving feedback according to global score

*Likert student global score 5 = excellent; 4=highly satisfactory; 3=satisfactory; 2=borderline;1=unsatisfactory

Conclusion

Tablet computer use in high stakes assessment appears to increase the quantity, but not quality, of bespoke feedback comments compared to traditional paper scoring sheets. Further instruction should be given to examiners regarding what constitutes "good quality" individualised feedback.

References

[1] Denison A, Bate E, Thompson J. Tablet versus paper marking in assessment: feedback matters. *Perspect Med Educ.* 2016. 5:108-113

COME HERE. GO ANYWHERE

University of St Andrews | FOUNDED 1413

Developing online materials to aid teaching of physical examination routines

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Aim

Learning clinical skills has evolved from an opportunistic apprentice-style of 'learning by imitation' towards a more structured approach with planned sessions where individual skills are taught, practiced and reviewed. Clinical skills remains an area where technology could be harnessed more effectively. Students can watch online videos, but otherwise rely on lecture handouts and practice with peers to perfect their examination routines.

Experience suggests that students view their examination routines as performances that enable them to pass examinations, rather than engaging with and understanding why they are performing these key professional skills.

We wondered if an interactive e-learning module would combine the benefits of viewing a video with an improved understanding of the knowledge underpinning clinical examination.

Methods

As part of a project to update and standardise clinical skills videos at our institution, an online module e-learning module covering the respiratory system examination was developed (See Still image in *Figure 1*).

This was released to the students at the same time as they received teaching (video, clinical skills session, mini-CEX checklist) on the respiratory system examination.

A secure online survey tool was used to ask students to rate the individual components of their teaching for both the respiratory and cardiovascular systems. Aside from the online e-learning module, teaching for the cardiovascular system examination was otherwise identical to that for the respiratory system examination.

Results

18 students responded to the survey, of whom 12 had viewed the respiratory e-learning module. 2 students reported watching additional videos on clinical examination skills.

After their teaching the majority of students felt moderately or extremely confident in their ability to perform a respiratory (12/18; 67%) or cardiovascular examination (11/18, 61%) in an OSCE.

For both examination systems, teaching components were scored on a 7 point Likert scale (1 = extremely useless; 7 = extremely useful). Small group teaching was seen as being particularly useful with all students rating this as moderately or extremely useful (mean score 6.64, SD 0.49). The clinical skills videos and the mini-CEX checklists were given mean scores of 6.22 (SD 0.87) & 6.47 (SD 0.84) respectively. The mean rating for those who viewed the e-learning module was 5.92 (SD 1).

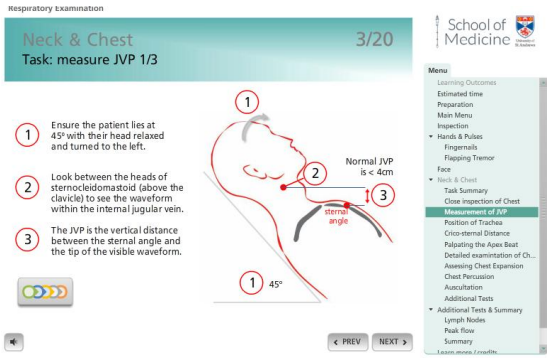

Figure 1. A screen shot of a slide from the respiratory e-learning module

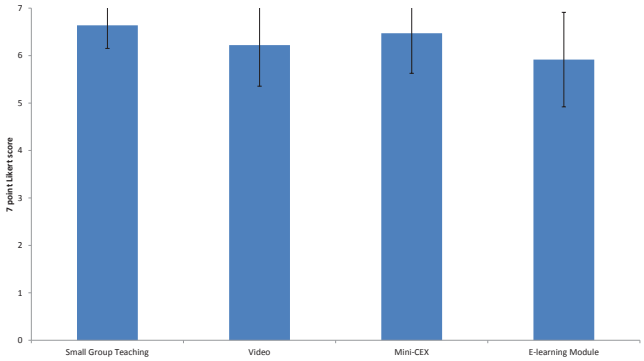

Figure 2. Mean Likert score for components of respiratory & cardiovascular system examination teaching

Conclusions

This small survey provides an insight into how students view components of their teaching on physical examination skills. Small group teaching was seen as the most useful component, whilst other components also received positive feedback. Students value a multi-modal approach to teaching physical examination, and we believe that e-learning can be a useful addition to this.

Aiding Transition: A programme to improve academic study skills in undergraduate medical students

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Aim

The transition to higher education can be challenging for students as academic demands and social changes contribute to feelings of stress.

As part of a programme which aimed to improve the experience of students at university, we set out to improve the academic study skills of all incoming first year students and existing second year students who had been identified as struggling academically.

Methods

Alongside a student intern, staff developed a workshop on medicine-specific study skills for all incoming first year students. In addition, a series of workshops was held for second year students who had unsatisfactory grades.

A feedback questionnaire, for use before and after the workshop was distributed, and included questions on students learning habits, the relevance of the session and how likely it was to produce behavioural change.

Figure 1. Screenshots of Powerpoint slides from academic study skills workshop.

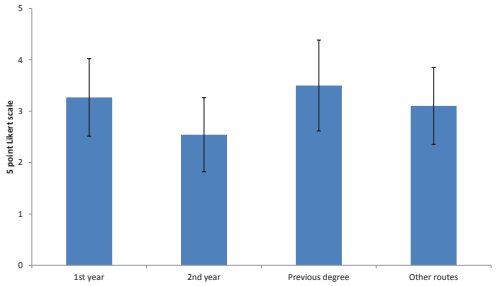

Figure 2. Pre-workshop question. Currently, how would you rate your confidence in relation to study skills in Higher Education (1 = Very low, 5 = Very high)

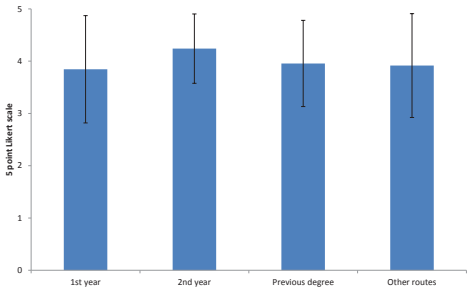

Figure 3. Post-workshop question. How likely are you to make a change (to a process or behaviour) as a result of attending this workshop? (1 = Not very likely, 5 = Very likely)

Results

The majority of students had arrived at university from school (131/182; 72%). The remainder had either undertaken a gap year or a previous degree. None of the 27 second year students had undertaken a previous degree.

Pre-workshop reflections

Differences in confidence in academic skills were noted from a 5 point Likert scale (1 = Very low, 5 = Very high). Students with a poor academic record in first year had lower confidence (mean = 2.54 ± 0.72), while those with a previous degree had higher confidence than those without (mean 3.5 ± 0.88 vs 3.1 ± 0.74).

Post-workshop reflections

On equivalent 5 point scales, all students reported that the workshops were relevant to academic development (mean 4.34, SD 0.81), produced an intention to change behaviour (mean 3.99, SD 0.99) and resulted in increasing confidence about study skills (mean 3.72, SD 0.82). The intention to change behaviour was higher for the second year students (first year 3.85 ± 1.03; second year 4.24 ± 0.66).

Conclusions

We believe this intervention demonstrates the positive effect that institutions can have when supporting student transitions. Study skills programmes should be a core component of course induction programmes and can aid student wellbeing.

The University of Edinburgh presents...

How to Make Professionalism Fun

Martina Balaam and Katy Rankin
Centre for Medical Education
University of Edinburgh

PROFESSIONALISM

Professionalism is an essential and integral requirement of medical education, as the General Medical Council assert,

"Good doctors make the care of their patients their first concern: they are competent, keep their knowledge and skills up to date, establish and maintain good relationships with patients and colleagues, are honest and trustworthy, and act with integrity and within the law." [1]

An integrated curriculum model is used in the Edinburgh MBChB. However, there remains more emphasis on medical science in the early years of the curriculum and it can therefore be challenging to truly integrate the teaching of professionalism during this time. Without the context of real life situations, classes can often lack authenticity and students are often disengaged. The challenge then is to offer students a more creative, stimulating and rewarding learning experience.

AIM To investigate relevant academic literature to consider examples of teaching professionalism in the classroom which were considered more stimulating and rewarding for students.

METHODS

We undertook a review of the literature to deal with the challenge of teaching professionalism outwith the context of the clinical environment. Relevant empirical research and theoretical literature were identified systematically through a number of medical education, social science and media search engines.

After an initial search, we used snowballing techniques to look for recurring references within reference sources appropriate to our aim. Literature searching occurred Nov 2016 and April 2017.

RESULTS

We found a dearth of literature in this area. However we did find a few examples, predominantly North American, of teaching professionalism in the classroom, which were perceived by students as both meaningful and entertaining.

These examples included role-play and the use of medical scenarios taken from television hospital dramas.[2,3] These classroom sessions were considered enjoyable and of educational value to the students who participated.[2,3]

In addition we found a plethora of literature on cinemeducation. [4,5]

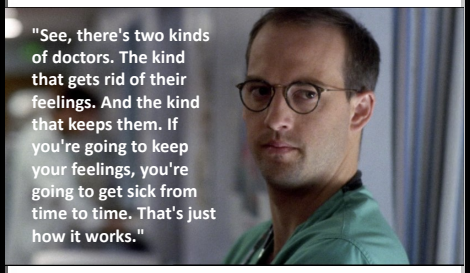

Image adapted from http://er.wikia.com/wiki/Mark_Greene

WHAT IS CINEMEDUCATION?

"the use of movies, television, YouTube, music videos or documentaries, either in their entirety or in short segments, to educate graduate medical learners in the biopsychosocial, spiritual, ethical aspects of healthcare" [4]

It is "an effective and entertaining method of helping medical students learn professionalism and also promote development of critical thinking and moral reasoning skills." [5 pg 327]

DISCUSSION

The literature indicates that cinemeducation can benefit students in particular ways:

Makes learning fun, bringing dry concepts to life by captivating emotions and encouraging creative thinking.[5]

Can promote empathy, discussion and reflection and provide the opportunity to experience highly emotive scenarios in a place of educational safety.[3]

Engages students in medical humanities using a medium with which they are comfortable and which is easily accessible and time efficient [2,4].

Whilst the advantages of cinemeducation are apparent it is difficult to demonstrate the usefulness and credibility of cinemeducation. There are a dearth of studies and of those found the majority rely on small sample sizes and subjective outcome measures. [4]

Some literature argues that the over dramatised elements of this genre are passively absorbed at face value by the audience and Contemporary media can reproduce stereotypes about medical and other health professions which can undermine the diversity and complexity of medical health professionals. However contemporary media theory contends that audiences actively negotiate and test meanings.[6] This needs to be acknowledged when using these resources and may need to be addressed with the students.

CONCLUSION

There are some examples of engaging students in professionalism teaching, including the use of cinemeducation.

However due to a dearth of literature in this area further work is required to explore how we can make professionalism teaching in the classroom more stimulating and rewarding for students.

Whilst in its infancy cinemeducation certainly seems an exciting and novel way of teaching professionalism.

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What does it mean to be a doctor?

A unique approach to understanding a clinician's perspective

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The recruitment and retention of training grade doctors is becoming increasingly difficult. Understanding the junior doctor psyche is important if this trend is to be reversed. Yet, it can be very difficult to openly and sensitively discuss issues about morale and motivation to practise medicine.

In this study we explored the age old question "what does it means to be a doctor?" from the perspectives of clinicians at different career stages, using an innovative approach involving the communicative method of collage.

The Aim was to determine motivating and demotivating factors among school pupils, medical students, junior doctors, and consultants.

Methods

Groups of new consultants, foundation year trainees, medical students and school pupils were separately invited to create collages using general newspapers and magazines supplied by the investigators. The data was analysed using discourse analysis techniques

Collage has been shown to be an innovative way of expressing emotion and advocating communication and team work; below are some examples.

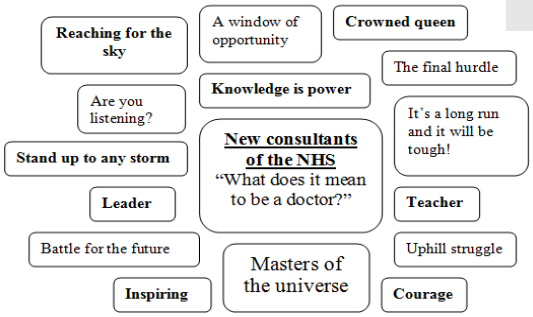
New Consultants

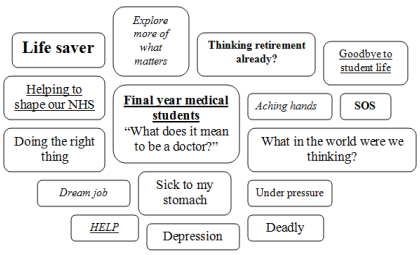
Foundation Year Two Trainees

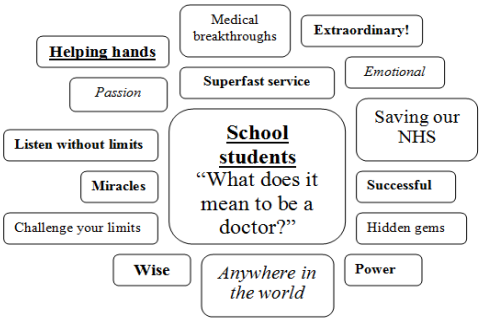
Final Year Medical Students

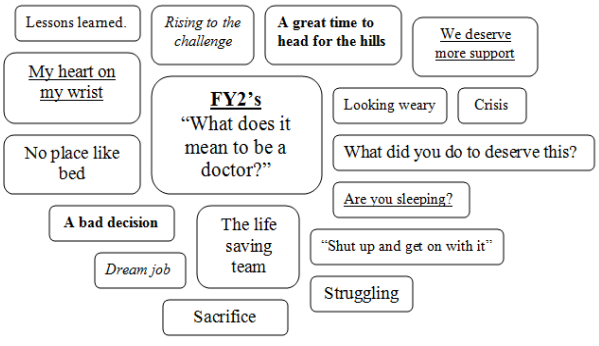
Results

School pupils and new consultants demonstrated optimistic, strategic views about practicing medicine. The aspirational school pupil approach somewhat maturing by the point of consultant appointment. Medical students, and more notably FY2 trainees, had more pessimistic, operational views of working as a doctor









Conclusion

Clinicians' views about medical practice develop throughout training, with a shift in focus from optimistic school pupils to more the negative and junior trainees. Newly appointed consultants seem more aware of "bigger picture" issues, perhaps reflecting a broader range of experience.

Collage is a simple and effective technique, and has clear potential to assist with the exploration of complex problems in healthcare. Further work is required to delineate its full potential, and to design motivating interventions for doctors-in-training.

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Simulated student GI MDT: Improving student engagement

Authors: Jennifer Pollard[1], Suzanne Rayner[1], Rosalyn Shearer[2], Professor John Duncan[2], Stephen McNally[1].

Affiliations: 1. NHS Highland, 2. University of Aberdeen

Background

Tomorrow's Doctors highlights the need to "learn and work effectively within a multi-professional team" with specific reference to leadership, team working and creating positive working relationships. [1] Multidisciplinary team (MDT) meetings are widely used across both benign and cancer specialities and provide potentially valuable learning opportunities to emphasise multi-professional working for medical students. [2,3]

University of Aberdeen Year 4 students based in Inverness were traditionally taught using video conference link into the gastrointestinal (GI) MDT followed by a didactic lecture on a common GI cancer.[4] Facilitators and students felt that there was room for significant change in the delivery of the session to improve engagement and learning.

Aims &Objectives

To develop GI MDT teaching, based on constructivist learning theory, to increase student engagement.

Methodology

Semi-structured feedback interviews with four student cohorts were used to facilitate the redesign of the teaching (n=20).

A simulated student MDT was developed using anonymised real patient cases, covering common GI pathologies. Students were allocated different roles weekly and given pre-session preparation material (Figure 1). Sessions ran as a clinical MDT with a facilitator present to answer any difficult questions (Figure 2).

Successive student cohorts completed written feedback and participated in focus group interviews to review the new sessions (n=20). Thematic analysis was performed on interview scripts.

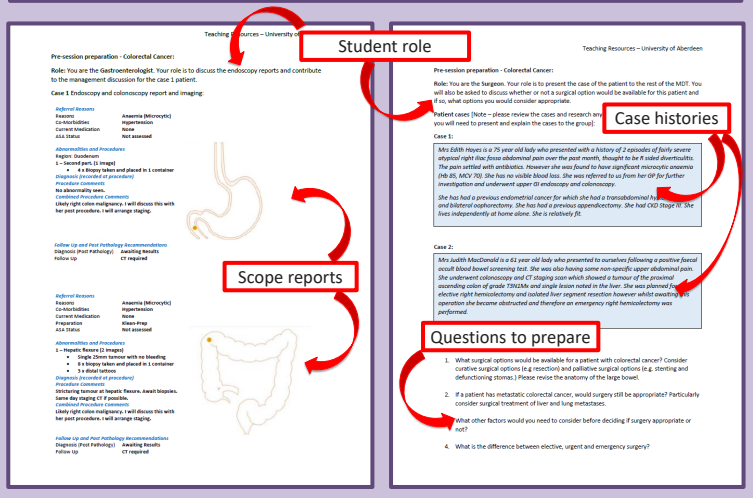

Figure 1. Examples of pre-session preparation materials

Figure 2. Student simulated MDT

Results

Recurring themes from the videolink approach included poor understanding of the rationale for MDT decisions and a sense of disconnect. With simulation, students liked the session design and were engaged with the student-led interactive sessions, enjoying facilitated discussion with a greater level of understanding of MDT roles (Figure 3). Preparation meant they had the knowledge to help them form an appreciation of the clinical decision-making process and its complexities.

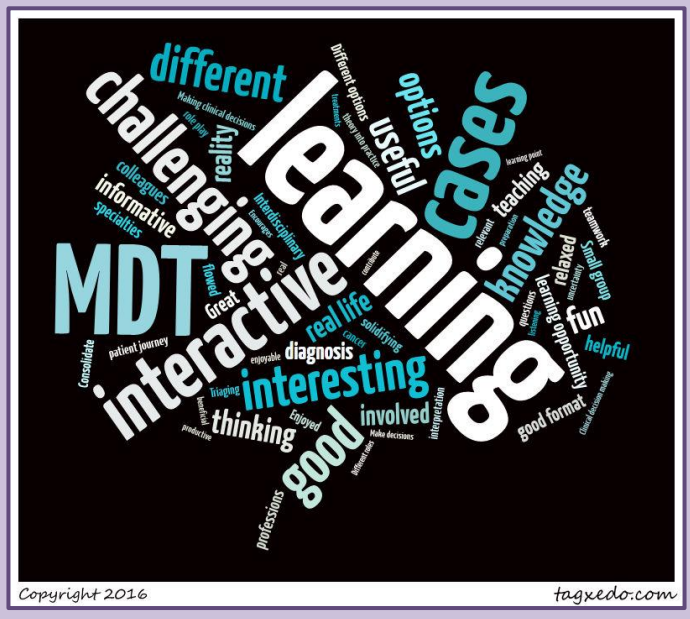

Figure 3. Feedback themes

Conclusion

Simulated MDT sessions are a viable teaching tool for medical students. By moving from didactic teaching to an interactive format, we have improved student engagement, which in turn has led to improved learning in a positive learning environment.

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UNIVERSITY OF ABERDEEN

NHS Highland

MyPsych

A Psychiatry Placement App
for medical students

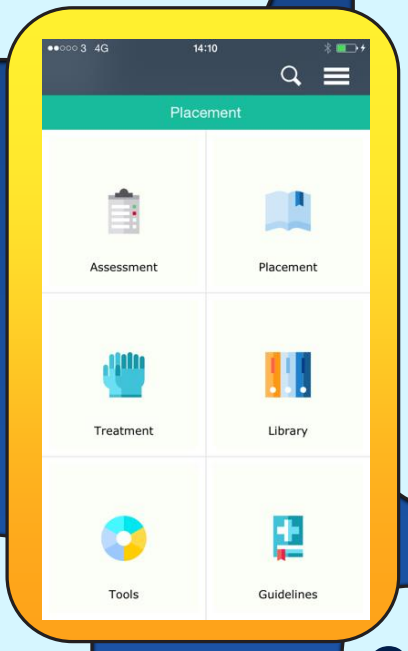
T. McKee Subject Specialist Librarian
N. Ogston CT2 Psychiatry
M. Wolfe CT3 Psychiatry
N.Penades Consultant Psychiatrist

NHS Greater Glasgow and Clyde

Aim

Psychiatry has long suffered the image of being a "Cinderella" specialty. We recognise that the skill set required is different from other specialties.
The "MyPsych" app was developed to address this by providing medical students with a cutting-edge resource to enhance their psychiatry placement, and aid revision. We hope this may improve their experience and view of the specialty.

MyPsych capacity assessment video



MyPsych Home Screen

Methods

The app consists of 8 main domains: Assessment, Placement, Treatment, Library, Tools, Guidelines, Careers and Educational Videos.

The project was funded by the eHealth Directorate via the Knowledge Services and developed by 3 local clinicians and a Subject Specialist Librarian in collaboration with Tactuum Ltd. Content was also supported by NHS GGC Library Services, local clinicians and undergraduate tutors, students and the University of Glasgow.

The app's analytics allow monitoring of its use, and user feedback. There is a six-monthly schedule for updates, and review of data.

Outcomes

MyPsych was launched in October 2016 and it is available free for iOS and Android phones.

It was initially advertised on the University of Glasgow Medical School electronic boards, and on social media sites.

This year, approximately 280 medical students from the University of Glasgow are rotating through psychiatry placements. Google Analytics identified 1630 sessions from our October launch to date, with nearly 75% of users being returning users. The "Placement" section is the most popular with users. Spikes in activity are directly linked to the start of new psychiatry placements.

Conclusions

MyPsych has been used by students on placement as well as many other users since its launch. Further work around development with the support of a focus group will be carried out prior to further promotion and advertising.

Student Feedback

"Videos are pretty useful as an example of how to approach certain topics."

"...especially useful guidance directly for students and juniors, for example about how to write in ward round notes..."

"Excellent app to have for placement... Easy to navigate and good resource to have."

tactuum

MyPsych

Available to download free from the App Store
mypsych.nhsggc.org.uk

Take-home laparoscopic simulation: it's not enough to buy the kit

Blackhall, V[1,2], Wilson P[3] , Walker K[2], Moug S[4], Cleland J[1]

[1] Division of Medical & Dental Education, University of Aberdeen
[2] Centre for Surgical Research, Centre for Health Science, Inverness
[3] Centre for Rural Health, Centre for Health Science, Inverness
[4] Department of General Surgery, Royal Alexandra Hospital, Paisley

INTRODUCTION

Studies have shown that laparoscopic motor skills can be learnt using portable simulators, and that the benefit of deliberate practice transfers 'from virtual reality (VR) to operating room (OR)' (1-3). However, despite these seemingly obvious benefits, recent evidence indicates that trainees in other contexts (e.g., the USA) do not practice, even if given ready access to a suitable simulator (4-7).

We looked at a laparoscopic simulation training programme (the Incentivised Laparoscopy Practice Study (ILPS)) (8). ILPS's aim was to quantify gains in laparoscopic motor skills of core surgical trainees using take-home simulators, and to assess trainee engagement with simulation. Drawing on previous research, ILPS incorporated a competitive element to encourage engagement (5: metric performance targets and an eCertificate to facilitate access to 'first operator' tasks in the live theatre). Yet, although performances improved in some participants, the unanticipated consequence of this study was overall poor engagement with the programme.

Given this, the aim of this follow-up study is to explore: What regular, deliberate practice should programmes expect of trainees, and how should it be set up?

Figure 1: The take home laparoscopic simulator in action.

METHODS

In keeping with guidance on process evaluations of complex interventions (9,10), we will use a combination of data sources to understand why ILPS did not work (11). Our approach is akin to an exploratory case study approach and was selected to help us to tease out and examine a range of factors and relationships (12).

The primary data collection method will be focus groups. We will also look at the data and records from the ILPS study to scrutinise which aspects of this feasibility study attracted more engagement than others, and to examine decisions and actions which may have influenced engagement and outcomes. We will look at context, particularly surgical training systems, to examine if and how systems/contextual factors may have moderated outcomes (13). These sources of data will be triangulated to increase the credibility and validity of the results, and used to inform the design of a future home-based laparoscopic simulated training intervention.

We will conduct focus groups with five key groups of individuals:

- Core surgical trainees who took part in the original ILPS study
- ILPS 'Naïve' Core surgical trainees working in Scotland and employed in posts that utilise laparoscopic surgery (General Surgery, Paediatric surgery) (i.e., the target group of the pilot study, but a cohort who have no experience of home-based laparoscopic deliberate practice)
- Consultant surgeons working in Scotland who regularly undertake laparoscopic surgery and train Core Trainees, either as Clinical or Educational Supervisors
- Surgical Training Programme Directors (TPDs) from the two Scottish Core Surgical Training programmes
- Faculty and planners of the original ILPS

While the questions will be slightly different for different participant groups, they will include:

- exploring participants' understanding of deliberate and home practice; their views on the usefulness of these within core surgical training
- barriers and facilitators related to uptake

We have identified various surgical training events during the time period of the project where we will be able to access participants in groups. Recruitment of core trainees, trainers and TPDs will be conducted via emails from the Scottish Surgical Simulation Collaborative (SSSC). Positive responses will be followed up by email providing more information about the study, and interview time and place options.

All interviews will be audio recorded with participant permission, transcribed for analysis, and entered into NVIVO qualitative data analysis software. Data coding and analysis of the transcribed interviews and documents will be inductive, using thematic analysis. After the identification of themes and following further discussion, we will consider moving beyond primary thematic analysis to a more theoretically-directed approach to critically analysing the data. This second step will both provide a conceptual framework for a future intervention, and add to our understandings of deliberate practice and intervention theory.

PRELIMINARY FINDINGS

To date, data has been collected and transcribed from two groups of ILPS naïve participants. A preliminary analysis of the data has identified the following major barriers to engagement with the programme as perceived by trainees:

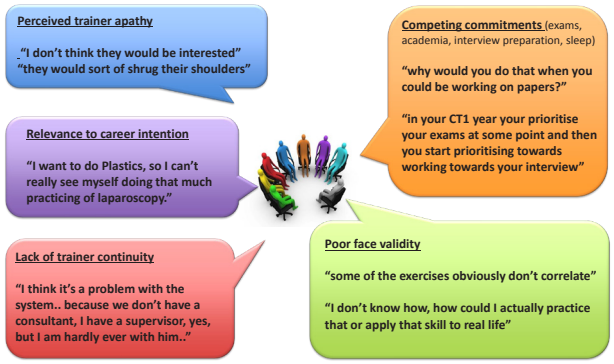


Figure 2: Key barriers identified by trainees to engagement with an incentivised take home laparoscopy programme.

DISCUSSION

We will complete our data collection over the coming months with a view to informing the design of a future home based laparoscopic simulation intervention entitled NESSIE (eNgagEment with Surgical Simulation in TrainEes)

ACKNOWLEDGEMENTS & REFERENCES

Miss. Vivienne Blackhall is a General Surgical Registrar undertaking a MD at the University of Aberdeen, funded by ASME/GMC.

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COME HERE. GO ANYWHERE

Creating a virtual 3D model of the human brain to enhance anatomy teaching

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[1] School of Medicine, Medical Sciences and Nutrition, University of Aberdeen

UNIVERSITY OF ABERDEEN

Introduction

The anatomy of the human brain is difficult to learn. Digital tools greatly enhance anatomy learning as they are useful for self-study outside the classroom. However, the models currently available to students in Aberdeen all have some limitations, such as limited interaction with the models. To overcome these limitations and enhance the teaching of anatomy, we created a virtual and animated 3D model of the human brain.

Materials & Methods

A detailed MRI-based 3D model of the human brain was created using an anonymised MRI scan of a human head and the 3D image processing software Avizo (FEI Visualisation Sciences Group, 2016). The individual brain structures were isolated using a combination of automatic and manual selection tools.

Results

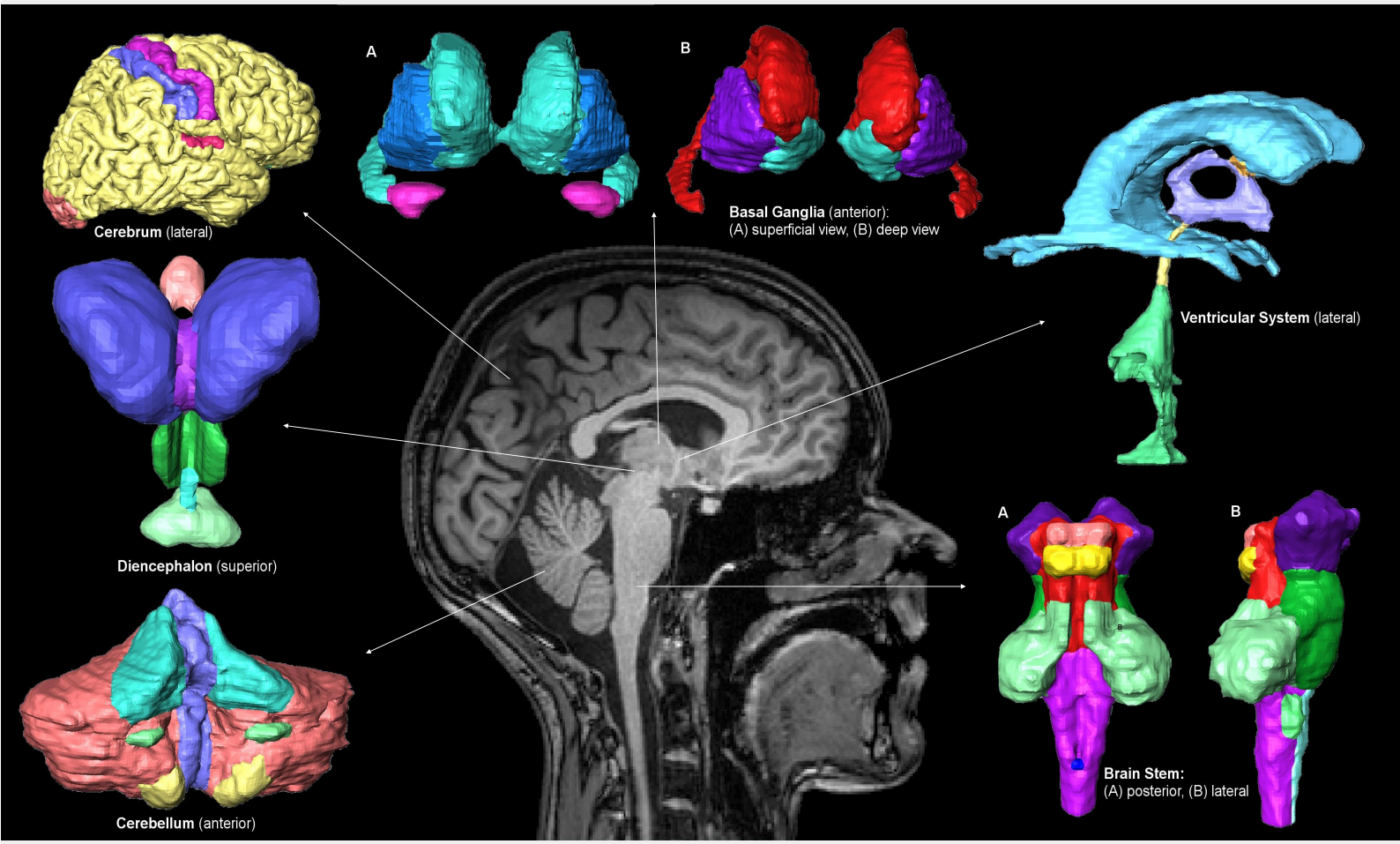
- We successfully created detailed anatomical 3D models of 6 key parts of the human brain and their subdivisions
- We developed an animation for the visualisation of the ventricular system
- We converted the models into several 3D PDFs
- The 3D model of the ventricular system has already been used in a lecture for medical students

Conclusions

These models will enhance anatomy teaching as they overcome the limitations of currently available learning resources. They allow more user interaction and can be modified to suit different courses. They are also compatible with 3D screens and 3D projection facilities available at the University of Aberdeen.

Next steps:

- Evaluate the impact of these virtual models on teaching and learning



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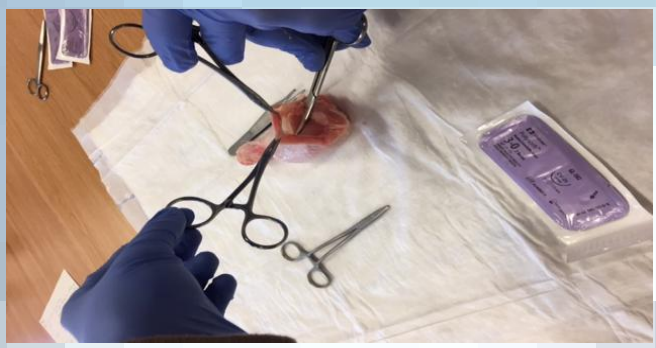
The Chicken Leg Hysterectomy Course

NHS Lanarkshire and Alexandria, Egypt

E Ferguson, M Mohasseb, M Allam

Aim.....

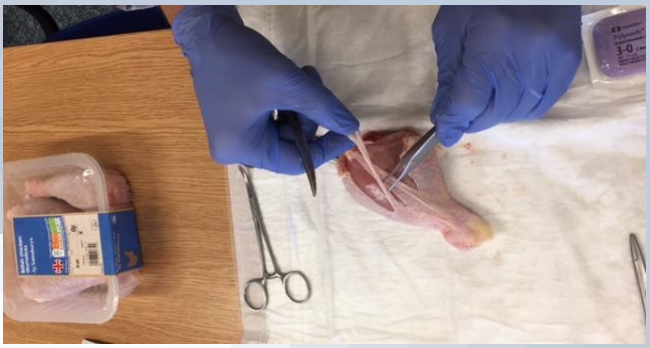
To develop safe surgical technique in performing hysterectomy for junior trainees using a chicken leg to simulate uterine tissues.

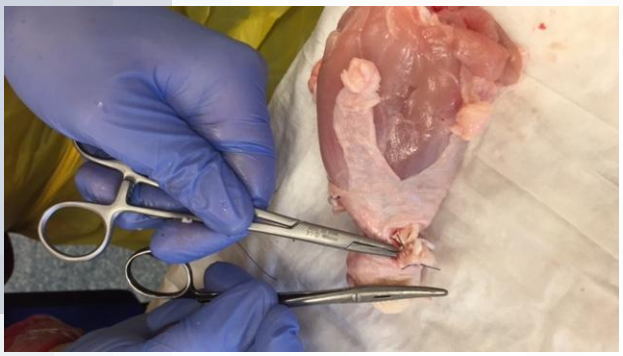


Method.....

The 5 key stages of the procedure were simulated:

1. separation of the tissues to expose the anatomy using push and spread technique and blunt and sharp dissection
2. safe opening of the broad ligament in the avascular plain
3. safe ligation of the IP ligament, avoiding the ureter
4. safe ligation of the uterine pedicle
5. dissection of the bladder to allow excision of the cervix from the vagina





Future.....

The chicken leg course offers an inexpensive, innovative solution to training junior gynaecology trainees in safe surgical technique for hysterectomy.

SCOTTISH MEDICAL EDUCATION RESEARCH CONSORTIUM

www.smerc.org.uk

Entrustable Professional Activities for Undergraduate Medical Education: Early Lessons in Content Validity and Feasibility

Katy Rankin, Helen Cameron, Alan Jaap
Centre for Medical Education, University of Edinburgh

Aim:

Entrustable Professional Activities (EPAs) aim to bridge the theoretical aspects of competency-based education and clinical care. However, data regarding their utility as an assessment is limited to reports on acceptability in the postgraduate context.

We therefore aimed to determine the content validity and feasibility of a suite of EPAs we developed for final year medical students at our institution in South-East Scotland whose transition to being a new FY1 is imminent.

Our EPA Tasks

- Clerk a stable patient
- Deliver routine care/ward work
- Patient handover
- Complete immediate discharge summary
- Assess an unstable patient

Methods:

We conducted an online survey asking clinical supervisors in South-East Scotland (n=187).

We asked them to:

- rate how important these tasks were to the job of an FY1
- rate how easy these would be to assess
- rate how well this collective set of tasks represented the totality of an FY1's job

We also asked them:

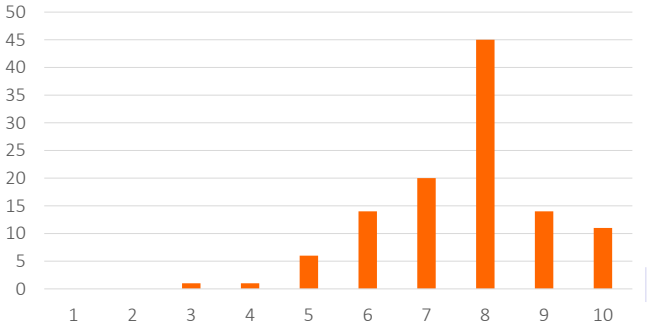
- who ought to contribute to these assessments
- which sources of information should be used

Results:

1. Are these the right tasks?

Our response rate was 61%. Over 80% of supervisors agreed that each task was "very important" to being a graduating student or new FY1.

On a 10-point scale, there was a median response of 8 when respondents were asked how well the whole set of tasks encapsulates the totality of the FY1 job.



1 = not at all representative 10 = completely representative

2. Are these tasks easy to assess?

Over 65% felt it would be "easy or very easy" to assess a graduating student or new FY1s performance for each task.

This was true for each task except for "assessing an unstable patient" which supervisors felt would be more difficult

	Very difficult	Difficult	Equivocal	Easy	Very easy
Clerk a stable patient	x	0.9%	11.4%	59.6%	28.1%
Deliver routine care	x	7.1%	26.3%	52.6%	14%
Patient handover	1.8%	5.3%	21.1%	58.8%	13.2%
Complete immediate discharge summary	x	0.9%	22.8%	59.6%	16.7%
Assess an unstable patient	6.2%	20.4%	32.7%	32.7%	8%

3. How and who should we make these assessments?

Discussing patients and informal observations of the FY1 were the most popular sources of information, much more so than workplace based assessments or multi-source feedback.

The majority of respondents felt that the whole clinical team should be involved – only 2 respondents felt that non-medical team members should not be involved in making these assessments.

Conclusion:

Our results suggest that the content of our suite of EPAs for final-year medical students is hypothetically valid and potentially feasible, although potentially more problematic for certain tasks.

The main limitation of this work is that supervisor responses were given on a purely hypothetical basis. Therefore, the next stage of our research is to roll out our EPA tools to current final-year students to gather further information on their feasibility and utility in practice and to determine who actually makes these assessments and how they go about making these judgements.

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Diagnostic Case Workshops: a new teaching concept to develop diagnostic reasoning

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1 Department of Medical Education; Glasgow Royal Infirmary; 2 Undergraduate Medical School, University of Glasgow

Background and Aims

Diagnostic reasoning aids diagnosis and plays a role in patient safety by improving recognition of life threatening presentations[1]. Teaching diagnostic reasoning to medical undergraduates can be challenging for senior clinicians as dual processing theory suggests that experts predominantly use type 1 thinking for this task. We designed and evaluated a novel pedagogical approach to the teaching of diagnostic reasoning skills to third year undergraduate medical students.

Methods

We designed three diagnostic case workshops that focused on each of the main body systems. These were delivered to eight groups of students who attended Glasgow Royal Infirmary for three days over a 3 month period at intervals of 4 weeks. Each workshop used hypothetico-deductive reasoning supported by the use of brainstorming, compare and contrast grids and modified SNAPPS. 77 (88% of cohort) students in 8 groups completed three diagnostic case workshops (DCWs) over 8 weeks. Kirkpatrick's model of evaluation: Level one (learner reaction) measured by survey questionnaire; Level two (learning) measured by diagnostic thinking inventories (DTIs) pre workshop two and post workshop three.

Results

Diagnostic-thinking inventories (DTI) with 41 self-reported items pre and post workshops. DTI post-workshop 165.7, SD 18.3 versus 157.8, SD 17.8, P<0.02 pre-workshop. Flexibility in thinking (82.0, SD 9.4 versus 85.3, SD 9.64, p<0.05) and structure of knowledge in memory (75.7, SD 9.9 versus 80.3, SD 10.6, p<0.01) both increased.

Survey questionnaire to assess learner reaction was completed by 45% of the cohort (35 students). 100% of respondants strongly agreed or agreed that the teaching had improved their understanding and that the teaching was relevant. 97% strongly agreed or agreed that the teaching was useful.

We have demonstrated that DCWs increase diagnostic reasoning over an 8-week period. Learner reaction and satisfaction was high. Clinical reasoning should be taught like other key skills in the undergraduate medical curriculum and our workshops may represent a novel approach to achieve this.

Conclusion

Formal diagnostic reasoning teaching is often sparse and students often do not feel confident in their diagnostic reasoning skills. Diagnostic reasoning can be taught through an interactive workshop format. Establishing DCWs proved to be an effective way of successfully improving students' diagnostic reasoning and may represent a novel approach useful for other institutions looking to improve their teaching of diagnostic reasoning.

CHEST PAIN	NSTEMI	PTE	Pneumonia	GORD	MSK
PC	Central CP				
HxPC-S		Rt sided		Upper epigastric	
-O	Exertion		Gradual		Sudden
-C	Dull ache	Sharp		Burning	
-R	Jaw/arm				
-A	Autonomic sx		Productive cough		
-T		Sudden			
-E		Pleuritic		Worse after food	Movement
-S	10/10				6/10
PMHx	HTN		Immunosuppression	Hiatus hernia	
Drug Hx	ACEi	COCP		Omeprazole	
Fam Hx	IHD				
SHx			Smoker	Smoker/EtOH xs	Footballer
Examination			Left basal creps	Epigastric tenderness	
Investigations	TnI/ECG		CXR/CRP/WCC		

Figure 1: Example of "chest pain" compare and contrast grid

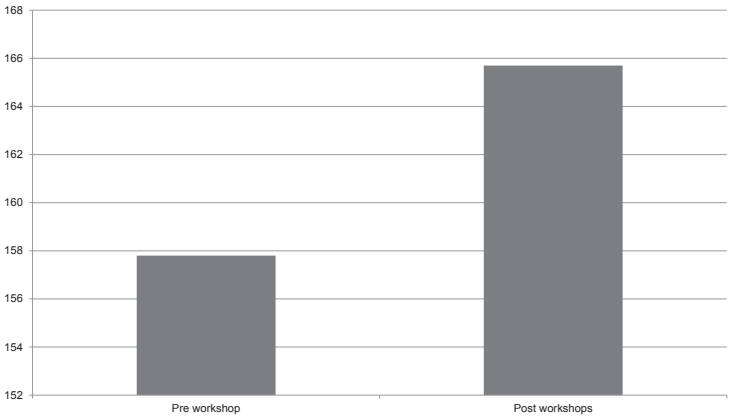

Figure 2: Improvement in DTI scores post workshop

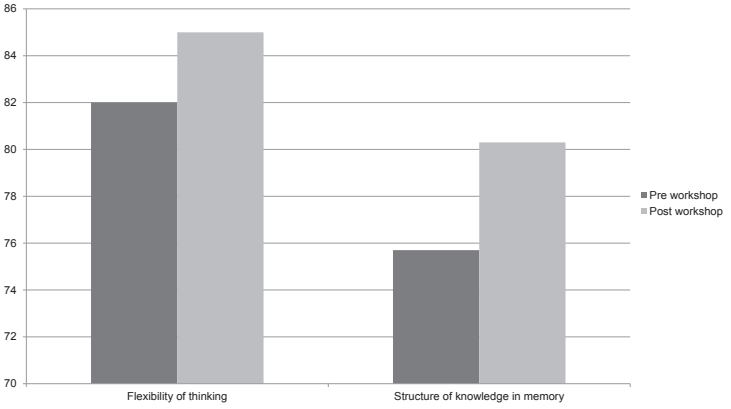

Figure 3: Improvement in DTI domains post workshops

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A PILOT EVALUATION OF A STUDENT-LED PEER ASSISTED LEARNING APPROACH TO UNDERGRADUATE EXAMINATION REVISION LECTURES

University of Glasgow

Wolfson Medical School, University of Glasgow

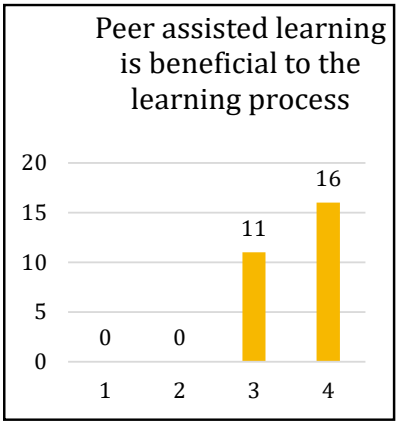
Ehsan Salim, Moiz Shah, Dr James Boyle

Aim

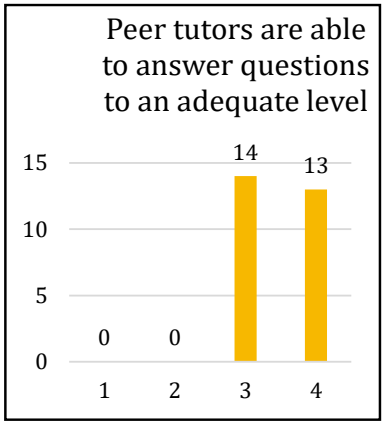
Peer Assisted Learning (PAL) is an evolving part of medical education that has many benefits and is widely well received. It is common for medical students to attend various revision lectures for exam preparation. Pervious studies have shown that both students and tutors welcome PAL and agree that education is transferred both ways[(1)]. Studies have shown the benefits of PAL not only for written examinations but also for clinical skills examination sessions[(2)]. We were organized a revision session that was fully student-led. In this report we describe the evaluation of a student-led PAL approach to undergraduate examination revision lectures.

Methods

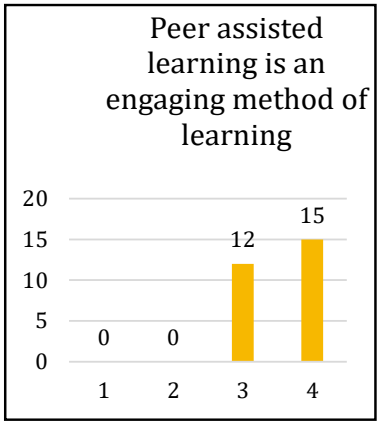
2nd year medical students were invited to attend two 45 minute revision lectures prior to their summative written examination. The lectures were based on current 2nd year ILOs and were prepared and delivered by 3rd year medical students in an interactive way using diagrams rather than text. In addition to the lecture material there were interactive MCQs at the end of each lecture. The evaluation was underpinned by Kirkpatrick's model. 27 students completed a survey to assess their reaction (Level 1 of Kirkpatrick model). The surveys were based on a 1 to 4 scale rating as follows: Strongly Disagree, Disagree, Agree, Strongly Agree.



Mean: 3.59. 95% CI: 3.39-3.76



Mean: 3.48. 95% CI: 3.28-3.68

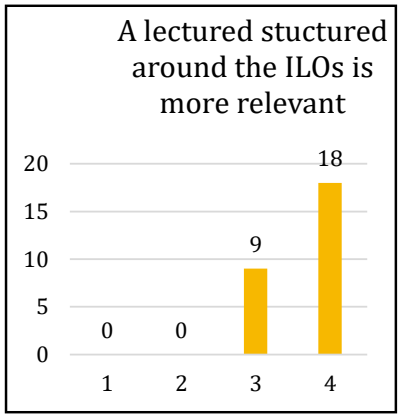


Mean: 3.56. 95% CI: 3.36-3.76

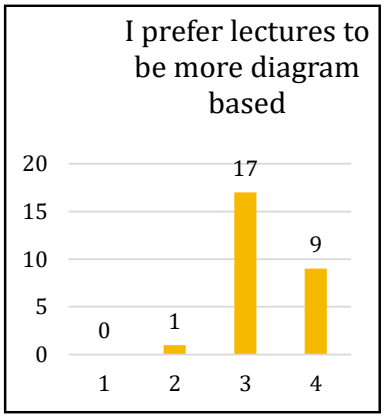
Outcomes

100% of students strongly agreed or agreed (Graph1) that PAL approach was beneficial to their learning. 100% of students strongly agreed or agreed (Graph3) found the PAL approach to be engaging. 100% of students strongly agreed or agreed (Graph2) that their PAL tutors were able to adequately answer questions. 100% of students strongly agreed or agreed (Graph4) that lectures based round ILOs were more relevant whereas 81% felt they were more engaging (mean 3.04, 95% CI 2.79-3.29). 96% of students strongly agreed or agreed (Graph5) that they preferred lectures to be more diagram-based than text-based.

The result of the evaluation clearly show that PAL is well received by students and that there is space for student-led teaching within medical education



Mean: 3.67. 95% CI: 3.48-3.86



Mean: 3.30. 95% CI: 3.08-3.51

Conclusions

A student-led PAL approach to undergraduate examination revision lectures was well received by 2nd year medical students. One limitation was the evaluation represented only 10% of the year group. Further work is planned to increase participation and assess the impact on summative examination results (Level 2 of Kirkpatrick model).

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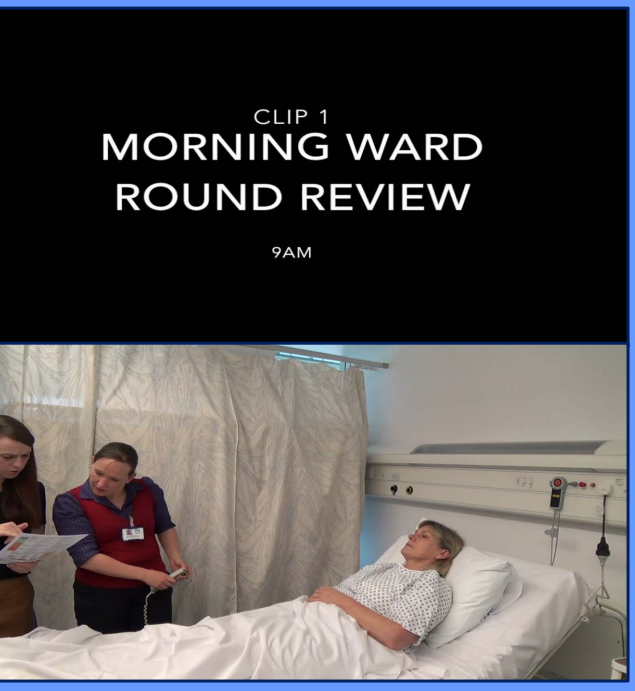
SSROOM SIMULATION IN THE FIRST-PERSON: CHING MEDICAL STUDENTS DOCUMENTATION

Marlow [1, 2], Jennifer McGowan [2],
er Pollard [1] & Rosalyn Shearer [2]
1) Raigmore Hospital, NHS Highland 2) University of Aberdeen.

CKGROUND: Clear, accurate and legible clinical ords are crucial for communication within the lthcare system. Despite this, very little time is spent ching documentation to medical students. [1]



OBJECTIVE: To develop a documentation session for University of Aberdeen final year medical students that is a satisfactory format and deliverable to all 200 students, in an efficient manner during their Professional Practice Block (PPB) at the start of 5th year.

METHODS:

- Designed a classroom-based session for 5th year medical students with a 20min presentation (based on GMC Good Medical Practice [2]) followed by a practical component
- Students watched 3 videos of doctor-patient interactions (recorded in the first-person) and documented notes in real-time as the FY1
- Each student discussed their written entries in small student groups with a facilitator, to gain instant feedback
- Session feedback was gathered using questionnaires with Likert scales and free-text comments.
- A follow-up questionnaire after time on the wards assessed student-perceived impact of the session.

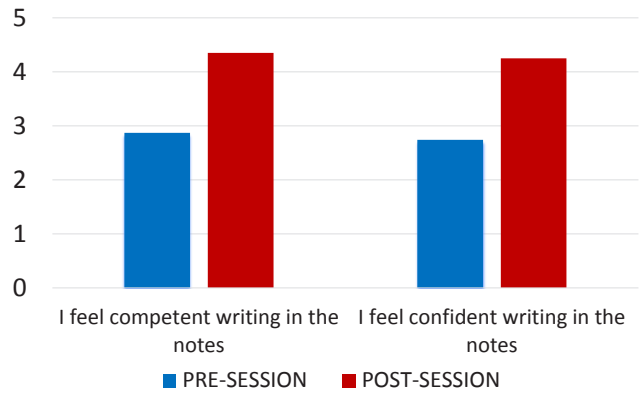
PILOT SESSION (trialled with 26 students during PPB):

- 88% felt the format was a good balance between theory and cases. Comments asked for more cases and practice at writing an IDL.
- We re-filmed the videos to follow 1 patient through their hospital journey (admission, scan results/consent for operation, post-op review and discharge) and have delivered the session to 49 final year students.

ULTS:

3% (n=46) of students 'Strongly Agree' the session et the learning objectives
1% (n=23) 'Strongly Agree' and 9% 'Agree' that deos in the first-person were a useful format udent competence and confidence increased by a ean of +1.5 Likert scale points after the session ig.1)
00% (n=13) of those who responded to a follow-up uestionnaire said they have been able to implement hat they learned in the session on the wards

FIGURE 1. PRE AND POST-SESSION SCORES



CONCLUSIONS:

- This classroom-based session, using first-person perspective videos to allow real-time documentation was very well-received and is an area hungered for by medical students.
- Feedback showed this session was a useful format, met learning objectives and made students more competent and confident when documenting.
- Follow-up feedback showed students are using these skills on the wards and we are undertaking research to assess this formally.

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‘The clinic mimic’: A novel solution to teaching students communication skills in a specialty with limited opportunity for observation

Our experiences of using media to teach sexual history taking

C Grimshaw J Cumming, R Kennedy, R Cairns

Sandyford Central, NHS Greater Glasgow and Clyde, Department of Medical Education, NHS Lanarkshire. ceilidh.grimshaw1@nhs.net

Introduction

Barriers faced when teaching sexual history taking are well documented(1) (2) (3). Teaching methods including workshops and role-play have been described previously. However, a systematic review found insufficient quality data to conclude the best methods of teaching this skill (4).The appropriate approach, use of language and non-verbal skills are challenging to teach out-with the clinical setting.

Methods

Students were asked about the barriers encountered, and which methods they felt would be most beneficial to learn these skills. Videos simulating clinical encounters involving taking a sexual history were created. They are examples of good practice and an example where common mistakes occur (eg. assumption about sexuality). A facilitators’ guide accompanies the video.

Results

Students listed various barriers including awkwardness, unfamiliarity and fear of offending patients. They felt observing clinics would be the optimal approach to learn sexual history taking. Opportunity for this is often limited by clinic capacity and patient consent to observation. In our setting , it is not possible for all students to observe clnics. Therefore, a pilot session was created utilising the videos in conjunction with facilitated discussion to mimic observing clinic and meet students’ needs. It also gives the opportunity to highlight particular areas where appropriate use of language and a non-judgemental approach are vital in this setting.

This teaching method ensures all students have an equal opportunity to utilise role modeling for the hidden curriculum, and discuss good and bad practice in a comfortable environment, without concerns about clinic capacity. This use of multimedia in this way has been shown to be effective in other domains (5).

Issues highlighted in the videos include:
-confidentiality,
-discussing gender of partners,
-discussing genital symptoms,
-discussing risk factors for blood borne viruses .

Discussion and Conclusion

•This use of standardised media, alongside facilitated discussion ensures students gain a minimum level of exposure to sexual histories, where previously it has been limited.

• This could be utilised in settings with similar educational constraints. To further this project, ongoing educator and student feedback will be analysed.

• For education on skills where non-verbal cues and use of language are important, and where clinic capacity or patient consent to student observation are a barrier, media alongside facilitated discussion can be used as an alternative or in addition to observing clinical practice.

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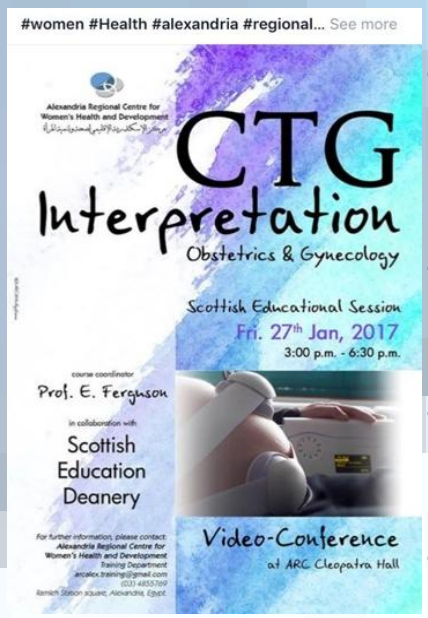
An International Collaborative Learning Event in Obstetrics

NHS Lanarkshire and Alexandria, Egypt

E Ferguson, M Allam, C Paton

Aim.....

To enrich learning experience of obstetric trainees in an electronic fetal monitoring symposium by collaborating with trainees of the Alexandria Centre for Women's Health in Egypt.



Method.....

- Fourteen UK trainees attended the event in Lanarkshire Medical Education Centre and 40 trainees attended by video conference in Egypt.
- The session was led by Dr E Ferguson, Obstetrician, Wishaw General Hospital, in the UK.
- After a short revision tutorial in the principles of electronic fetal monitoring and interpretation, we had an interactive discussion about CTG traces in the context of patient histories and their management.
- Questions and comments were invited from both audiences.

Discussion.....

- This was a very exciting and informative session and both audiences gave positive feedback on this international collaboration.
- There were some initial technical difficulties establishing sound connections.
- Conveniently there was only 2 hours' time difference between the 2 locations, which we held at 2.30pm GMT.
- There were some cultural differences with our guests in Alexandria being more reluctant to contribute to discussions.
- In future ventures, the services of a facilitator in Alexandria will encourage participation so that UK trainees may learn from the Egyptian trainees' experiences.

Future.....

This was an exciting and beneficial venture with positive feedback from both audiences. We can now develop relationships and share experiences with Egyptian colleagues

A Novel Approach to Teaching Sepsis Management Using a Simulated Case of Cellulitis

Dr Jane McManus & Dr Clare Byrne

Introduction

The medical education needs of medical students transitioning to practising doctors is well documented and poses a challenge to educators (1-4). Where possible medical school curriculae are introducing patient contact and practical skills earlier and placing a focus on problem-based learning (5). Severe sepsis and septic shock are major healthcare issues which affect millions of people globally (1). The Sepsis Six has been adopted by many healthcare systems in an effort to reduce mortality (1). During undergraduate training, students may not experience the ward-based management of sepsis. While lectures can provide the theoretical knowledge needed to treat septic patients there may be gaps in the learning needs of student particularly surrounding the practical skills required of practising doctors.

We set out to design, implement and evaluate an interactive method of teaching medical students to diagnose and manage a case of sepsis caused by cellulitis. We did this by simulating a case of sepsis on the ward. Our aim was to introduce students to a task-based clinical simulation which would provide them with the opportunity to practice diagnosing and managing sepsis in a protected learning environment. This scenario could be used by other educators as a tool for teaching the sepsis six protocol.

Method

We created a simulated case of a 22-year old patient with sepsis. Third year medical students were taught using this scenario. Expected learning outcomes were established based on the students' curriculum under the following titles; non-technical skills, practical procedures and clinical examination.

Scenario

The simulated scenario was delivered to a group of five third year medical students. Prior to the scenario, students were briefed on the expected learning objectives. Students were orientated to the simulation area including a short teaching session covering how to take and interpret observations in the early warning score chart, use of oxygen, ABCDE approach for patient assessment, the sepsis six protocol and the SBAR communication tool.

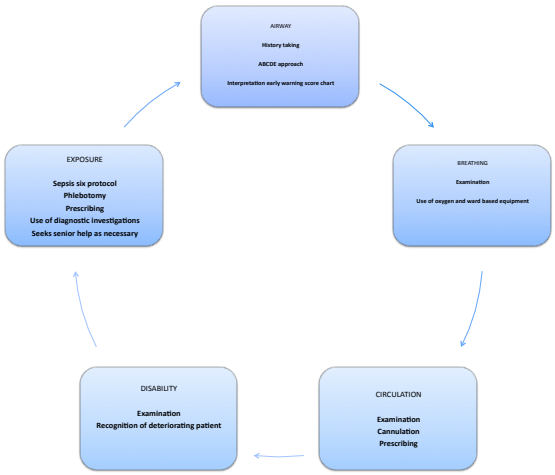
The following scenario was provided: You are the junior doctor working in a general medical ward. You are called by the wards nursing staff regarding a 22-year old patient who is pyrexial, tachycardic and hypotensive.

Students were expected to carry out their assessment as they would with a real-life patient while performing observations, and practical skills including phlebotomy, clinical examination, fluid and antibiotic prescribing. An emphasis was placed on escalating the situation as appropriate. Figure 1 outlines the skills demonstrated linked to the relevant educational domains. Following the scenario, a debrief allowed students to ask questions and revisit difficult aspects of the scenario. Feedback was gathered using student questionnaires.

Figure 1 Skills demonstrated linked to the relevant educational domains.

SEPSIS SCENARIO	EXPECTED OUTCOME	KEY SKILLS
• During this the patient begins to deteriorate • BP drops to 70/35 • Develops rigors	• Establishes patient deterioration • Repeats ABCDE approach • Reassess fluid needs and appropriate fluid prescription • Identified need to escalate situation and calls registrar	• ABCDE approach • Identification of sepsis and actioning sepsis six protocol • Prescribing • Able to identify need to escalate situation and call for help • Use of SBAR to communicate situation to senior

Figure 2 Expected ABCDE approach to sepsis scenario



Results

Overall feedback was very positive. Usefulness scored 9.2 out of 10, content 9/10, and teaching 9.4/10. Students reported feeling more confident managing a septic patient after the session. During feedback students found the following elements of teaching particularly useful:

•The opportunity to manage an acutely sick patient in a clinical setting
•Practicing the use of a systematic approach in diagnosing and managing an acutely unwell patient helped students feel more confident
•Becoming familiar with practical procedures such as taking bloods, ABG blood cultures, urine cultures, insertion of urinary catheter, supplementary oxygen, IV fluids was noted as being very beneficial
•Accessing local antibiotic guidelines
•Calling for help from senior clinicians

Conclusions

•Simulation can be used as a novel method to teach medical students about the management of sepsis
•A debrief after the scenario is important to address any issues or questions that may have arisen as a result of the scenario
•Feedback from the session was very positive with all of the students stating they would like to go through other scenarios to learn how to manage other cases

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SCOTTISH MEDICAL EDUCATION RESEARCH CONSORTIUM

Karolinska Institutet

THE UNIVERSITY OF EDINBURGH

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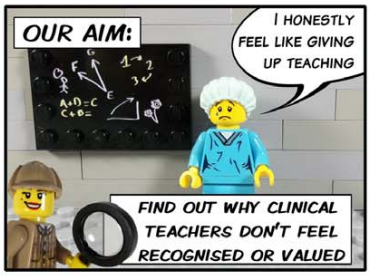
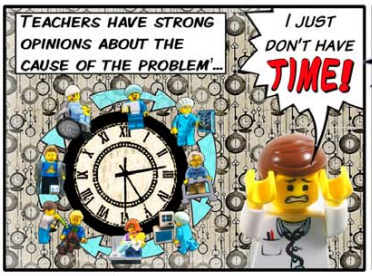
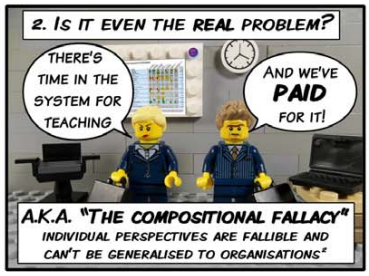
Faculty development research: new ways of seeing

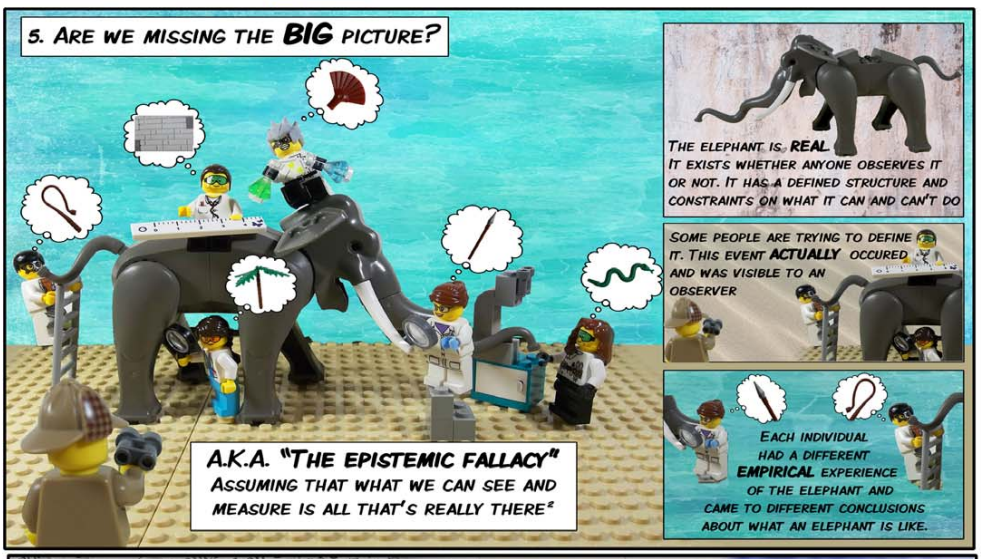
Claire MacRae[1], Michael Ross[1] and Terese Stenfors-Hayes[2]

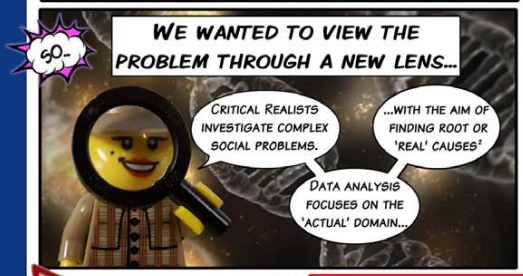
[1] University of Edinburgh; [2] Karolinska Institutet

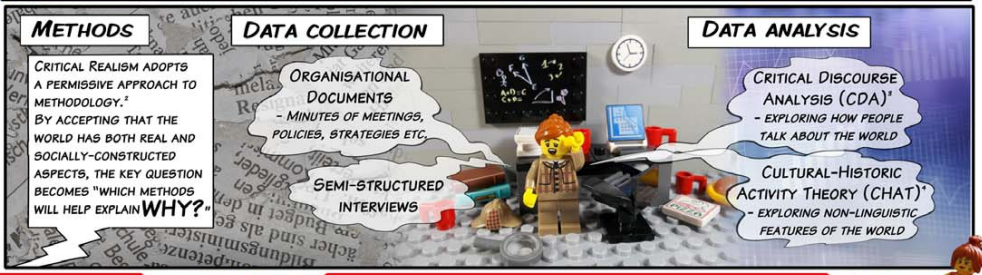




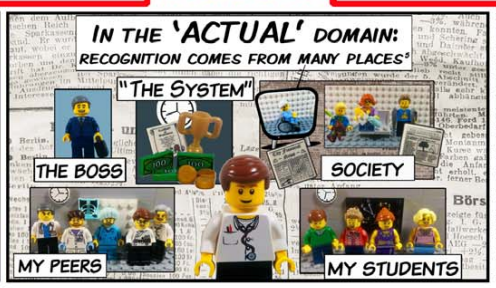


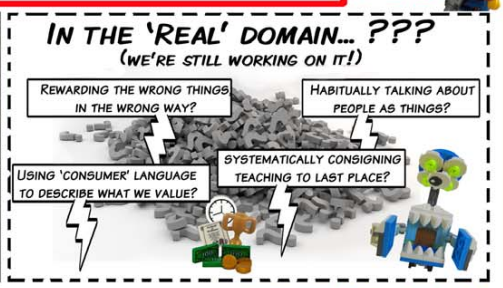


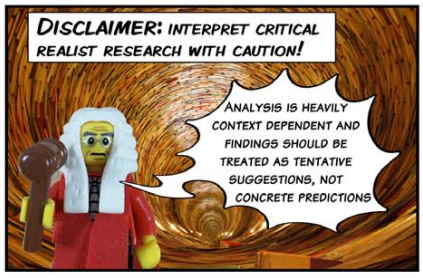




EMERGENT RESULTS — WORK IN PROGRESS – HANDLE WITH CAUTION!







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We would like to thank SMERC / NHS Education for Scotland for funding this PhD project.

Can't we all just get along? Competition, collaboration and peer learning

Authors: Neill Storrar, David Hope, Helen Cameron

Aim

Medical students must develop collaborative skills, but must also compete on ranking and employment. In peer assisted learning (PAL) this contradiction is acute, causing adverse competition and distress(1). We explore how tensions are negotiated and the implications for educators.

Methods

Using grounded theory, medical students from year 4 of a 6 year programme were interviewed about PAL with appropriate ethical safeguards. Views on balancing collaboration and competition, and how this balancing act influenced interactions were explored in depth.

Results

Figure 1 describes student interaction during peer learning, based on 13 interviews. Three themes emerged: educational value, self esteem and interpersonal relationships. These themes anchored student discussions of PAL and justified student behaviour.

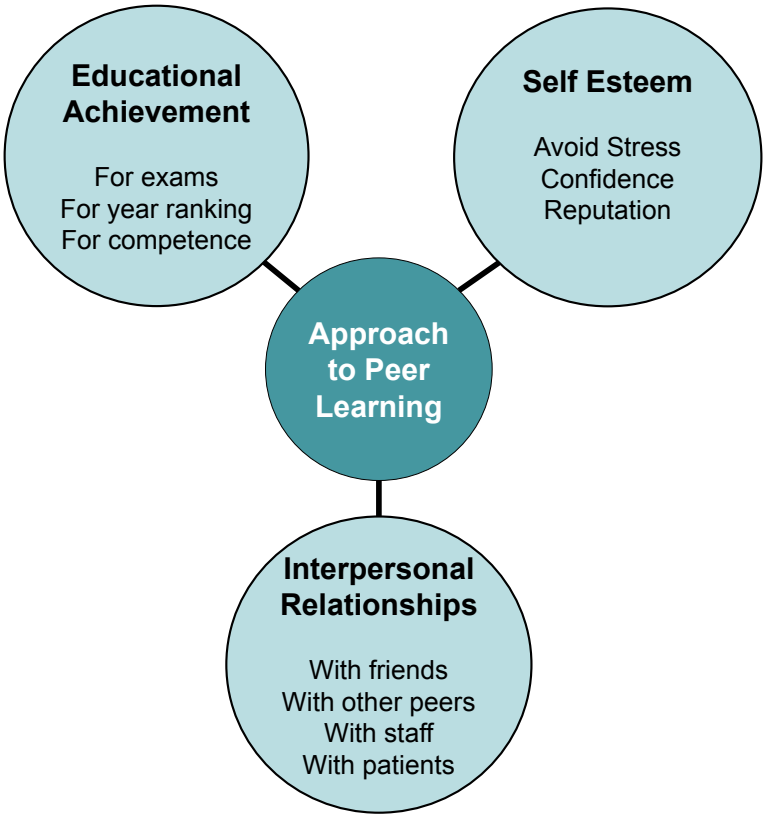

Figure 1 – Student priorities related to peer learning
The weight a student gives these affects student behaviour and the PAL's success – see the example scenarios

Scenario 1 – Stress versus Educational Value

The stress of peer comparisons inhibits collaboration:

"For written exams, no one talk to me…I find myself spiralling in anxiety...studying on my own is less stressful but not as beneficial."

Educational value is more important when stress is lower:

"I'm more confident in [practical skills] so having other people around's a bit easier… having someone ask you 'what are you looking for?' is really helpful."

Scenario 2 – Good Relations over Education

This accounts for the common resistance to giving constructive feedback in case it offends colleagues, thus limiting collaboration:

"being friends, they don't tend to say 'oh you could do this a bit better'"

Scenario 3 – Education over Peer Relations

Students may reject collaboration in favour of competition, as in rare but concerning examples of 'selfish' behaviour:

"*you know you're going to be ranked … so there are people purposefully not sharing notes… or the odd person that's a bit cutthroat and won't tell you that this person's got good signs …'*

Discussion

The model describes how students both compete and collaborate during peer learning. Prioritising an area may have positive and negative effects (contrast e.g. scenario 1 and 3). Decisions are situation- and student- dependent. However, explicitly examining these three areas can provide educators with strategies for improving PAL.

The model does not yet explain how students determine educational value, how they cope with unprofessional peers, or environmental effects. Our future work will address these issues.

Conclusions

Students have competing goals in peer work that alter behaviour. Educators must account for these goals or the quality of peer work projects will suffer. Designing PAL that is 'good for grades' but neglects students' wish to avoid stress and maintain peer relations will limit its success.

These factors can work to our advantage e.g. promoting peer relations reduces stress and improves collaboration using PAL.

References

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ADDITIONAL INFORMATION

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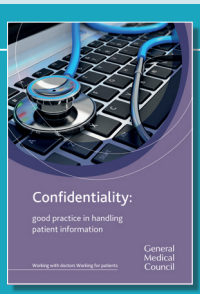
The GMC guidance story

General Medical Council

Aim

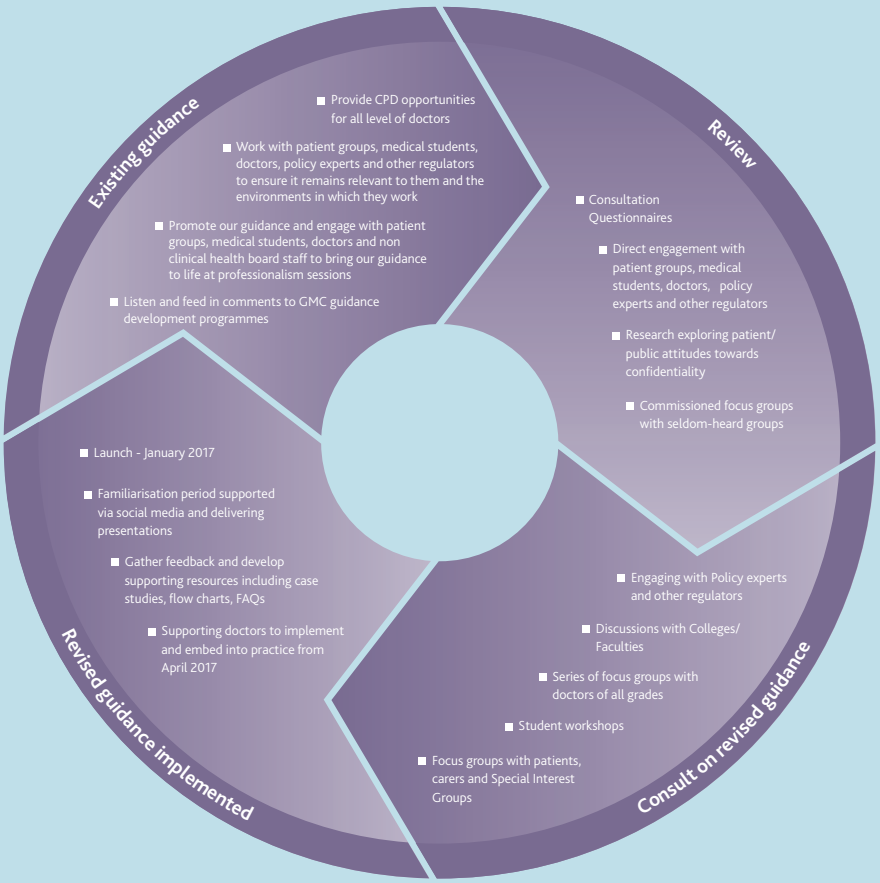
The General Medical Council (GMC), through its guidance, supports doctors to meet the ethical standards we require of them. With a view to supporting quality improvement and patient safety we deliver a promoting professionalism programme for medical students and doctors. Though the values underpinning medical professionalism may remain constant, the context in which those values are played out is always changing. Through our sessions we encourage the doctors and students to feed into the ongoing development of our guidance.

Result



- **Simplified framework** with **flowchart** to illustrate the decision-making process
- **Re-structured** to more clearly reflect the ways doctors use patients' information:
  - for direct care
  - for protection of patients and others
  - for secondary purposes
  - section on managing and protecting information
- **More clarity on the law,** including enhanced legal annex and key legislation fact sheet.

Method



Conclusion

Working with doctors | GMC guidance promotion and review | Working for patients

Our strapline is '*Working with doctors, working for patients*' and that has been borne out through this process. We will promote our new guidance with doctors and medical students to help them to understand and embed the principles in their practice. We will also develop materials to help patients to understand how doctors should handle their confidential information. We will use these avenues again - and develop new ones - as we embark on the forthcoming review of our consent guidance.

> "I commend the careful work that has gone into producing the GMC's revised guidance, which is clear and thoughtful, and will help doctors navigate what can be a complex area."
>
> **Dame Fiona Caldicott**, the National Data Guardian for Health and Care, England.

> "Thanks for the opportunity to contribute to this important work on revisions & update."
>
> **Craig White,** Divisional Clinical Lead, Scottish Government.

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The Trouble with Trusting. An Exploration of Current Clinical Supervision of Foundation Doctors in South East Scotland: Trainee and Supervisor Opinion

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Aim:
Entrustable Professional Activities (EPAs) aim to bridge the theoretical aspects of competency-based education and clinical care. They evaluate the learner's performance in terms of the amount of supervision recommended for a clinical task.

Data regarding their utility as an assessment is however limited to the postgraduate context. We therefore aimed to determine the perceived need for EPAs in the context of final year undergraduates who are about to make the transition into the Foundation Programme.

Methods:
We conducted an online survey of Foundation doctors working in medical and surgical wards in South-East-Scotland and their supervisors (n = 464) regarding their opinions of current clinical supervision.

Both groups were asked if they would value information about supervision requirements on an individualised basis, both generally and in terms of specific tasks.

Results:
Our response rate: was 44% for FYs and 56% for supervisors.

50% of FY1s and 36% of FY2s agreed or strongly agreed that it was difficult to know what tasks they could undertake unsupervised at the start of a post.

An even larger number of Foundation doctors also agreed or strongly agreed that it was difficult to know how much supervision to expect for a specific task (68% of FY1s and 63% for FY2s).

And whilst over 85% of Foundation trainees felt confident to ask for supervision, over 50% felt that they sometimes had too little.

Currently 67% and 77% of supervisors feel confident when delegating tasks to FY1s and to FY2s respectively.

However there was a significant range of responses when we asked supervisors to estimate how long it takes to accurately gauge the abilities of an FY1 or FY2.

High proportions of FY1s and FY2s would value individual information about the level of supervision they require at the start of a new job both generally (85% of FY1s; 80% of FY2s) and on a task-specific basis (Figure 1). Approximately 60% of supervisors would find individualised information regarding the level of supervision generally required by their FY useful. Just over 50% of supervisors would also value this information on a task-specific basis (Figure 2).

"At the start of each placement I would value having individualised information about the levels of supervision I require/d for each specific task"

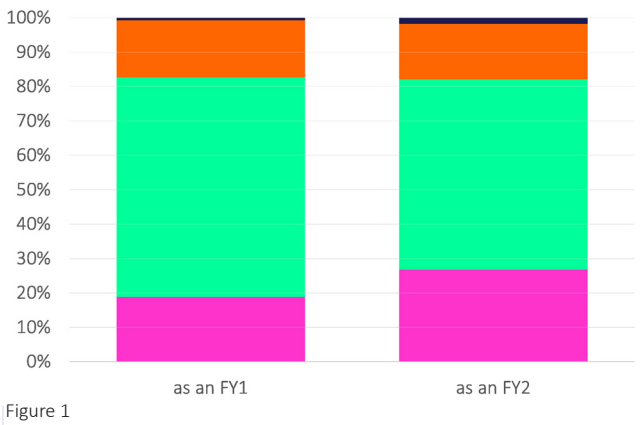

Figure 1

"At the start of each placement I would value individualised information about levels of supervision required for specific tasks by an…"

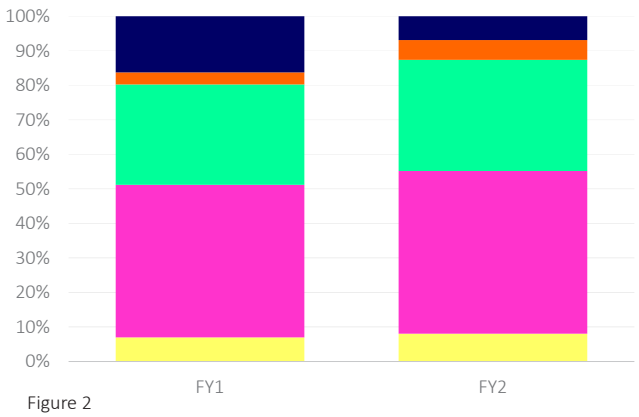

Figure 2

Conclusions:
Foundation doctors often do not know how much supervision they ought to have at the start of a new placement and they would value this information both generally and for specific tasks.

Although the majority of supervisors felt confident in being able to appraise a trainee's ability, over half of respondents also indicated that having individualised information regarding the amount of supervision required by their FY would be helpful.

Further development of EPAs for this stage of undergraduate training therefore appears to be justified.

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Evaluating two interactive 3D tools for the teaching of heart anatomy

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UNIVERSITY OF ABERDEEN

Introduction

Virtual learning environments (VLEs) provide remote access to 3D material, allow interaction with 3D models and can be adapted to different learning outcomes (Fig. 1). In contrast to VLEs, 3D PDFs allow easy storing and sharing of 3D models, but do not provide feedback on performance (Fig. 2). Current Anatomy VLEs lack self-assessment exercises to learn how to orientate a heart correctly, although this task is vital for understanding the anatomy of the heart. In this study, we developed two learning tools for heart anatomy, a VLE and 3D PDF, and asked staff and students to evaluate the usefulness of these tools.

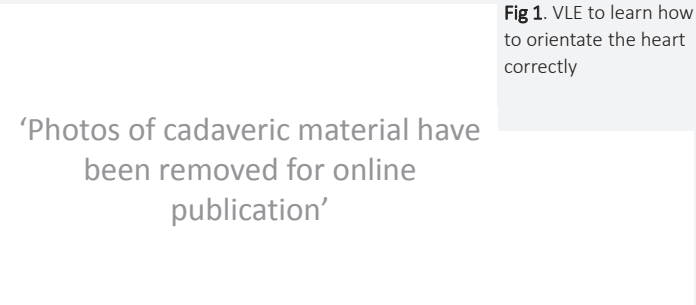


Fig 1. VLE to learn how to orientate the heart correctly

Fig 2. Interactive 3D PDF

Materials & Methods

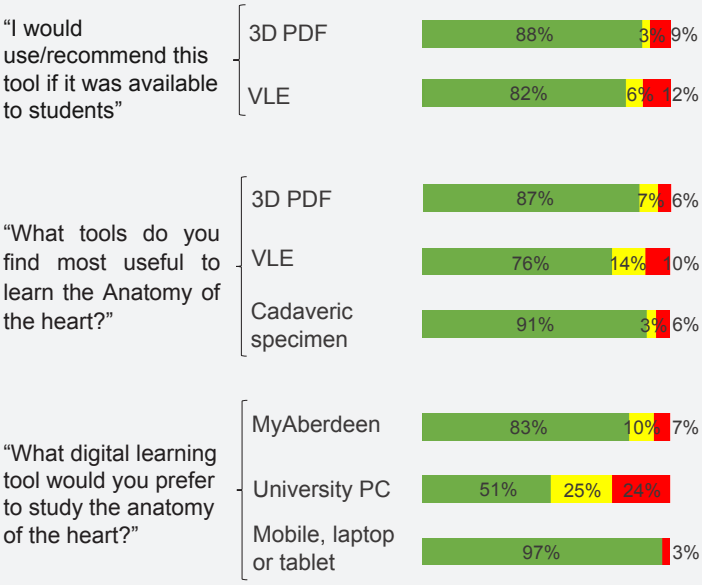
We created a 3D model of a cadaveric heart using photogrammetry, i.e. by taking photos from different angles around the specimen and using a software for 3D reconstruction. The same software allowed the generation of a 3D PDF. We used a game-engine to develop a VLE in which users have to orientate the heart model correctly. To evaluate these learning tools, we handed out questionnaires to 61 undergraduate Anatomy students (year 1) and 5 staff members.

Results

The answers provided by the students are shown below. Answers from staff members were very similar to students', with only slight variations in the percentages.

Conclusions

- Photo-based models are seen as **realistic and with high level of anatomical detail**.
- Students and staff would **recommend** using these tools, particularly **before or after practical classes**, as a **reinforcement** and for **self-study**.
- **Cadaveric specimens are considered the most useful tool** to learn how to orientate the heart in its anatomical position; our VLE and 3D PDF cannot be used as a replacement. The 3D PDF was considered slightly more useful than the VLE to learn this task. This might be explained by the high precision level needed to orientate the heart correctly in the VLE (a range of 30° only). The VLE must be adjusted to the students' anatomical expertise in order to make it more useful as a learning tool.
- **Mobiles, laptops and tablets** are preferred by students and staff to access these tools.



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Near-Peer Teaching - How can we reach students in the South-East ?

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Background and Purpose

Postgraduate and Undergraduate Learning in the South-East (**PULSE**) is an established near-peer teaching programme running in South East Scotland, which enables junior doctors to deliver additional teaching to medical students to complement compulsory teaching. Teaching was successfully delivered throughout 2015 and 2016, however sessions were often under-subscribed, leading to disengagement of teaching faculty. In order to improve student participation within PULSE, a quality improvement approach was adopted to identify and tackle barriers to student and faculty engagement, beginning in August 2016.

Aim Statement: To improve the average student attendance at PULSE teaching sessions to more than 70% of spaces filled by March 2017.

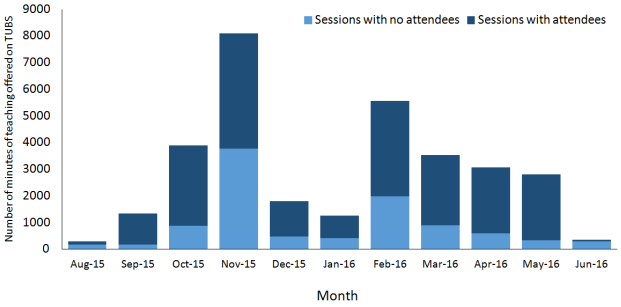
Informing change

Are medical students aware of PULSE, and do they know how to sign up to sessions?

56 medical students surveyed:
- **42%** had heard of PULSE.
- Of those, **26%** had an understanding of what PULSE offers.
- **89%** had used Tutorial Booking System (TUBS) previously.

How do medical students think we can improve PULSE?
Increase awareness through social media sites, and online university discussion boards.

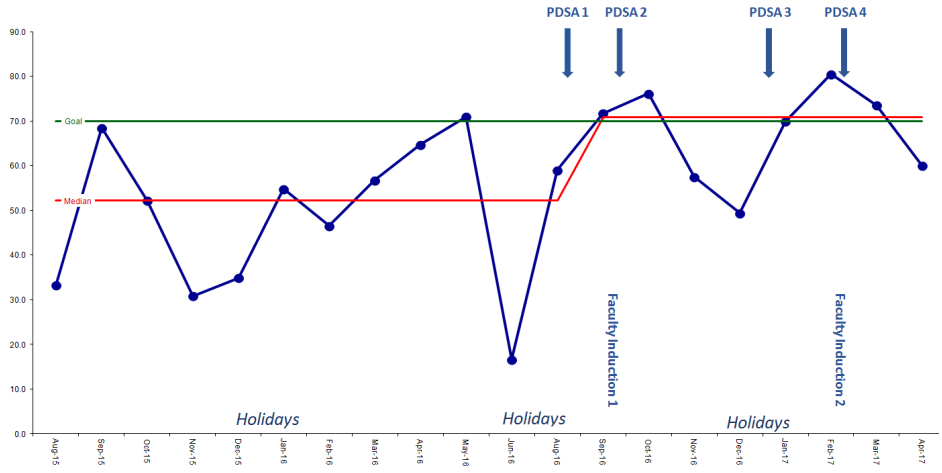
Total teaching time (in minutes) offered and proportion of sessions with no attendees from August 2015 – June 2016



Perceived barriers to teaching delivery from faculty derived from semi-structured interviews

Interventions and Results

Run chart demonstrating average student attendance rate over time from August 2015 – April 2017



PDSA 1: Tackling student awareness and engagement – introducing student representatives and Facebook
PDSA 2: Tackling faculty awareness and engagement – developing faculty induction
PDSA 3: Tackling logistical difficulties – via PULSE newsletter with resources and helpful hints for faculty
PDSA 4: Tackling faculty engagement and session delivery – restructured faculty induction based on feedback

Student feedback collected on TUBS

Procedural Skills
"Close supervision…Great opportunity to practice clinical skills…provided numerous useful tips and valuable feedback"

Acute Care Tutorial
"Well organised with equipment and time….Very useful….helpful for finals…. More sessions!"

Sepsis
"Relevant…challenging and learned a lot…useful for future practice…Clear learning objectives"

Prescribing for Finals
"Just what I needed…great exam tips…great clinical relevance…good practice….interactive sessions"

Year 3 & 5 Prescribing
"Useful for FY…good practice…very clinically relevant…very helpful in finals…case-based and common scenarios"

Conclusions and Next Steps

Using quality improvement methodology, simple and reproducible interventions were employed based on feedback from faculty and students. These have been shown to successfully improve student attendance at this near-peer teaching programme, thus enhancing faculty experience and morale. A median of 70% average attendance has been achieved since August 2016.

This is an ongoing project with scope to further improve teaching delivery and uptake, whilst improving the teaching experience for both students and faculty. For example, there is variation in both session delivery and attendance rates between different teaching topics. Further work is required to better understand such variation and inform ongoing change ideas.