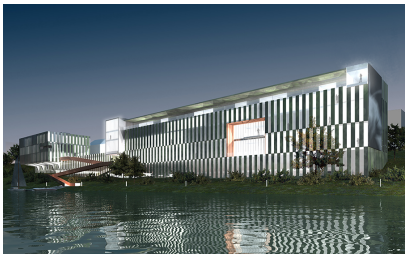
University of Maribor
Faculty of Medicine

ÖGHD
Österreichische Gesellschft
für Hochschuldidaktik

22. Grazer Konferenz

Maribor | 5. - 7. April 2018

Whereto is Medical
Education Going



Editor: Östrreichische Gesellschaft für Hochschuldidaktik (ÖGHD), Vienna, Austria
Layout: Dr. Herbert Plass
Images:
- Frontpage:

- all other imges: Authors of contributions
Printed by:
ISBN: 978-3-200-05654-1

Conference Venue:

Faculty of Medicine, University of Maribor
Taborska ulica 8,
2000 Maribor, Slovenia

Organisers: Faculty of Medicine, University of Maribor
Österreichische Gesellschaft für Hochschuldidaktik

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2 Welcome

Dear guests

Welcome to the 22nd Graz Conference hosted by the Faculty of Medicine, University of Maribor Slovenia. It is our great honour to host this conference.

The school itself was established in 2003 as the 2nd medical school in the country. Our institution enrolled in 2004 its first medical students, a group of 80 undergraduate students. Students complete a six-year undergraduate medical degree leading to the title Doctor of Medicine (dr. med.). As of 2017, the school has more than 600 graduates. The institutions‘ youth is an important factor in its‘ development and implementation of innovative pedagogical approaches. Therefore, the curriculum has incorporated right from the beginning problem-based-learning (PBL) as well as a swift transfer of pedagogy from preclinical to clinical subject matters. During the academic years 2016-17 our curriculum has received its‘ third academic overhaul, adding to the curriculum core entities such as approaches to evidence based methods, emergency medicine and additional clinical experience components.

The innovative spirit of the Faculty of Medicine University of Maribor is encouraged through the medical education research initiative and student engagement in the curriculum. Student engagement is a strong asset of the school. Students are incorporated in all aspects of decision making and planning. This school asset has also been honoured through the ASPIRE award for excellence in medical education for student engagement. Adding to that is the Centre for Medical Education and Clinical Skills Laboratory enabling students and teachers to engage in medical education research. This has led to several active participations at medical education conferences and publications in impact journals. It is our commitment to foster the development of medical education research further and with this enable the implementation of new, evidence based approaches to medical education in our curriculum.

A step towards this goal is also the Graz Conference on Medical Education. The staff of the Faculty of Medicine wishes you an enjoyable and educative stay at our institution. May this conference lead to many new ideas, cooperations and benefits for our students!

Professor Ivan Krajnc, Dr. med.
Dean of the Faculty of Medicine, University of Maribor

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11:00	Workshops	
12:30	Lunch	onsite
14:30	Lecture	Milić
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Gala-Dinner, lunch and coffee breaks in the cafeteria

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coffee break in the cafeteria

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A. . . Hall 20, 2^{nd} floor
B. . . Hall 2, 2^{nd} floor
C. . . OSCE room, ground floor

Workshop 1a, 5. 4. 2018, 14:00

Entrustable Professional Activities for beginners.

Harm Peters

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Entrustable Professional Activities (EPAs) have emerged as a meaningful concept to structure and assess the learning progress in competency-based medical education (CBME). The increasing employment of EPAs in various specialties of postgraduate and more recently in undergraduate medical training has experienced successes, challenges and pitfalls.

The goal of this workshop is to provide the attendees with an update on the concept of EPAs in CBME and to create an opportunity for attendees to share and reflect on their own ideas and approaches for employing EPAs in their medical training programs.

Following a brief introduction to the EPA concept, small groups will discuss actual conceptual and structural challenges in the design, implementation and assessment of EPAs in various settings. Potential specific EPAs will be formulated and discussed. Focus will be on the appropriateness of the presented EPAs for different stages of training and on how the EPA concept can contribute to the continuum of clinical education.

Workshop 1b, 5. 4. 2018, 14:00

PoCUS workshop - how to *the* and *with* PoCUS

Gregor Prosen

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PoCUS (Point-of-care Ultrasound) has become indispensable tool in clinician's armamentarium and is being incorporated in increasing numbers of medical schools. At the workshop, we will demonstrate main uses of PoCUS described in medical schools: augmenting anatomy and physiology learning, enhancing cardiac clinical exam and performing FAST exam as in trauma patient assesment.

Workshop 1c, 5. 4. 2018, 14:00

Competency-based education: how to assess competencies with EPAs? Meaningful assessment in competency-based education can be supported by the evaluation of students' performance of professional activities

Chantal C.M.A. Duijn[1] and Mira Mandoki[2]

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Background: An important aim of education is to ensure that students can competently practice relevant professional activities by the time they complete their training. The demonstration of appropriate skills during clerkships and direct assessment of clinical competence are important targets of competency-based educational (CBE) programs. Better patient care, caused by better acquisition of clinical skills by learners is associated with enhanced supervision in competency-based education. Competencies tend to be defined in a rather abstract manner, making it challenging for clinical supervisors to provide meaningful feedback.

The recent educational innovation of Entrustable Professional Activities (EPAs) could increase insight into students' clinical abilities and competencies in clinical practice. EPAs are units of professional practice that clinical faculty may entrust to a student to execute unsupervised once he or she has obtained adequate competence to do so. EPAs should be carried out within a given time frame, be observable and measurable, and allow focused entrustment decisions. Assessing students by means of EPAs requires that assessment moments should be aligned with the students' clinical workplace experience.

Clinical expertise depends not only on adequate teaching, but also on accurate and detailed assessment and feedback, which are manifestations of supervision. The shift to competency-based education has challenged educators in medicine to develop new methods of teaching and assessing clinical competence. The ultimate purpose of assessment is typically not to know how learners have acted in the past, but to predict how they will act in the near future.

This workshop addresses the design of CBE and the alignment with EPAs, the different assessment tools and how to use them effectively for entrustment decisions.

Structure of workshop: A combination of lecture, discussions, and small group activity. Lecture and discussion topics include the role of learning objectives in deciding what to assess; samples of test blueprints and their key characteristics; a toolbox of assessment methods and a framework for determining an optimal method for different assessment purposes. Participants will be given time to work in small groups. These small groups allow participants to create EPAs and to discuss about it.

Intended outcome:

Participants will:

A. Get a short introduction of CBE
B. Get a short introduction of the EPA concept
C. Get insight in different assessment tools and their usability in CBE
D. Know how to use EPAs in CBE

Who should attend: Medical and veterinary medical educators, staff and teachers who are willing to learn strategies about teaching at clinical workplaces and use EPAs in order to assess competency development.

Workshop level: Intermediate

Workshop 2a, 6. 4. 2018, 11:00

Faculty development, interactive exploration how to enhance teaching in your medical school

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In a plenary introduction two dimensions of teacher development are briefly sketched: one dimension is aimed at becoming and staying an effective teacher, the other dimension is aimed at career development as a medical educator.

Becoming and staying an effective teacher is not self-evident but requires reflective practice and continuous professional development to keep up with changes in the teaching and learning environment. Some examples are new information technology (IT) tools to support and enhance learning, societal changes that may lead to new learning objectives, institutional strategies and educational models that introduce new didactic approaches, and advancements in educational knowledge.

Career development as a medical educator requires not only being an effective teacher, but in addition requires adaptation to new roles with increasing complexity and influence. A career framework developed by Ruth Graham (www.careerframework.com) describes four steps of development: effective teacher, skilled and collegial teacher, institutional leader and/or scholarly teacher, national/global leader in teaching and learning.

To support teacher development, in either of the two dimensions, four factors are of importance: competencies, context, career and community. In four breakout groups, participants will explore these factors by discussing personal experiences, current practices, and new ideas that could be implemented in their own institution. Finally the four groups will present their top three ideas and these will be discussed plenary with all participants.

The goal of the workshop is to spark enthusiasm and develop concrete plans that can be implemented after the conference.

Note: the workshop will build on the content presented in the keynote lecture “Faculty development: fostering teaching quality and educational innovation”. It is possible, however not recommended, to participate in the workshop without having attended the lecture.

Workshop 2b, 6. 4. 2018, 11:00

Let's Get Specific – Designing curriculum with reciprocal links between goals & objectives and assessment

Debra Klamen

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Following on the heels of her earlier presentation, Dr. Klamen will work with participants to specifically address their needs with regards to the linkage of goals & objectives, curricula, and assessment. Workshop participants will work in small groups as they encounter curriculum exercises, in order to familiarize themselves with the process. Goals and objectives will be discussed in the framework of "What do I want to end up with?" Curriculum will be discussed in the framework of "How do I get there?" Assessment will be discussed in the framework of "How will I know I've gotten there?" Throughout, Dr. Klamen will work with the audience to understand the importance of these three components to a medical education, and how they must be linked to achieve the competency of graduates. After the examples have been worked, participants will work with Dr. Klamen on specific issues directly from their own experiences with the current educational training programs at their schools.

Workshop 2c, 6. 4. 2018, 11:00

How to Evaluate and Improve Competence-Based Higher Education

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In competence-based higher education the definition of intended competences, which students shall acquire by a study program, is fundamental. Based thereon, continuous monitoring of the teaching process and the students' competences is also vital as well as using these data for developing measures that are helpful for enhancing competences.

However, evaluation instruments on study program level for competence -based higher education are scarce. Therefore, at the Vetmeduni Vienna, the so called "Competence Check" was developed in 2013. Other universities got interested in this approach. Now, the approach of the Vetmeduni Vienna has been further developed within an EU funded Erasmus+ project called "Internal Quality Management: Evaluating and Improving Competence-Based Higher Education" (project duration: Sept 2015-Aug 2018).

In this workshop, the developed procedure and toolkit for Internal Quality Management in Competence-Based Higher Education (IQM-HE) will be presented. This Toolkit was developed by practitioners, researchers, and quality assurance agencies and -associations. It assists universities in implementing a multi-perspective participative approach for (self)evaluating students' competences and competence - based teaching and learning. It includes a wide range of hands -on materials like a handbook, information material for different stakeholder groups, ideas for workshops, questionnaire- and report templates, and a collection of ideas and measures for improving competence-based higher education. Furthermore, the Toolkit is easy to adapt to different field of studies.

Participants of this workshop will have the opportunity to...

- ... get to know the Toolkit.
- ... apply and reflect some tools of the IQM-HE Toolkit.
- ... discuss with persons, who implemented the Toolkit at their universit y, their lessons learnt.

Target audience:
Persons who are interested in Competence-Based Higher Education and Quality Management.

Main objectives:
Participants will...

... learn more about practical and flexible tools for defining, screening and enhancing students' competences
.... learn more about the advantages of a participative approaches in evaluation and about helpful implementation strategies.
... get to know the IQM-HE framework of the European Toolkit.
... get an idea how to apply the IQM-HE framework within a Higher Education Institutions.

Activities:

- Inputs
- Group work
- Discussions

Further Information: www.iqm-he.eu

Disclaimer: The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

Workshop 3a, 6. 4. 2018, 16:00

Meaningful feedback: How to motivate our students
Motivation of the students is crucial to enhance their activity and feedback-seeking behavior in the clinical workplace

Mira Mandoki[1], Chantal C.M.A. Duijn[2]

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Background: Feedback is one of the most powerful influences on learning. Both positive and negative feedback can enhance the learning process. Providing meaningful feedback in a dynamic learning environment such as the clinical workplace is often perceived as difficult by supervisors but is even more essential when weighed against assessment. Receiving feedback while in the clinical workplace is probably the most frequently voiced desire of students to support their learning. Especially when students are expected to be more self-directed and proactive in improving their clinical performance, feedback is essential. Feedback can stimulate learning and competence development by encouraging students to perform well and identifying inadequate behavior.

The use of entrustable professional activities (EPAs) can help to improve student assessment within competency-based education. EPAs are defined as 'a unit of professional practice that can be fully entrusted to a trainee, as soon as he or she has demonstrated the necessary competence to execute this activity unsupervised'. EPAs are executable within a given time, observable, measurable, confined to qualified personnel and suitable for focused entrustment decisions. EPAs are also referred to as core activities showing the importance of the learning objectives. By defining EPAs, students' competencies are grounded in day-to-day clinical practice and these EPAs connect feedback on performance with entrustment decisions. Giving students responsibilities for patient care is a major challenge and a possible threat to patient safety. Feedback within the context of EPAs is therefore likely felt to be more relevant and more crucial by both learners and teachers. Feedback-seeking behavior is influenced by three primary motivators: the desire for useful information, the desire to enhance one's ego, and the desire to protect the impressions that others hold on the subject. This workshop will show the way to give meaningful feedback to students which helps them acquire competency in given tasks of patient care.

Structure of workshop: A combination of lecture, small group discussions, sharing ideas and overview by the participants. An introductory lecture will explain about assessment, the proper way of giving feedback and will show some strength and usual weaknesses during evaluation of performance. A short video will be shown and the participants will discuss in small groups their feedback. Participants will be given time

to work in small groups. These small groups allow participants to share their thoughts and discuss about it.

Intended outcome: Participants will:

A. Get a short introduction to assessment techniques

B. Practice to give motivating feedback

C. Know how to use it in their own teaching

D. Learn how to give meaningful feedback to the learners while/after performing a specific EPA

Who should attend: In general medical and veterinary medical educators, staff and teachers who are willing to learn strategies about teaching and evaluation at clinical workplaces using demonstration in order to enhance the students' ability to seek and give feedback

Workshop level: Intermediate

Workshop 3b, 6. 4. 2018, 16:00

PBL- Dead Man Walking?

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Problem-based learning is an important method for learning in medical education and started at McMaster University in 1969.
PBL is constructive, self-directed, collaborative and contextual.

- Universal features of PBL are:
  - a (patient‘s) problem as stimulus for learning
  - small groups (8-10) instructed by tutors
  - students determine their own learning needs to address the problem and evaluate their own outcomes
  - cooperative learning
- PBL cases are critical for the process and need to meet specific criteria
- PBL tutors need instructions as well
- Implementation of PBL in the clinical years can homogenize the experience to meet competences but does not replace contact with patients
- Assessment with PBL is hard (methodological problems)
- PBL shows: generally high satisfaction by students, faculty and a trend to improve clinical knowledge and working

In the workshop we will first find out, how PBL is being used in different schools/ curricula and then we will assess which efficiency is achieved, what are the advantages and what are the pitfalls.

Workshop 3c, 6. 4. 2018, 16:00

Physiology interactive: an exchange of teaching techniques

Jurij Dolenšek, Klara Fluher, Primož Jarc, Andraž Stožer

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In this workshop we will share experience across several years of performing seminars in the field of (patho)physiology for medical students. A novel approach of giving seminars and obtaining a final grade will be presented. Judging from student feedback this approach seems much appreciated and helpful.

5 Lectures, Round Table

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A. . . Hall P18, ground floor
B. . . Hall P19, ground floor

Lecture, 5. 4. 2018, 11:45

Moving a mountain: practical insights on mastering a major curriculum innovation

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Undergraduate medical education is currently in a fundamental transition towards competency-based programmes around the globe. A major curriculum reform implies a dual challenge: the change of the curriculum and the delivering organisation. Both are closely interwoven. This presentation provides practical insights into the approach of managing such a fundamental reform of the large undergraduate medical programme at the Charité – Universitätsmedizin Berlin. Starting point was a traditional, discipline-based curriculum that was reformed into a fully integrated, competency-based programme. This change process went through three phases: initiation, curriculum development and implementation, and sustainability. We describe from a change management perspective their main characteristics and the approaches that were employed to manage them successfully. As key curricular structure served Entrustable professional activities (EPAs) as end-of-training outcomes and their gradual nesting over the curriculum.

Short Lecture, 5. 4. 2018, 16:00

Microlearning at the Medical University of Graz

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Background: Microlearning is an innovative e-learning method characterized by learning in small steps, using particularly mobile devices such as smartphones (1). The Medical University of Graz and the Medical Faculty of the University of Linz participate in a research project called "Microlearning in medical propedeutics", funded by the Austrian federal Ministry of Education, Science and Research, where the Medical University of Graz is the leading partner. The project uses the software KnowledgeFox® in order to set-up a micro learning environment at the two universities. Here we report on the utilization of the microlearning system, first educational research results using microlearning, and student's feedback.

Utilization of the microlearning system: The KnowledgeFox software was installed and adopted to the individual requirements of the two universities in spring 2017. With the start of the winter semester in October 2017 we started a pilot trial with the students. Meanwhile, 133 courses with 504 lessons, comprising 11.817 knowledge flashcards, have been created. The overall topics for the courses are mainly histology, embryology, and pharmacology. Some of the knowledge flashcards are propositional cards according to the multiple-true-false format (MTF), some are conventional multiple choice-single select or multiple choice-multiple select cards. Each knowledge card consists of a question and 2 to 5 answer options. Each answer is accompanied by comprehensive feedback. As far as educational psychology is concerned, KnowledgeFox utilizes the "spacing effect"(2) and the "testing effect"(3), based on "Leitner's algorithm" (4). Until February 2018, 498 students have actively used the microlearning system and have performed 175.652 learning steps.

Experimental education research studies: In a simple pre-test – post-test design with 54 students, propositional multiple true-false microlearning provided a knowledge gain from 41±23]% to 89±14% (t-Test: $p<0.001$; effect size $d= 2.08$). 10 to 14 weeks later, the effect was still significant (53±25%; $p<0.01$; $d=0.52$). In another pre-test – post-test experiment with conventional multiple choice cards there was an increase from 40+-24% to 96±13% ($p<0.001$; $d = 2.33$). Finally, in a third experiment we evaluated whether the students were able to acquire knowledge that they can paraphrase in their own words. The students produced a mean of 8.5±3.5 propositions out of 20 propositions provided in the learning sequence.

Student's feedback: The statement "I consider microlearning as a good method" reached a mean value of 1.42 on a 5-point Likert scale. The students particularly considered microlearning as a useful additional learning method complementing other learning formats (1.35), and less as a replacement of other formats (2.69). The students would value to have more topics supplemented by microlearning (1.67).

References:

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Short Lecture, 5. 4. 2018, 16:00

Factors influencing assessor's checklist and global scores at OSCE

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Background: Objective structured clinical examination (OSCE) has become a leading method for assessing clinical skills. Performance is evaluated using checklists, usually combined with global rating scales (GRSs) (1). OSCE assessors are prone to biases such as stringency-leniency effect, time effect, gender effect, etc. (2,3).

The aim of this study was to identify assessor biases, and to compare its influence on global and checklist scores.

Methods: The study was carried out during OSCE in November 2017. Fifty-five 3rd year medical students and ten 4th-6th year assessors were included. Examinations of the cardiovascular system were evaluated with checklists and GRSs. The global score was divided by researchers into 4 categories: communication (15%), theory (25%), technique (40%), and findings report (20%) graded 5-10.

Mann-Whitney U-test and factorial ANOVA were used. Independent predictors were identified using a model of multiple linear regression. Statistical significance was set at $p<0.05$.

Results: Lower global scores were given with less than 3 candidates assessed ($p=0.035$) and with the assessor in the 6th year ($p=0.021$). The results were higher in the afternoon ($p=0.041$) and with students graded by female assessors ($p=0.048$) (fig. 1).

Lower checklist scores were achieved with students reaching 100% of the allocated time ($p<0.001$) and with the assessor in the 6th year ($p=0.002$). Higher results were achieved with 85-95% of allocated time used ($p=0.028$) and with more than 10 candidates assessed ($p=0.043$) (fig 1).

Number of assessments prior the candidate was a positive predictor ($\beta=0.288$, $p=0.011$); male gender ($\beta=-0.218$, $p=0.049$), assessor's grade ($\beta=-0.310$, $p=0.006$), and the time used ($\beta=-0.415$, $p<0.001$) were negative predictors of the checklist score.

Discussion: Both assessment methods were prone to stringency-leniency effect negatively modulated by the 6th year of the assessor and less than 3 prior candidates

Table 1: Univariant analysis of the hypotheses

VARIABLE	GLOBAL SCORE T vs. NT; mean±SD (n)	p	CHECKLIST SCORE T vs. NT; mean±SD (n)	p
Stringency-leniency effect				
>10 PRIOR CANDIDATES	9.16±0.71 vs. 8.97±0.75 (n=10 vs. n=45)	0.540*	**9.59±0.38 vs. 9.18±0.61 (n=10 vs. n=45)**	**0.043***
<3 PRIOR CANDIDATES	**8.57±0.92 vs. 9.16±0.59 (n=15 vs. n=40)**	**0.035***	9.02±0.73 vs. 9.34 ±0.51 (n=15 vs. n=40)	0.170*
AFTERNOON	**9.34±0.57 vs. 8.89±0.76 (n=14 vs. n=41)**	**0.041***	9.48±0.42 vs. 9.18±0.63 (n=14 vs. n=41)	0.160*
ASSESSOR IN THE 6TH YEAR	**8.36±0.88 vs. 9.11±0.66 (n=8 vs. n=47)**	**0.021***	**8.60±0.58 vs. 9.37±0.52 (n=8 vs. n=47)**	**0.002***
Time effect				
85-95 % ALLOCATED TIME USED	9.05±0.41 vs. 8.99±0.80 (n=10 vs. n=45)	0.623*	**9.62±0.33 vs. 9.17±0.61 (n=10 vs. n=45)**	**0.028***
100% ALLOCATED TIME USED	8.84±0.84 vs. 9.16±0.60 (n=27 vs. n=28)	0.149*	**8.91±0.60 vs. 9.59±0.35 (n=27 vs. n=28)**	**<0.001***
Gender effect				
FEMALE ASSESSOR	**9.19±0.68 vs. 8.83±0.76 (n=26 vs. n=29)**	**0.048***	9.38±0.45 vs. 9.15±0.68 (n=26 vs. n=29)	0.276*
MALE ASSESSOR – FEMALE STUDENT	8.88±0.68 vs. 8.69±1.00 (n=7 vs. n=22)	0.397**	9.19±0.60 vs. 9.00±0.94 (n=7 vs. n=22)	0.661**

n=number of students; T=true; VS=versus; NT=not true; SD=standard deviation; Mann-Whitney U test; **=factorial ANOVA

(stringency factors), and positively modulated by afternoon and more than 10 prior candidates (leniency factors). Number of prior candidates and assessor's grade were independent predictors of the checklist score.

The time effect was identified in the checklist group. The relationship between time management and checklist score is predictable, the effect cannot be evaluated.

Female assessors graded candidates significantly higher when GRSs were used. However, the analysis of inter-gender relationships was nonsignificant. The male gender was a negative predictor of the checklist score.

Conclusions: For quality OSCE biases should be minimalised. Prior simulated OSCE, video assessing with discussion of single items expectations, and lower number of students per assessor should decrease the stringency-leniency effect.

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Short Lecture, 5. 4. 2018, 16:00

Interprofessional learning in health education: fostering better patient outcomes through targeted collaboration teaching

Ana Rehberger[1], Iva Štrukelj[1], Patricija Sedminek[2], Monika Sobočan[3,4], Karin Bakračević Vukman[1]

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Introduction: Efficient and wholesome treatment in healthcare demands collaboration between different health profession profiles. These usually are nurses, physicians, clinical psychologists and in some cases also other medical professionals. The main aim of interprofessional learning is sharing professional knowledge and experiences in order to provide the patient the best care possible. However, interprofessional collaboration does not happen naturally, but must be targeted in the learning process. Thus, interprofessional learning a contemporary strategy of educating medical workers and in comparison with formal, individual health profile based education, brings several advantages.

Methods: This short communication focuses through literature review and critical data analysis on the benefits and methods of interprofessional education in health professions education.

Results: Educational research shows, that students learn interprofessional education more efficiently through active participation, that is interaction with others, exchange of opinions considering different aspects and critical thinking. Data shows, that active collaboration enables professionals to understand the expertise and values of other team members, to enhance team working skills, communication skills and encourage an approach that includes shared goals.

Conclusion: This short lecture presents to you the different methods of interprofessional learning, its' evidence based benefits and rationale.

Acknowledgement: This research is part of the ongoing project "VPMed: Development of a virtual patient repository for interprofessional learning", funded by the European Social Fund.

Lecture, 5. 4. 2018, 16:45

Clinical peer teaching - Quo vadis?

Sebastjan Bevc

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Interest in clinical peer-teaching during undergraduate medical programs is present and has grown in recent years also at our Faculty of Medicine. In theory, clinical peer-teaching in undergraduate medical programs could be comparable to conventional teaching, especially when practiced in selected topics and/or contexts. There is some evidence available to suggest that participating student-teachers benefit academically and professionally. However, objective clarity and consensus on the true effectiveness of clinical peer-teaching and its short- and long-term impacts on students learning outcomes and clinical practice remain uncertain. The advocates of clinical peer-teaching believe that peer-teachers and their students share similar knowledge base and learning experience, what is known as “cognitive congruence”. This state of agreeing allows the peer-teachers to use language that their learners understand and to explain concepts in an understandable way. Furthermore, peer-teachers and student-learners also share a “social congruence” because of their similar social roles. This probably explains why student learners feel more at ease with a peer- or near peer- teacher than with a senior clinician. In undergraduate medical education, clinical peer-teaching try to serves as a transparent knowledge sharing that enables medical students to bridge the gap between university student and clinician. We are witnessing the popularity of clinical peer-teachers as an opportunity to express and check new ideas in the field of clinical skills learning, small simulations scenarios and ultrasound usage at our Faculty of Medicine. However, problem to maintain the appropriate quality of evaluation of peer-teachers and their mentors appears. The presenter will discuss mentioned topic through the evolution of clinical peer-teaching during the past decade at young Faculty of Medicine in Maribor.

Lecture, 6. 4. 2018, 09:00

Faculty development: fostering teaching quality and educational innovation

Manon Kluijtmans

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Faculty development concerns the continuous development necessary for optimal functioning of academic professionals. The term is often used more narrowly to describe the development as medical teacher which often has received little attention during initial training. Teacher development is very important for the future of health care, since quality of teaching is pivotal for quality of education, and therefore for the new generation of clinicians and researchers. Professional development as medical teacher is not self-evident. Clinical and research duties often are perceived as more urgent, more important, and more rewarding in terms of career, thus threatening time and motivation for teaching and development as medical educator. The latter comprises of more than just teaching competencies, although these are certainly the starting point. However after becoming an effective teacher, medical educators should also develop competencies to organise, develop and innovate education, to improve the educational content as well as the educational environment (educational leadership), and contribute to the knowledge on medical education (scholarship of teaching and learning).

This lecture explores four components that are important in supporting development as medical educator: competencies, context, career and community. Examples will be provided how each of these factors may be addressed, and how they should be aligned to foster a positive teaching culture and enhance the quality of education.

Lecture, 6. 4. 2018, 09:45

The Dog or the Tail?
Using assessment to drive curriculum and curriculum to drive assessment

Debra Klamen

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It has been said that the "Tail Wags the Dog" – meaning that assessment should drive the curriculum. The opposite framework can be used too; innovations in curricula can drive assessment. Either (or both) of these processes will result, if used systematically and comprehensively, in improved curricula and a state-of-the-art assessment system.

Many think of this topic as dry and boring - or worse, they don't think about it at all (or think of it just as an afterthought). In this presentation, Dr. Klamen will demonstrate to the audience that the linkage of curriculum and assessment systems can not only improve both, but the creation of them can be fun, putting creative minds to work and helping students learn actively and retain what they learn. The talk will be broken into four main parts plus a quiz:

1) The first part of the talk will be a discussion of 'the usual', that is, how do medical schools typically evaluate their students, and why do they do so in that manner. The pros and cons of each of these evaluations will be briefly discussed.
2) The second part of the talk will present some of the less commonly used evaluation tools, including some that don't exist as of yet (with the audience's help). Stories from the presenter's experiences in curriculum and assessment design will illustrate some of the main points.
2) Using a large group discussion, we will brainstorm creative types of assessment that could be used to drive students' learning in the direction we want it to go.
4) The last part of the talk will present an outline which attendees may take away to help them in developing both curricula and their corresponding assessment tools.
5) Plus, there will be a quiz at the end of the presentation!

The goals and objectives of this talk. By the end of the presentation, attendees should be able to:

1. Pick one tool we will discuss and describe how you would use it to drive your curriculum.
2. Name several evaluation/assessment tools not as commonly used.
3. Describe what steps you would use to get from a list of objectives to an evaluation/assessment program.

Lecture, 6. 4. 2018, 14:30

Biostatistics: how and why we should be teaching it better

Nataša Milić

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Misuse of statistical methods is common in biomedical science research, even among papers published in high impact journals. This includes using incorrect or suboptimal tests, summarizing data that were analyzed by nonparametric techniques as mean and standard deviation or standard error, reporting p-values that are inconsistent with the test statistic, p-hacking, and analyzing nonindependent data as though they are independent. Additional problems arise from inadequate reporting of statistical methods. This may include failing to provide a power calculation, not reporting which statistical test was used, or not providing adequate detail about the test, not addressing whether the assumptions of the statistical tests were examined, or not specifying how replicates were treated in the analysis. The reliance on null hypothesis testing and p-values has been heavily questioned, and a variety of alternate approaches have been proposed.

This lecture focuses on rethinking our approach to biostatistics education, as most of these problems stem from a limited understanding of statistics. Several approaches will be outlined that may help to reinvent statistical education for biomedical sciences. Some of the problems that will be discussed are common to many fields, whereas other problems may require field-specific solutions. Hopefully comments included in the lecture will advance the ongoing discussion about improving the quality of data presentation and statistical analysis in biomedical science. Recommendations for improving statistics training for biomedical students include: 1) encouraging departments to require statistics training, 2) tailoring coursework to the student's field of research, and 3) developing tools and strategies to promote education and dissemination of statistical knowledge. Faculty members should work with statistics instructors to design coursework that focuses on the study designs, types of outcomes, and sample sizes that are common in the students' field. Finally, students should learn to critically evaluate data presentation and statistical analysis in the published literature.

Lecture, 7. 4. 2018, 9:00

Teaching the Teachers in Family Medicine

Zalika Klemenc-Ketiš

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Family medicine is well recognized as an academic discipline in Europe and around the world(1). Many factors contributed to the achievement of its present level of recognition. Education is certainly one of them(2). The high qualitative level of education in family medicine is maintained by professional teachers with adequate preparation in the training of future family physicians(3).

The European Academy for Teachers in General Practice/Family Medicine (EURACT)(4) has developed several methods for faculty development of the family medicine teachers in Europe. There are several courses available for teachers such as the Janko Kersnik International Bled Course which provides a safe, well-structured learning environment for the participants even though the course topic is different every year. The course has had a significant impact on curriculum development and teacher training in Slovenia as well as in many other countries in Europe and beyond(5). There are also a set of 3-step courses (Leonardo EURACT Level 1-3) which are intended to gradually develop an expert teacher in family medicine(6). EURACT also developed a framework on educational expertise "Framework for continuing educational development of trainers in general practice in Europe"(6). Based on it, it developed the Appraisal Portfolio which is an international model of appraisal of family medicine teachers.

Teacher training is fundamental to the development of any academic discipline. In Europe, many countries have a well-organized system for teaching the teachers of family medicine, while some countries still struggle with problems due to lack of a critical mass of teachers(7).

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Lecture, 7. 4. 2018, 9:45

Active Learning: didactic strategies to make students responsible for their own learning

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Preparation for life-long learning must be a primary outcome of university education. Thus, from the beginning of their studies, students should assume responsibility for their own learning via self-directed learning or - more precisely - directed self-learning. This approach has been referred to as the “flipped class-room”: contact time between student and faculty is used to:

- promote higher order thinking
- apply previously acquired knowledge
- provide meaningful feedback.

On the other hand, primary information delivery is removed from the class-room. Student learning is guided by detailed learning objectives and faculty are responsible for identifying and/or providing suitable learning materials.

The medical school of the University of Vermont is currently in a transition phase and all traditional lectures will be abolished by 2019. Their plans for developing and deploying other methods to support student learning will be presented and analyzed. The implications for curriculum planning will also be discussed.

http://www.npr.org/sections/health-shots/2017/08/03/541411275/vermont-medical-school-says-goodbye-to-lectures

6 Posters

Posterparty: Thursday, 5. 4. 2018, 18:00

Please mount your posters on Thursday between 09:00 and 12:45 and remove them at the latest by Friday 14:30!

Posterparty: Thursday, 5. 4. 2018, 18:00
Please mount your posters on Thursday between 09:00 and 12:45 and remove them at the latest by Friday 14:30!

Teaching of Clinical Reasoning in Internal Medicine in Blended Learning format integrated in the Curriculum of the Medical University

Felix Aberer[1], Martin Manninger-Wünscher[1], Florian Rainer[1], Katharina Artinger[1], Stefan Hatzl[1], Christian Trummer[1], Herwig Rehatschek[2], Florian Hye[2], Thomas R Pieber[1], Peter Fickert[1], Heinz Hammer[1], Doris Lang-Loidolt[2], Regina Roller-Wirnsberger[1]

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Introduction

- The capability to precisely and effectively evaluate the correct diagnosis related to a specific symptom in internal medicine routine care, represents the basis for a high-quality and patient-centered diagnostic and therapeutic approach
- In order to accomplish to teach these capabilities a modern teaching format integrating information and communications technologies (ICT) named ***Blended Learning*** has been integrated in the curriculum development at the Medical University of Graz

Methods

- Teaching of Clinical Reasoning was integrated in 4th year training with an amount of 4 European Credits (ECTS). Successful pass of previous teaching elements in internal medicine was mandatory for participation.
- The most relevant clinical symptoms (table 2) in internal medicine have been presented incorporated in two different teaching tracks (emergency symptoms, key symptoms internal medicine symptoms).
- The teaching format was based on ICT supported tutorials, which were accompanied by web-based training sessions which provided the possibility to reproduce and reflect the topic content for home-studying
- An additionally organized „Flipped classroom" offered the possibility to interactively exercise the newly learned topics with realistic clinical case reports
- At the end of the semester, a final exam was comprised, including a short answer exam
- Grading was based on the performance, which students achieved in
  - The web-based trainings
  - The preparation of the clinical cases which were unlocked in the flipped classroom
  - The final exam
- After the track the students routinely evaluated the tracks
- The method for analysis of the track evaluation was based on the Kirkpatrick model

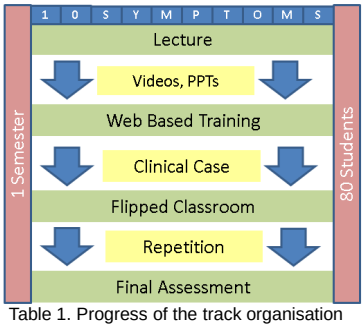


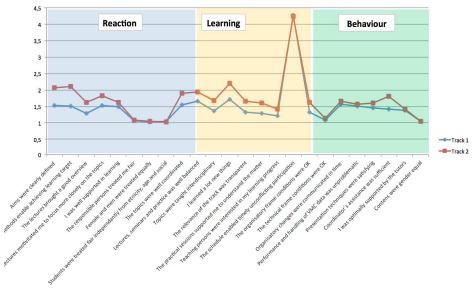
Table 1. Progress of the track organisation

Track 1 (General Symptoms)	Track 2 (Emergency Symptoms)
1) Introduction	1) Introduction session
2) Dysphagia, dyspepsia, constipation, diarrhea	2) Hematemesis, hematochezia, jaundice
3) Coughing, sputum, hemoptysis	3) Stomach ache, nausea, emesis, diarrhea
4) Angina pectoris, brady/tachycardia, nycturia	4) Chest pain, Angina pectoris
5) Dehydration, edema, hematuria, dys/oliguria	5) Syncope, palpitations, brady/tachycardia
6) Thirst, adynamy, weight gain, hirsutism	6) Dyspnea, tachypnea, cyanosis
7) Arthralgia, back pain, amyosthenia	7) Coma, unconsciousness, hypoglycemia
8) Bleeding disposition, petechia, splenomegaly	8) Anuria/dysuria
9) Nausea/Emesis, Pain/fever in oncologic patients	9) Fever of unknown origin
10) Claudicatio, thrombophilia	10 Leg swelling, cold limbs

Table 2. Track topics

Results

- In total 160 students participated in the two tracks
- All students positively completed the tracks



Graph 1. Evaluation based on the Kirkpatrick model

- Students describe the newly implemented method using new media as time efficient and productive
- Despite a great amount of students per teaching lesson student´s usability and acceptance of an interactive educational format with novel media was outstanding high
- As timely overlap with other events of the curriculum occurred, ICT based blended learning format seemed to support learning progress in a sustainable way

Conclusion

- Especially at medical universities with high numbers of students, teaching of clinical skills is problematic and challenging
- The Grazer example as symptom-based model using active and virtual teaching might be useful for other medical institutions/universities in future

Poster 1

Teaching of Clinical Reasoning in Internal Medicine in Blended Learning format integrated in the Curriculum of the Medical University of Graz

Felix Aberer[1], Martin Manninger-Wünscher[1], Florian Rainer[1], Katharina Artinger[1], Herwig Rehatschek[2], Florian Hye[2], Thomas R Pieber[1], Peter Fickert[1], Heinz Hammer[1], Doris, Lang-Loidolt[2], Regina Roller-Wirnsberger[1]

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Background: The capability to precisely and efficiently evaluate the correct diagnose related to a specific symptom in medical care routine, represents the basis for a high-quality and patient-centered diagnostic and therapeutic approach. In order to accomplish to teach these capabilities a modern teaching format named Blended Learning has been integrated in the curriculum development at the Medical University of Graz (MUG).

Methods: Based on adult teaching theories, patient-related cognitive learning contents were worked out and prepared. The teaching format was based on IT supported tutorials, which were accompanied by web-based repeating sessions which provided the possibility to reproduce an reflect the topic content. After presentation of core symptoms concerning acute and chronic internal medical symptoms, an additionally organized „Flipped classroom“ offered the possibility to interactively exercise the newly learned thematics.

Results: All students have positively terminated the track. Students describe the newly implemented method usning new media as time efficient and productive. Despite a great amount of students (n=160) per teaching lesson, student´s usability and acceptance of an interactive educational format with novel media was outstanding high.

Conclusion: Especially at medical universities with high numbers of students, teaching of clinical skills is problematic and challenging. The Grazer example as symptom-based modell might be useful for other medical institutions/universities in future.

Does Good Educational Practice exist in medical schools?
University of Szeged, General Medicine Education

Matthias Ernst[1], Kamilla Gömöri[2], Éva Kenyeres[1], Péter Bencsik[1]

[1]Department of Biochemistry, Faculty of Medicine, University of Szeged, Hungary

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Background

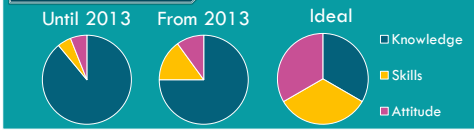
The principle of Good Educational Practice lays on seven activities:

1) encouraging contact between students and faculty,
2) developing reciprocity and cooperation among students,
3) encouraging active learning,
4) giving prompt feedback,
5) emphasizing time on task,
6) communicating high expectations, and
7) respecting diverse talents and ways of learning.

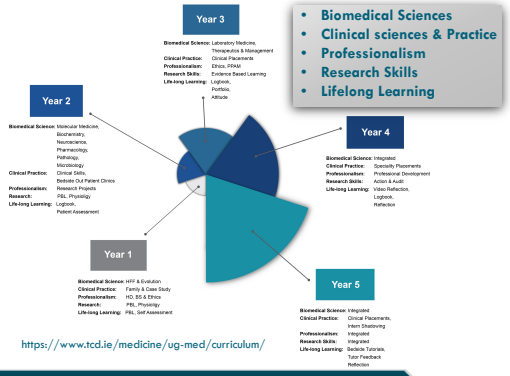
Chickering AW and Gamson ZF. Seven Principles for Good Practice in undergraduate education. AAHE Bulletin; 1987;39: 3-7.

The above actions employ six forces, which are Activity, Diversity, Interaction, Cooperation, Expectations, and Responsibility

Aim



Good example – Trinity College Dublin



https://www.tcd.ie/medicine/ug-med/curriculum/

General Medicine Curriculum at University of Szeged

Basic Modul			Pre-Clinical Modul		Clinical Modul			Final Year
1st year		2nd year	3rd year		4th year	5th year		6th year
Anatomy, Histology and Embryology			Clinical Diagnostics I. (Internal Medicine)		Surgery		Neurosurgery	Internal Medicine
Medical Physics, Informatics and Statistics		Biochemistry	Pathology		Pharmacology	Anesthesiology and Intesive Therapy		Pediatrics
Medical Chemistry		Medical Physiology	Pathophysiology		Orthopedics	Infectology - Infectious Diseases	Traumatology	Neurology
Cell Biology and Molecular Genetics		Immunology	Microbiology	Ethics in Medicine	Internal Medicine II.		Internal Medicine III.	Psychiatry
Practical Medical Skills	Clinical Skills I.	Basic Surgical Skills	Basic Emergency	Internal Medicine I.	Pulmonology	Dermatology	Urology	Surgery
	Basic Medical Skills I.	Advanced Medical Skills	Basic Medical Skills II.	Medical Psychology I.	Radiology	Oto-Rhino-Laryngology	Ophthalmology	Obstetrics and Gynecology
	Communication Skills			Clinical Diagnostics II. (Surgery)	Obsterics and Gynecology	Pediatrics		
	Nursing Practice				Public Health and Preventive Medicine	Psychiatry		
					Clinical Oncology	Neurology I		
					Medical Psychology II.	Forensic Medicine		
					Advanced Surgical Skills			

Elective courses are avaible for students for personalize their studies.

attitude

Limitations

- Time
- Expanding knowledge
- What to exclude?
- Individual qualities
- Key competences
- Manual skills
- Intelligence
- Time management
- Personal attitude
- Loadability
- Endurance
- Hand-eye coordination
- Facilities
- Human resources

Solutions

- New Clinical Skills Centre was opened in 2013.
- Instead of having a semester-long 2 hours per week clinical practise from 2016 three weeks clinical practise blocks were intoduced to 4th and 5th year medical student's education.
- Problem oriented team based learning is getting initiated into the educational program.

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Poster 2

Does Good Educational Practice exist in medical schools?

Matthias Ernst[1], Kamilla Gömöri[2], Éva Kenyeres[1], Péter Bencsik[2]

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Good laboratory practice (GLP) and good clinical practice (GCP) are well-known concepts and procedures during preclinical and clinical medical drug or device developments, respectively. Although good educational practice is an existing concept as well, it is not a routine procedure in the education of medical students, or at least not in Europe.

The principle of Good Educational Practice lays on seven activities, which are (i) encouraging contact between students and faculty, (ii) developing reciprocity and cooperation among students, (iii) encouraging active learning, (iv) giving prompt feedback, (v) emphasizing time on task, (vi) communicating high expectations, and (vii) respecting diverse talents and ways of learning. The above actions employ six forces, which are activity, diversity, interaction, cooperation, expectations, and responsibility. These principles and the connecting forces were determined more than 3 decades ago by Chickering and Gamson (Chickering & Gamson, 1987).

Today, those principles are still alive, however, we should complete them with 2 further aspects, which accompany strongly together: industry-centered approach and the vertical stream of information among medical disciplines. Both are rather addressed to the teachers and professors than students. Since medicine nowadays became an excessively growing field of science, it is not feasible anymore to learn everything even in the basal disciplines as physiology, biochemistry or pharmacology. Therefore, professors of the basal disciplines should focus education on what clinical disciplines require as manufacturers should follow the requirements of the markets, otherwise they bankrupt. In conclusion, the synthesis of well-established principles of Good Educational Practice and the vertical, industry-approached communication among medical disciplines may improve the quality of European medical doctor education, soon.

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Chickering AW and Gamson ZF. Seven Principles for Good Practice in undergraduate education. AAHEBulletin;1987;39: 3-7.

Assessing the Impact of a Newly Introduced Learning Objective System on Teaching Medical Physiology

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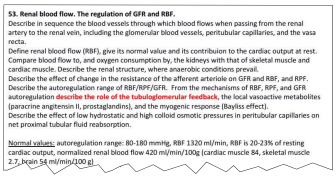
Teaching Physiology

At the University of Szeged Medical Physiology is taught during the second year. The goal is to provide adequate knowledge that can serve as a basis for understanding e.g. pathophysiology, pharmacology and the clinical sciences. Medical students generally consider physiology a hard subject [1], and as teachers we should facilitate learning by removing obstacles interfering with the process of studying.

Learning Objectives (LO)

Defining clear and straightforward goals is essential for quality assurance in teaching. Inspired by the American Physiological Society's set of objectives [2, 3], our department designed a similar list in collaboration with clinicians and other teachers of the medical faculty. The list was introduced in 2013 to provide a common frame for studying and teaching [4]. Unlike a simple topic list, the LOs include definite tasks and questions and physiologic reference ranges. Lectures, seminars, tests are all based on the LOs. Example from our list:

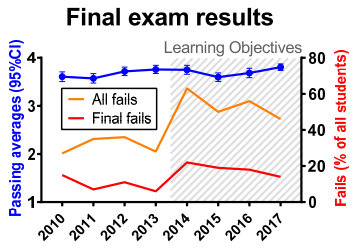


53. Renal blood flow. The regulation of GFR and RBF.
Describe in sequence the blood vessels through which blood flows when passing from the renal artery to the renal vein, including the glomerular blood vessels, peritubular capillaries, and the vasa recta.
Define renal blood flow (RBF), give its normal value and its contribuion to the cardiac output at rest. Compare blood flow to, and oxygen consumption by, the kidneys with that of skeletal muscle and cardiac muscle. Describe the renal structure, where anaerobic conditions prevail.
Describe the effect of change in the resistance of the afferent arteriole on GFR and RBF, and RPF.
Describe the autoregulation range of RBF/RPF/GFR. From the mechanisms of RBF, RPF, and GFR autoregulation describe the role of the tubuloglomerular feedback, the local vasoactive metabolites (paracrine angitensin II, prostaglandins), and the myogenic response (Bayliss effect).
Describe the effect of low hydrostatic and high colloid osmotic pressures in perrtubular capillaries on net proximal tubular fluid reabsorption.

Normal values: autoregulation range: 80-180 mmHg, RBF 1320 ml/min, RBF is 20-23% of resting cardiac output, normalized renal blood flow 420 ml/min/100g (cardiac muscle 84, skeletal muscle 2.7, brain 54 ml/min/100 g).

Final exam results

We compared the final exam results of four consecutive years before and after the introduction of the LO system. There was no change in the passing grade averages, however final failure rates grew significantly ($\chi 2$ (1, 1859)=29.24, p<0.0001).



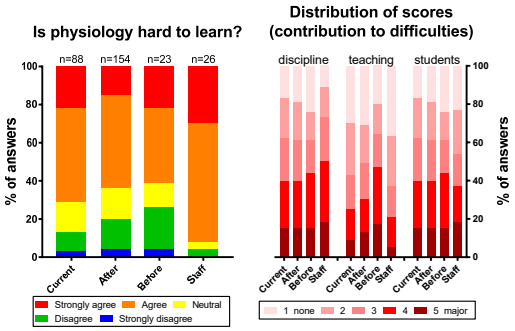
Survey of students and staff

To identify sources of learning difficulties, we surveyed current and former students who studied physiology before and after the introduction of LO and staff with an online questionnaire based on a former study [1]. Respondents rated 18 possible factors' contribution with a 5-point Likert scale. Factors were grouped into three categories: (1) nature of physiology as a discipline, (2) teaching methods, and (3) student characteristics. Respondents were also asked if they consider physiology a hard subject for students to learn.

Comparison of rating distribution in the category of teaching showed a significant difference between students learning physiology before and after the introduction of LOs ($\chi 2$ (4, 1590)=23.03, p=0.0001). Largest contribution to $\chi 2$ was caused by a shift toward higher scores in the before group, mostly accountable to questions concerning the clarity of requirements and the amount of facts and data that needs to be memorized. No differences were found in the categories of student factors and the nature of physiology as a discipline.

When compared, a mismatch was found between the students' and staff's opinion on some factors. A few highlights:

- Students feel that more emphasis is needed on teaching a broader picture in physiology and integration of topics.
- Teachers are dissatisfied with the students' ability to use logic and make sense of graphs, and they feel that students tend to memorize instead of learning.



Discussion

We clarified some factors contributing to the perceived difficulty in learning physiology. Somewhat unexpectedly, we found an increase of failure rates coinciding with the introduction of learning objectives. More detailed analysis showed a significant correlation between the number of fails and entry scores to the faculty of the *same class*, meaning, the fail rate and LO could be unrelated. The survey results show however, that the new system eliminated some of the difficulties arising from teaching. Further analysis of the results may reveal important insights into the ways we can improve our teaching methods.

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Support: EFOP-3.6.3-VEKOP-16-2017-00009

Poster 3

Assessing the Impact of a Newly Introduced Learning Objective System on Teaching Medical Physiology

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Medical physiology is one of the most fundamental subjects in medical schools and also a major challenge for students to learn, as they have to synthesize their previous knowledge i.e. on biology, physics, chemistry and anatomy. The study of physiology is crucial since it has to serve as a firm basis for the subsequent clinical sciences. It is documented that students find it a hard subject and a list of the underlying factors was proposed, based on teachers' opinions (Michael, 2007). They concluded that the hardships arise from the characteristics of physiology as a discipline, along with what the students bring into the task of studying. As these factors can hardly be changed, the only way to react to the problem is to rethink the way we teach. In 2013 the Department of Physiology at the Medical Faculty of the University of Szeged introduced a set of learning objectives, inspired by the proposal of the American Physiological Society (Carrol, 2001). Learning objectives define the knowledge required for later clinical studies, and serve as a guide for both teaching and studying physiology; furthermore it is hoped to enhance understanding over memorising. We investigated the impact of the learning objective system on medical physiology studies by analyzing the final exam results and assessed the students' opinions via an online survey.

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Universiteit Utrecht

Faculty of Veterinary Medicine
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When to trust our learners? Clinical teachers` perceptions of decision variables in the entrustment process

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Background

Clinical training programs increasingly use entrustable professional activities (EPAs) as focus of assessment. However, questions remain about which information should ground decisions to trust learners. Entrustment decisions combine feedback and evaluation with permission to act under a specified level of supervision and the possibility to schedule learners for clinical duties.

Aim to identify decision variables in the workplace that clinical teachers find relevant in the elaboration of the entrustment decision processes.

Methods

Focus groups were conducted with medical and veterinary clinical teachers, using the structured consensus method of the Nominal Group Technique.

Results

The focus groups yielded 21 unique decision variables that were considered relevant to inform readiness. The decision variables consisted of skills, generic qualities, characteristics, previous performance or other information. See table 1 for the five categories.

Conclusion and discussion

To entrust a learner to perform a task at a specific level of supervision, a supervisor needs information to support such a judgement. This trust cannot be credited on a single case at a single moment of assessment, but requires different variables and multiple sources of information. This study provides an overview of decision variables giving evidence to justify the multifactorial process of making an entrustment decision.

Take home message

Extensive reflection by different observers on performed tasks is highly relevant: both reviewing of actions after shifts, reflective behavior by the learner as well as multi-source feedback were mentioned as relevant decision variables to base entrustment decisions on. Faculty development is necessary to explain these decision variables as being situational versus focused on certification, when introducing workplace curricula based on EPAs.

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To make an entrustment decision about a learner performing a certain task, I need to...
Ability
Know the learner's ability to use the right indication to execute a task
Know the learner's theoretical knowledge level for the task
Know the learner's ability to explain the task to patients and other laymen
Know the learner's experience with comparable, relevant tasks
Know a learner's ability to put a patient at ease during the task
Know the learner's ability to handle risks and complications
Know the learner's organizational skills
Know the quality and accurateness of a learner's written report about a task
Have information about the time span a learner needs to perform a task
Humility
Know the learner's own judgment about his/her competence to execute the task
Know the learner will ask for supervision in time
Integrity
Have a step-by-step dialogue with the learner about the execution of a task
Know the learner is taking the patients welfare into account
Reliability
Know the learner is consistent and predictable in his or her behavior
Know the learner's ability to recognize and execute the task in deviating situations
Know the learner has situational awareness regarding a task
Know the learner's professional behavior
Adequate exposure
Personally observe the task execution as often as needed
Know how often a task has been performed under which level of supervision and its results
Know the judgment of other supervisors'
Have access to feedback or judgements of others (patients, patient-owners, family, nurses, paramedics, peers, other caretakers)
Know a learner practiced in a simulation situation

Table 1. Decision variables, divided into five catagories

Poster 4

When to trust our learners? Clinical teachers‘ perceptions of decision variables in the entrustment process

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Introduction: Clinical training programs increasingly use entrustable professional activities (EPAs) as focus of assessment. Using entrustable professional activities (EPAs) – units of professional practice to be entrusted to learners once they have demonstrated sufficient competence - in medical training programs requires elaboration of entrustment decision processes. However, questions remain about which information should ground decisions to trust learners. This qualitative study aimed to identify decision variables in the workplace that clinical teachers find relevant in the elaboration of the entrustment decision processes. The findings can substantiate entrustment decision-making.

Methode: Focus groups were conducted with clinical teachers, using the structured consensus method of the Nominal Group Technique to generate decision variables. A ranking was made based on a relevance score assigned by the clinical teachers to the different decision variables. Field notes, audio recordings and flip chart lists were analyzed and subsequently translated and, as a form of axial coding, merged into one list, combining the decision variables that were similar in their meaning.

Results: A list of 11 and 17 decision variables were acknowledged as relevant by the clinical teachers respectively. The focus groups yielded 21 unique decision variables considered relevant to inform readiness to perform a clinical task on a designated level of supervision. The decision variables consisted of skills, generic qualities, characteristics, previous performance or other information. We were able to group the decision variables into five categories: ability, humility, integrity, reliability and adequate exposure.

Discussion: To entrust a learner to perform a task at a specific level of supervision, a supervisor needs information to support such a judgement. This trust cannot be credited on a single case at a single moment of assessment, but requires different variables and multiple sources of information. This study provides an overview of decision variables giving evidence to justify the multifactorial process of making an entrustment decision.

Conclusion: Extensive reflection by different observers on performed tasks is highly relevant: both reviewing of actions after shifts, reflective behaviour by the learner as well as multi-source feedback were mentioned as relevant decision variables to base entrustment decisions on. Faculty development will be necessary to explain these types of entrustment decisions as being situational versus focused on certification, when introducing workplace curricula based on EPAs.

MEDICAL UNIVERSITY
OF VIENNA

Use of key-feature cases in the "Interdisciplinary Case Conferences" at the Vienna Medical School

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Background

- Compulsory course "Interdisciplinary Case Conferences" in the 5th year of human medicine.
- Contents are presentations of real patient cases from everyday clinical practice.
- Every Monday all students (n = 660) come together for 3 hours with experienced clinical teachers discussing about 130 cases during the academic year.
- Generally, students are being assessed on the presented cases mainly by means of knowledge MC questions.

Aims & Method

- To foster the development of clinical reasoning.
- Preparation for the subsequent clinical practical year (6th year of study).
- Better alignment of teaching, learning and assessment.

Additionally to the traditional MC questions, three-staged key-feature cases have been introduced in the winter term of 2017/18.

Results

Students (n ~ 450) see a benefit of key-feature cases in:
- Promotion of clinical thinking.
- Possible application in their future work and practice.

- Students rated all three key-feature sub-questions as moderately difficult (M = 2.81, SD = 0.31, scale: 1-5).
- On average, students scored slightly lower on key-feature questions than on traditional MC questions (83% vs. 90% of the maximum score).

Discussion & Conclusion

- Students' positive feedback indicates an improved alignment between teaching, learning and assessment.
- This may also lead to a higher achievement motivation as well as in a gain of students' learning.
- Therefore, more key-feature cases will be used in the future.

To what extent the clinical diagnostic competence is actually being strengthened, however, further investigations are necessary.

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Acknowledgment

We thank N. Müller for writing the presented key-feature case as well as D. Bauer & A. Härtl for giving us a workshop on key-feature cases.

Key-feature case (2 of 3 sub-questions)

Mr U., a 32-year-old yoga teacher, presents with a fever (39.8°C) to your hospital's emergency department. He suffers from severe limb/joint pain and dull headaches ("behind the eyes"). The fever came on suddenly on Wednesday but sank again shortly afterwards - so he did not consider it necessary to visit his doctor. Today, three days later, the fever has risen again and a rash all over his body (Fig. 1) worries him. During the examination you will notice a generalized lymphadenopathy, the mouth/throat is bland.

Fig. 1: Maculopapular rash (some skin islands, hands' palms & soles of feet not affected), not itchy

QUESTION 1: Which of the following questions is the *most sensible* with regard to the symptoms described and what should you absolutely ask the patient?
A. Did you take any medication just before the rash occurred (< 60 min)?
B. Have you been abroad in the last few weeks?
C. Are you allergic to nickel?
D. Are people around you suffering from Pfeiffer's glandular fever?
E. Have you been vaccinated against TBE?

----- Student chooses an answer and gets to the next page -----

Mr U. claims to have returned from India about a week ago. When asked which diseases he was vaccinated against, he waved aside ("I don't like it."). Anyways, he did not get vaccinated before his stay abroad. As a child, however, he was vaccinated occasionally in school.

QUESTION 2: Which of the mentioned diseases fits best to the described clinical symptoms and anamnesis and should, therefore, be the primary suspected diagnosis?
A. Yellow fever
B. Dengue fever
C. Measles
D. Malaria
E. Influenza

Poster 5

Use of key-feature cases in the “Interdisciplinary Case Conferences” at the Medical University of Vienna

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Introduction: Contents of the compulsory course "Interdisciplinary Case Conferences" in the 5th year of human medicine are presentations of real patient cases from everyday clinical practice. Every Monday all students (n = 660) come together for 3 hours with experienced clinical teachers. In total, about 130 cases are discussed during the academic year. Generally, students are being assessed on the presented cases mainly by means of knowledge MC questions.

Methods: Aims of the project are to foster the development of clinical reasoning and to reach a better alignment of teaching, learning and assessment.
Students were obliged to complete two MC questions each week on the content presented throughout the academic year using an online learning management system. Additionally to the traditional MC format three-staged key-feature cases have been introduced in the winter term of 2017/18.
Using key-feature cases, students can practice their clinical reasoning skills. This serves as a preparation for the subsequent clinical practical year (6th year of study).

Results: Students’ feedback (n 450) on the key-feature cases showed that the format is highly valued. In comparison with traditional knowledge questions, students clearly see a benefit in key-feature cases in terms of promoting clinical thinking and its possible application in their future work and practice. Students rated all three key-feature sub-questions as moderately difficult (M = 2.81, SD = 0.31, scale: 1-5). On average, students scored a slightly lower score on key-feature questions than on traditional MC questions.

Discussion/Conclusion: Students’ positive feedback indicates an improved alignment between teaching, learning and assessment. This may also lead to a higher achievement motivation as well as in a gain of students’ learning. To what extent the clinical diagnostic competence is actually being strengthened, however, further investigations are necessary.

KABEG
KLINIKUM KLAGENFURT
AM WÖRTHERSEE

"Core Entrustable Professional Activities" for dermatological night shifts

CHARITÉ

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BACKGROUND

The tense economic and personal situation in today´s health care system leads to many challenges in the effective and safe care of patients. A key element in the training of junior physicians is the conduct of night shifts under distant supervision by a senior physician. This involves a high level of responsibility and medical choice making at a very early stage of their career. However, we lack a comprehensive training program or a detailed description of the skills needed to manage the tasks of night shifts. Hence, adequate staffing and patient's care is not ensured.

METHODS & RESULTS

We set up a process to define a catalogue of core Entrustable Professional Activities (EPAs) for dermatological night shifts. A consent procedure was employed to list the night shift tasks and define their content. The process involved a multistep interaction between a writing team and a multidisciplinary panel of experienced physicians.

Drafting
- Literature review on the development of EPAs
- Development of the initial EPA list with titles and specification

Briefing
- Briefing meeting for panel members to introduce the EPA concept and the initial list of EPAs
- Explanation of the goal and course of the Delphi study

I. Delphi Round
- Panel members received the titles and specifications descriptions for initial EPA list
- They rated the EPAs on a 4-point Likert scale (from 1="disagree" to 4="agree"):
- Relevance of EPA
- Completeness of description
- Clarifying comments and lacking EPAs could be added
- Preparation for the second round:
  - Writing team refined EPA descriptions on the basis of the quantitative and qualitative data

II. Delphi Round
- Meeting with presentation of the results of the first Delphi round and the refined EPAs. Ratings on the same questions as in round 1 on a 4-point Likert scale (from 1="disagree" to 4="agree")
- Clarifying comments could be added
- Preparation for the third round: refinement of EPA descriptions on the basis of the quantitative and qualitative data

III. Delphi Round
- Meeting with presentation of the results of the second Delphi round and the refined EPAs. Ratings for all EPAs on a 4-point Likert scale (from 1="disagree" to 4="agree")
- Ratings on all categories for the EPAs with insufficient consent on relevance in the second Round
- Clarifying comments could be added

Final
- Refinement of the EPAs on basis of the third Delphi Round
- EPA text editing to enhance standardization of structure, language and wording

This process produced a description and definition of a full set of core EPAs for dermatological night shifts (subdivided into four groups: I) diagnose and treat patients with night shift relevant dermatological diseases, II) perform dermatological procedures and night shift relevant check-ups III) inform and counsel dermatological patients and IV) collaborate and communicate with colleagues of medical disciplines

Conclusions

Our systematic process yielded the content validation of core EPAs for dermatological night shifts. The concept of EPAs provided a useful framework to define the tasks and expectations in a tangible and meaningful manner for the junior physicians performing dermatologic night shifts and senior physicians supervising them. Our example in dermatology may stimulate other fields in medicine to define Core EPAs for night shifts for their disciplines

Poster 6

"Core Entrustable Professional Activities" for dermatological night shifts

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Background: The tense economic and personal situation in today´s health care system leads to many challenges in the effective and safe care of patients. A key element in the training of junior physicians is the conduct of night shifts under distant supervision by a senior physician. This involves a high level of responsibility and medical decision making at a very early stage of their career. However, we lack a comprehensive training program or a detailed description of the skills needed to manage the tasks of night shifts. Hence, adequate staffing and patient's care is not ensured.

Methods: We set up a process to define a catalogue of core Entrustable Professional Activities (EPAs) for dermatological night shifts at the department of dermatology, state hospital Klagenfurt. Distant supervision was operationalized as the senior physician not being in the hospital and telephone interaction needed in a very limited set of medical problems only. A consent procedure was employed to list the night shift tasks and define their content by elaboration the specifications and limitations according to literature. The process involved a multistep interaction between a writing team and a multidisciplinary panel of experienced physicians.

Results: This process produced a description and definition of a full set of core EPAs for dermatological night shifts (subdivided into four groups: I) diagnose and treat patients with night shift relevant dermatological diseases, II) perform dermatological procedures and night shift relevant check-ups III) inform and counsel dermatological patients and IV) collaborate and communicate with colleagues of medical disciplines

Conclusions: Our systematic process yielded the content validation of core EPAs for dermatological night shifts. The concept of EPAs provided a useful framework to define the tasks and expectations in a tangible and meaningful manner for the junior physicians performing dermatologic night shifts and senior physicians supervising them. Our example in dermatology may stimulate other fields in medicine to define Core EPAs for night shifts for their disciplines.

Video enhanced (de)brief in a medical simulation for undergraduate students

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INTRODUCTION

Simulation based learning (SBL) is a vital teaching tool in under- and post-graduate medical education. A typical simulation course incorporates three phases – the briefing phase, the simulation and the debriefing phase. The debriefing phase is considered crucial as it facilitates participants' learning and assists the reflective process (1).

METHODS

We studied the performance of 22 third year medical students who undertook two different clinical simulation scenarios in groups of 3-4. All were faced with SBL for the first time.

For the first scenario all groups were given the same briefing using a short introductory lecture, performed the same clinical scenario and were given the same standard non-video enhanced debrief. For the second scenario one half of the students received an extended briefing, with a repeated video enhanced debrief of their first performance, the other half was given standard briefing.

During the simulation course we analysed their use of the ABCDE approach to a critically ill patient, the performance of selected prior taught clinical skills and usage of the SBAR communication technique, all via their compliance to modified checklists. We used Students' T test and Mann-Whitney U test for the analysis.

RESULTS

All groups achieved significantly better results (60.3% vs. 43.4%, p=0.039) and used the SBAR technique significantly better (p=0.004) in the second scenario. Among the groups (video enhanced vs. no video (de)brief) there were no statistically significant differences in the results of the first (p=0.736) or second scenario (p=0.622), or in the usage of the SBAR technique in the second scenario (p=0.768).

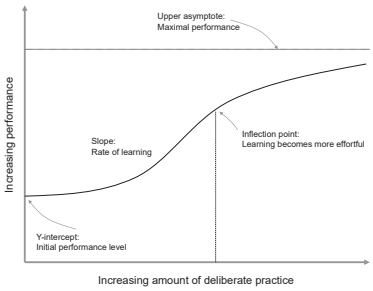

Fig 1: Deliberate practice learning curve
Adapted from: Pusic MV, Boutis K, Hatala R, Cook DA. Learning curves in health professions education. Acad Med 2015; 90(8):1034-42.

DISCUSSION

The study represented the students' first experience with SBL and occurred relatively early in their studies. This could explain significantly better results in the second scenario, where students were already equipped with experience from the first scenario and (de)briefing – on this level of their experience they benefit greatly with each confrontation with clinical situations (steep part of the learning curve) (Fig. 1).

Video enhanced (de)briefing did not prove beneficial in our study, most likely because it facilitates basic ABCDE approach and training in non-technical skills (teamwork, situational awareness, decision making and task management) which are emphasized after repeated practice, on the flat part of the learning curve (Fig. 1).

CONCLUSION

Students perform better with repeated exposure to simulation, however at their level of clinical experience they do not benefit importantly from video enhanced briefing techniques.

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Poster 7

Video enhanced (de)brief in a medical simulation for undergraduate students

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Introduction: Simulation based learning (SBL) is a vital teaching tool in under- and post-graduate medical education. A typical simulation course incorporates 3 phases – the briefing phase, the simulation and the debriefing phase. The debriefing phase is considered crucial as it facilitates participants‘ learning and assists the reflective process (1).

Methods: We studied the performance of 22 third year medical students who undertook two different clinical simulation scenarios in groups of 3-4. All were faced with SBL for the first time. For the first scenario all groups were given the same briefing using a short introductory lecture, performed the same clinical scenario and were given the same standard non-video enhanced debrief. For the second scenario one half of the students received an extended briefing, with a repeated video enhanced debrief of their first performance, the other half was given standard briefing. During the simulation course we analysed their use of the ABCDE approach to a critically ill patient, the performance of selected prior taught clinical skills and usage of the SBAR communication technique, all via their compliance to modified checklists. We used Students’ T test and Mann-Whitney U test for the analysis.

Results: All groups achieved significantly better results (60.3% vs. 43.4%, p=0.039) and used the SBAR technique significantly better (p=0.004) in the second scenario. Among the groups (video enhanced vs. no video (de)brief) there were no statistically significant differences in the results of the first (p=0.736) or second scenario (p=0.622), or in the usage of the SBAR technique in the second scenario (p=0.768).

Discussion: The study represented the students’ first experience with SBL and occurred relatively early in their studies. This could explain significantly better results in the second scenario, where students were already equipped with experience from the first scenario and (de)briefing – on this level of their experience they benefit greatly with each confrontation with clinical situations (steep part of the learning curve) (Fig. 1). Video enhanced (de)briefing did not prove beneficial in our study, most likely because it facilitates basic ABCDE approach and training in non-technical skills (teamwork, situational awareness, decision making and task management) which are emphasized after repeated practice, on the flat part of the learning curve (Fig. 1).

Conclusion: Students perform better with repeated exposure to simulation, however at their level of clinical experience they do not benefit importantly from video enhanced briefing techniques.

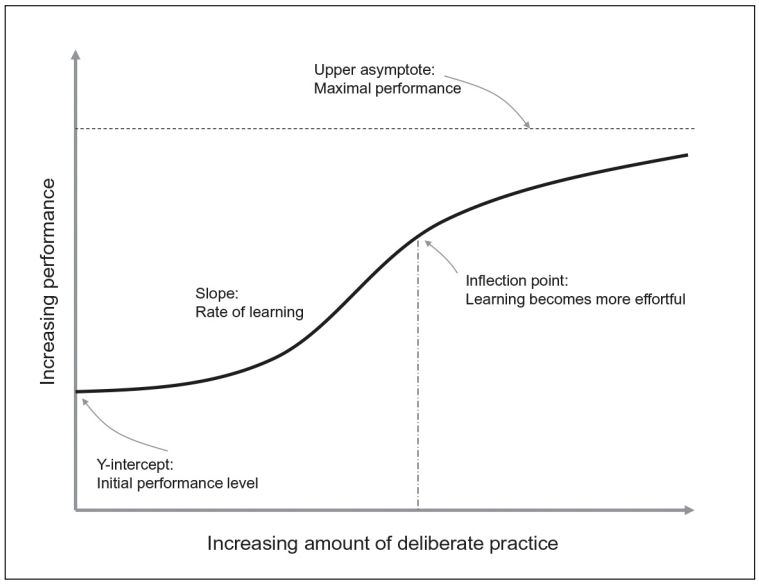

Figure 1: Deliberate practice learning curve (2)

References:

1. Sawyer T, Eppich W, Brett-Fleegler M, Grant V & Cheng A. More Than One Way to Debrief: A Critical Review of Healthcare Simulation Debriefing Methods. Simulation in Healthcare 2016; 11(3):209-17.
2. Pusic MV, Boutis K, Hatala R, Cook DA. Learning curves in health professions education. Acad Med 2015; 90(8):1034-42.

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SQ3R learning method and examination success of medical students

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Introduction

Medical students have to learn many textbooks - often within short time. The effectiveness of learning has therefore an important impact on the examination success. The SQ3R method is an approach to learn and study textbooks.
Aim of the planned pilot study is to investigate, if the SQ3R method improves the success rate of an examination, which is part of medical studies at the Medical University of Graz.

Design

Pilot randomized controlled single center trial

Methods

PATIENTS:
Forty medical students of the Department of Pediatrics, Medical University of Graz at the beginning of the "Modul XX"

INTERVENTION:
To training for the SQ3R method that should be applied for learning for the examination of this "Modul XX"

CONTROL:
To learn as usual

OUTCOME:
Results of the examination at the end of the "Modul XX"

TTIME:
Duration of Modul XX: 6 weeks

SQ3R Method

SURVEY:
The purpose is to survey a chapter and get a general idea. This part should not take longer than 10-15 minutes.

QUESTION:
Turn each heading into a question.

READ:
Actively read the text and answer the question you asked yourself.

RECITE:
Recite the answer to each question to yourself.

REVIEW:
Reviewing helps you remember the information.

Results

The results of the examination of each group will be compared by a Students t-test or a Wilcoxon-test depending on the distribution of the data.

Discussion

The present planned pilot study will evaluate the effectiveness of the SQ3R learning method in medical students. The results of this pilot randomized controlled study will be the basis for calculation of sample size of a further larger phase II randomized controlled study.

Conclusions

The SQ3R learning method might improve examination success in medical students.

Poster 8

SQ3R learning method and examination success of medical students

Elisabeth Pichler-Stachl, Gerhard Pichler

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Introductiom: Medical students have to learn many textbooks - often within short time. The effectiveness of learning has therefore an important impact on the examination success. The SQ3R method is an approach to learn and study textbooks. Aim of the planned pilot study is to investigate, if the SQ3R method improves the success rate of an examination, which is part of medical studies at the Medical University of Graz.

Methods: Forty medical students will be asked to take part in this planned pilot randomized controlled study at the beginning of the "Modul XX" at the Department of Pediatrics, Medical University of Graz. After informed consent twenty students will be randomized into the study group and twenty into the control group. Students in the study group will be trained for the SQ3R method that they should apply for learning for the examination of this "Modul XX". The control group will be asked to learn as usual. The SQ3R symbols stand for: Survey / Question / Read / Recite / Review

SURVEY:	The purpose is to survey a chapter and get a general idea. This part should not take longer than 10-15 minutes.
QUESTION:	Turn each heading into a question.
READ:	Actively read the text and answer the question you asked yourself.
RECITE:	Recite the answer to each question to yourself.
REVIEW:	Reviewing helps you remember the information.

The results of the examination at the end of the "Modul XX" in both groups will be analyzed.

Results: The results of the examination of each group will be compared by a Students t-test or a Wilcoxon-test depending on the distribution of the data.

Discussion: The present planned pilot study will evaluate the effectiveness of the SQ3R learning method in medical students. The results of this pilot randomized controlled study will be the basis for calculation of sample size of a further larger phase II randomized controlled study.

Conclusions The SQ3R learning method might improve examination success in medical students.

A smoking cessation curriculum based on motivational interviewing using Facebook

David Pócs MD., Tímea Óvári, Oguz Kelemen MD. PhD
Department of Behavioural Sciences, Faculty of Medicine, University of Szeged

Introduction

Relevance The use of social media holds great value as a teaching and learning tool in medical education. One of the most widely adopted social media platforms is Facebook (FB). Focused on young adult smokers FB quit smoking intervention is attractive and feasible resulting in high retention usability.

Background Our non-compulsory, interprofessional course is based on motivational interviewing (MI), which is an useful counselling style in smoking reduction. Students created a FB page called „Smoke break" to encourage smoking reduction among young adults. This poster shows a content analysis of FB posts and comments.

Methods

Data collection We exported data posted on FB between 07/03/2107-30/06/2017 on 13/08/2017. We included FB posts created by the students (n= 101) excluding 8 admin's and 7 teacher's posts. We collected comments to these posts as well as comments to shared posts. Then we excluded comments which were not evaluable using the MI terms. In all, we collected and categorized 90 MI comments (n=90).

Data analysis In the Table 1 we summarized MI characteristics used in literature and FB characteristics used widely on FB. MI post categories are process indicators, while MI comment categories are negative (discord) and positive (change talk) outcome indicators in smoking cessation. Using FB characteristics, we measured how the content stimulated interactions (engagement rate), or inhibited interactions (negative feedback) and how it appealed to the audience of our FB page (fan-total ratio). The results were processed using the SPSS program.

Table 1. Categories of content analysis
A. MI POST CATEGORIES
- Technical Components
Cultivating Change Talk / Softening Sustain Talk
- Relational Components
Partnership / Empathy
B. MI COMMENT CATEGORIES
- Change Talk / Sustain Talk / Discord
C. FB CHARACTERISTICS
- Engagement Rate / Negative Feedback / Fan-total Reach Ratio

Results

MI post analysis There were significantly more change talk comments on the FB posts where MI strategies were used [Pearson Chi-square p<0,01]. MI posts which show empathy and partnership (relational MI strategies) had significantly more sustain talk comments than other posts [Fisher's Exact Test p<0,05]. Also these relational MI strategies show significance with negative feedback [Pearson Chi-square p=0,012]. We did not find significant correlation between individual MI post categories and MI comments categories or FB characteristics.

Figure 1 **Correlations between MI post categories and change talk, sustain talk, negative feedback**

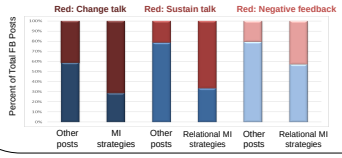
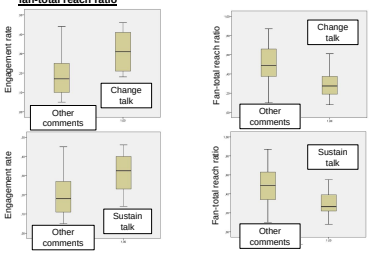


Figure 2 **Correlations between change talk, sustain talk, and engagement rate, fan-total reach ratio**



MI comment analysis FB posts which received change talk and sustain talk comments achieved significantly higher engagement rate [2-sample T-test p<0,01] and lower fan-total reach ratio [2-sample T-test p<0,01]. We did not find significant correlation between ‚discord' comment category and MI post categories or FB characteristics.

Discussion

Our survey shows that FB would be a suitable platform of MI strategies which generate change talk about quitting tobacco. Relational MI strategies could create a trusting atmosphere, where smokers write their opinions openly. Higher sustain talk rate in this subgroup can mean that smoker audience of our FB page are in the precontemplation stage of quitting tobacco. We assume that relational MI strategies cause negative interaction among the non-smoker audience of our FB page.

FB posts which evoke change talk and sustain talk create high engagement rate and these posts are also interesting for other FB users. This theory is confirmed by lower fan-total reach ratio which can mean that (presumably non-smokers) the audience of our FB page is less interested in these FB posts than other FB users. These findings raise the need for a special FB intervention for smokers using MI strategies.

Contact

If you have any questions, do not hesitate to contact us.
Email: office.magtud@med.u-szeged.hu

Appendices

Examples On the left and below you can see some examples for the MI post categories. This is a good opportunity for students to practice MI strategies combined with visual effects.

01.-04. Text: *‚Smoking as I see it' ‚as my parents see it' ‚as my friends see it' ‚as my doctor sees it'* [Softening sustain talk]
05. Text: *‚At last… maybe here I can smoke without disturbing anyone!'* [Empathy]
06. Text: *‚How would you spend your money saved on tobacco use?'* [Cultivating change talk]
07. Text: *‚Is smoking sexy? What do you think about that?'* [Partnership]
08. Text: *‚This will be my last cigarette… Oh, look, a cigarette!'* [Softening sustain talk]
09. Text: *‚Cheers to those who are considering quitting tobacco use!'* [Cultivating change talk]
10. Text: *‚Smoke break'* [the logo of our FB page]
11. Text: *‚Smoking cessation OR Free cigarette forever'* [Cultivating change talk]
12. Text: *‚When people say that smoking cessation is easy'* [Empathy]
13. Text: *‚Smoke break (FB page) without frightening pictures'* [Empathy]
14. Text: *‚And what is your reason for stopping tobacco use?'* [Cultivating change talk]

Poster 9

A smoking cessation curriculum based on motivational interviewing using Facebook

David Pócs, Tímea Óvári, Oguz Kelemen
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Introduction: The use of social media holds great value as a teaching and learning tool in medical education [1]. Focused on young adult smokers Facebook (FB) quit smoking intervention is attractive and feasible resulting in high retention usability [2]. Our non-compulsory, interprofessional course is based on motivational interviewing (MI), which is an useful counselling style in smoking reduction [3]. Students created a FB page called "Smoke break" to encourage smoking reduction among young adults. This poster shows a content analysis of FB posts and comments.

Methods: We exported data posted on FB between 07/03/2107 - 30/06/2017 on 13/08/2017. We included FB posts created by the students (n= 101). We collected comments to these posts as well as comments to shared posts. Then we excluded comments which were not evaluable using the MI terms [4-5]. In all, we collected and categorized 90 MI comments (n=90). MI post categories are process indicators, while MI comment categories are negative (discord) and positive (change talk) outcome indicators in smoking cessation. Using FB characteristics, we measured how the content stimulated interactions (engagement rate), or inhibited interactions (negative feedback) and how it appealed to the audience of our FB page (fan-total ratio). The results were processed using the SPSS program.

Results: There were significantly more change talk comments on the FB posts where MI strategies were used. MI posts which show empathy and partnership (relational MI strategies) had significantly more sustain talk comments than other posts. Also these relational MI strategies show significance with negative feedback. MI comment analysis FB posts which received change talk and sustain talk comments achieved significantly higher engagement rate and lower fan-total reach ratio.

Discussion: Our survey shows that FB would be a suitable platform of MI strategies which generate change talk about quitting tobacco. Relational MI strategies could create a trusting atmosphere, where smokers write their opinions openly. Higher sustain talk rate in this subgroup can mean that smoker audience of our FB page are in the precontemplation stage of quitting tobacco. We assume that relational MI strategies cause negative interaction among the non-smoker audience of our FB page. FB posts which evoke change talk and sustain talk create high engagement rate and these posts are also interesting for other FB users. This theory is confirmed by lower fan-total reach ratio which can mean that (presumably non-smokers) the audience of our FB page is less interested in these FB posts than other FB users.

Conclusions: Our findings raise the need for a special FB intervention for smokers using MI strategies. MI posts created by students appear to be effective in addressing smokers in the FB's platform.

References:

[1] Wendy MD, Kendall H, Jason L. Advancing social media in medical education. CMAJ. 2015 May 19; 187(8): 549–550.

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ADVANCED LIFE SUPPORT WORKSHOP FOR STUDENTS

Boris Podobnik[1], Katarina Ulen[1]
[1]medical student, SloMSIC Ljubljana, Project Emergency Medicine
urgentna.medicina@slomsic.org

Introduction: Project Emergency Medicine is a part of Slovenian Medical Students` International Committee (SloMSIC) Ljubljana and run by medical students. The purpose of the project is to provide extracurricular activities from the field of emergency medicine (Advanced life support [ALS] workshops, emergency medicine conference for students, and infographics for first aid for the lay public).

Methods: We organize an ALS workshop for students once a year and we accept 24 participants from 4th, 5th, and 6th years, since a certain level of previous clinical knowledge and exposure is needed for a better learning experience. The workshop lasts for three afternoons and it is a blended learning experience with lectures, practical work, and clinical scenarios in the simulation centre. After each workshop we receive an evaluation from students.

Advanced Life Support 2017

WEDNESDAY 13.12. LECTURES		
15:45 - 16:00	Registrations	/
16:00 - 16:30	BLS with use of AED	K. MENCIN, dr. med.
16:30 - 17:10	Urgent procedures	dr. P. RADŠEL, dr. med.
17:10 - 17:20	BREAK	/
17:20 - 18:10	ACLS and basics in heart rate disorders	dr. R. KHAFELI, dr. med.
18:10 - 19:00	Diferencial diagnosis of chest pain	doc. dr. K. PROKŠELJ, dr. med.
LOCATION: *Faculty of medicine, Ljubljana, Slovenia*		

THURSDAY 14.12. WORKSHOPS		
16:45 - 17:00	Registrations	/
17:00 - 19:30	I.V. pathway	D. HOJAK, vms
17:00 - 19:30	Airway: Intubation	asist. M. URANIČ, dr. med.
17:00 - 19:30	Defibrillation	dr. L. LIPAR, dr. med
17:00 - 19:30	Transcutaneous Cardiac Pacing	dr. M. FISTER, dr. med.
LOCATION: *Faculty of medicine, Ljubljana, Slovenia; detailed schedule is recieved at the registration*		

FRIDAY 15.12. SCENARIOS		
15:45 - 16:00	Registrations	/
16:00 - 17:30	SCENARIO 1. in 2.	doc. dr. P. GRADIŠEK, dr. med. & asist. dr. I. POTOČNIK, dr. med.
17:30	TEST 1. and 2. group	/
17:45 - 19:15	SCENARIO 1. in 2.	doc. dr. P. GRADIŠEK, dr. med. & asist. dr. I. POTOČNIK, dr. med.
19:15	TEST 3. and 4. group	/
LOCATION: *Simulation centre of Faculty of medicine, Ljubljana, Slovenia*		

Results: Our experience has been that the workshop is well-received by students, since this is an opportunity to gain essential knowledge about ALS - knowledge needed by every specialty. Participants gain this know-how in a controlled environment and put it to good use in a simulation centre under the watchful eyes of instructor specialists. The students most appreciate the option for more practical skills and a low student-to-instructor ratio, as this allows for a more effective and personalized learning.

Discussion: The workshop lasts for three afternoons. The first day is dedicated to core lectures, on the second day, students partake in practical workshops, and on the last day, participants transform into doctors in the simulation centre. Afterwards, students take a test, which evaluates acquired knowledge. If they achieve enough points, they receive a certificate of participation. Our instructors are specialists from the fields of emergency and internal medicine and anesthesiology. Unfortunately, we can only organize one workshop per year for 24 students at any one time, since a higher number of people would raise the student-to-instructor ratio and thus diminish the quality of learning, and because of logistical issues.

The ALS workshop is an appealing extracurricular activity for students in clinical years of their education. Participating in it broadens their horizons about emergency medical procedures.

Poster 10

Advanced life support workshop for students

Boris Podobnik, Katarina Ulen
Slovenian Medical Students' International Committee

urgentna.medicina@slomsic.org

Introduction: Project Emergency Medicine is a part of Slovenian Medical Students' International Committee (SloMSIC) and run by medical students. The purpose of the project is to provide extracurricular activities from the field of emergency medicine (Advanced life support [ALS] workshops, emergency medicine conference for students, and infographics for first aid for the lay public).

Methods: We organize an ALS workshop for students once a year and we accept 24 students from 4th, 5th, and 6th years, since a certain level of previous clinical knowledge and exposure is needed for a better learning experience. The workshop lasts for three afternoons and it is a blended learning experience with lectures, practical work, and clinical scenarios in the simulation centre. After each workshop we receive an evaluation from students.

Results: Our experience has been that the workshop is well-received by students, since this is an opportunity to gain essential knowledge about advanced life support - knowledge needed by every specialty. Participants gain this know-how in a controlled environment and put it to good use in a simulation centre under the watchful eyes of instructor specialists. The students most appreciate the option for more practical skills and a low student-to-instructor ratio, as this allows for a more effective and personalized learning.

Discussion: The workshop lasts for three afternoons. The first day is dedicated to core lectures - basic life support with the use of an automatic external defibrillator, emergency procedures, advanced cardiac life support with heart rhythm disorders, and the differential diagnosis of chest pain. On the second day, students partake in practical workshops. They practice intravenous cannulation, intubation, defibrillation, and external pacing. On the last day, participants transform into doctors in the simulation centre, where they participate in 2 clinical scenarios. Afterwards, students solve a test, which evaluates the acquired knowledge. If they achieve enough points, they receive a certificate of participation. The use of the simulation centre is provided by the Department of Anesthesiology and Reanimatology, Faculty of Medicine, University of Ljubljana. Our instructors are specialists from the fields of emergency and internal medicine and anesthesiology. Unfortunately, we can only organize one workshop per year for only 24 participant because of logistical issues - finding instructors, equipment, and the availability of the simulation centre. We can only accept 24 students at any one time, since a higher number of participants would raise the student-to-instructor ratio and thus diminish the quality of learning.

Conclusion: The ALS workshop is an appealing extracurricular activity for students in clinical years of their education. Participating in it broadens their horizons about emergency medical procedures. Hopefully, submitting this poster will encourage other faculties to do the same.

TEACHING BIOSTATISTICS. HOW TO AVOID THE MISUSE OF STATISTICS.

Ferenc Rárosi, Mónika Szűcs, Ferenc Bari

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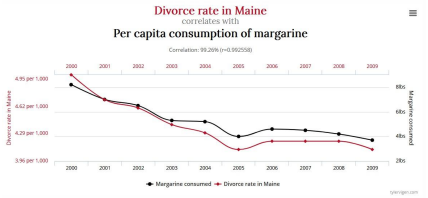
Introduction

Biostatistics is important in medical science. Most of medical research is based on empirical data. The analysis and evaluation of data is fundamental in evidence-based medicine. Unfortunately, the misuse or misinterpretation of statistics is still frequent despite that several papers dealing with and this problem. Among many typical mistakes, this poster will present some examples.

Causation vs. correlation

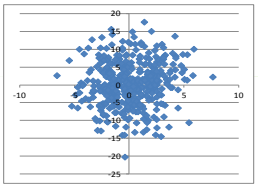
The existence of a correlation does not necessarily mean a causal relationship between two variables.



Funny example of completely unrelated, but very strongly correlated variables [4].

Statistical significance without effect size

It is well known that hypothesis tests tend to reject H0 for larger samples and even a practically irrelevant result will be significant. For example Pearson correlation of *R=0.1, n=400* will be statistically significant at *5%* level, but only *1%* of the total variance of the dependent variable could be explained by the fitted straight line:



Simulated example. *N=400, R=0.1, p=0.046.*
This is a significant, but very poor result.

Statistical significance does not necessarily mean a practically relevant result. There are several other possible misinterpretations of statistical significance [5].

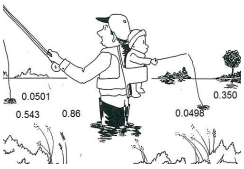
Lack of significance

The lack of the significance can lead to incorrect consequences as well. Sometimes even researchers interpret the lack of significance as the 'proof' of the H0, even if the confidence intervals are very wide [5]. Nonsignificant results are often not published [6].

Source of this figure: Darrell Huff, *How to Lie with Statistics* Penguin; New Ed edition (1991)

„Fishing for p-values"

„Fishing for p-values" is another tempting mistake.



After several hypothesis tests there is a serious increase of type I error rate. After 13 hypothesis tests it is more likely to find false significant result (5% level) than not to find. This problem is often connected to the interpretation of the results of multiple comparisons.

Conclusion and a possible solution

Source of this figure: Darrell Huff, *How to Lie with Statistics* Penguin; New Ed edition (1991)

Authors believe that some similar counterexamples help the students (first-year medical students at the University of Szeged) to avoid these mistakes. We wish to improve critical thinking in data analysis with illustrations of correctly used statistics and incorrectly used statistics.

References

1. Darrell Huff, *How to Lie with Statistics* Penguin; New Ed edition (1991)
2. Phylip Schatz et al, *Misuse of statistical tests in Archives of Clinical Neuropsychology publications.* Archives of Clinical Neuropsychology 20 1053–1059 (2005)
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6. Song F et al, *Dissemination and publication of research findings : an updated review of related biases. Health* Technology Assessment 14 (8) (2010)

Poster 11

Teaching biostatistics: how to avoid the misuse of statistics

Ferenc Rarosi, Mónika Szűcs, Ferenc Bari
Department of Medical Physics and Informatics, University of Szeged Hungary

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Biostatistics is important in medical science. Most of medical research is based on empirical data. The analysis and evaluation of data is fundamental in evidence-based medicine. Unfortunately, the misuse or misinterpretation of statistics is still frequent despite that several papers dealing with and this problem.

Among many typical mistakes, this poster will present some examples: The existence of correlation does not necessarily mean a causal relationship between two variables. Misinterpretation of statistical significance is another possible mistake. It is well known that hypothesis tests tend to reject H0 for larger samples and even a practically irrelevant result will be significant. The statistical significance does not necessarily mean a practically relevant result. The lack of the significance can lead to incorrect consequences as well. Sometimes even researchers simply interpret the lack of significance as the "proof" of the H0, even if the confidence intervals are very wide. "Fishing for p-values" is another tempting mistake. After several hypothesis tests, there is a serious increase of type one error rate.

Authors believe that some similar examples help the students (first-year medical students at the University of Szeged) to avoid these mistakes. We wish to improve critical thinking in data analysis with illustrations.

Measuring Students' Attitudes towards Medical Ethics Education among Hungarian Medical Students at the University of Szeged

Gergely Tari, Oguz Kelemen
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Department of Behavioral Sciences, Faculty of Medicine, University of Szeged

Objective

Teaching medical ethics to medical students is an essential, however always a challenging part of the medical curriculum. The measurement of students' attitudes has a key role in the development of Medical Ethics courses. The Faculty of Medicine at the University of Szeged is officially measuring students' attitudes towards all of the subjects in each semester. Additionally, in the Department of Behavioral Sciences we pay special attention on the monitoring of students` feedback. Our aim is to explore our students' attitudes towards our Department's Medical Ethics courses.

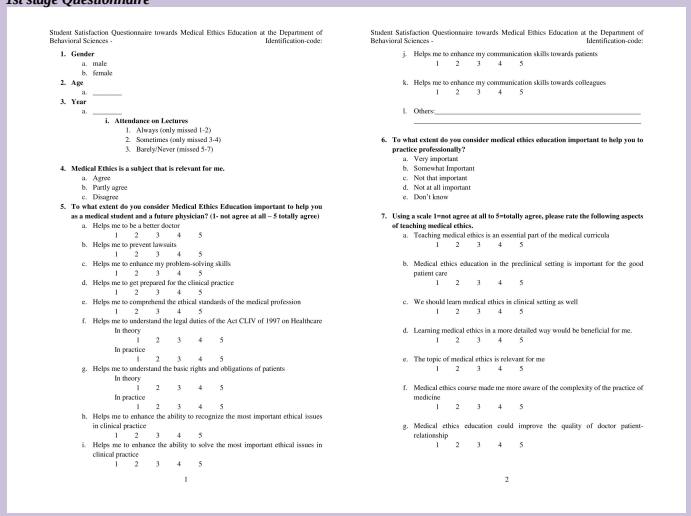
Subjects and Methods

After a literature review we edited two questionnaires for Hungarian medical students.[1] [2] As a pilot study, we collected 51 self-administered questionnaires from our 3rd year Hungarian medical students. By applying 1-5 *Likert scales* we wanted to explore, how effective our students consider the medical ethics curricula. We are gathering students' attitudes in two steps. Firstly, at the very beginning of the semester, before the first practice started. Secondly, on the final class finishing the last topic of the seminar.

Results and Conclusion

Data of the first-stage of the questionnaire suggests that 3rd year medical students consider ethics education as an important part of the medical curriculum. However, it is obvious that students more likely belive, that Medical Ethics courses provide a theoretical knowledge, rather than a practical that they could use in the clinical setting. Accordingly, most of our participants support to continue the Medical Ethics courses from their 4th year as well.

1st stage Questionnaire



Student Satisfaction Questionnaire towards Medical Ethics Education at the Department of Behavioral Sciences – Identification-code:

1. **Gender**
   a. male
   b. female
2. **Age**
   a. _____
3. **Year**
   a. _____
   i. **Attendance on Lectures**
      1. Always (only missed 1-2)
      2. Sometimes (only missed 3-4)
      3. Barely/Never (missed 5-7)
4. **Medical Ethics is a subject that is relevant for me.**
   a. Agree
   b. Partly agree
   c. Disagree
5. **To what extent do you consider Medical Ethics Education important to help you as a medical student and a future physician? (1- not agree at all – 5 totally agree)**
   a. Helps me to be a better doctor
      1 2 3 4 5
   b. Helps me to prevent lawsuits
      1 2 3 4 5
   c. Helps me to enhance my problem-solving skills
      1 2 3 4 5
   d. Helps me to get prepared for the clinical practice
      1 2 3 4 5
   e. Helps me to comprehend the ethical standards of the medical profession
      1 2 3 4 5
   f. Helps me to understand the legal duties of the Act CLIV of 1997 on Healthcare
      In theory
      1 2 3 4 5
      In practice
      1 2 3 4 5
   g. Helps me to understand the basic rights and obligations of patients
      In theory
      1 2 3 4 5
      In practice
      1 2 3 4 5
   h. Helps me to enhance the ability to recognize the most important ethical issues in clinical practice
      1 2 3 4 5
   i. Helps me to enhance the ability to solve the most important ethical issues in clinical practice
      1 2 3 4 5

1

Student Satisfaction Questionnaire towards Medical Ethics Education at the Department of Behavioral Sciences – Identification-code:

   j. Helps me to enhance my communication skills towards patients
      1 2 3 4 5
   k. Helps me to enhance my communication skills towards colleagues
      1 2 3 4 5
   l. Others:_____
      _____
6. **To what extent do you consider medical ethics education important to help you to practice professionally?**
   a. Very important
   b. Somewhat Important
   c. Not that important
   d. Not at all important
   e. Don't know
7. **Using a scale 1=not agree at all to 5=totally agree, please rate the following aspects of teaching medical ethics.**
   a. Teaching medical ethics is an essential part of the medical curricula
      1 2 3 4 5
   b. Medical ethics education in the preclinical setting is important for the good patient care
      1 2 3 4 5
   c. We should learn medical ethics in clinical setting as well
      1 2 3 4 5
   d. Learning medical ethics in a more detailed way would be beneficial for me.
      1 2 3 4 5
   e. The topic of medical ethics is relevant for me
      1 2 3 4 5
   f. Medical ethics course made me more aware of the complexity of the practice of medicine
      1 2 3 4 5
   g. Medical ethics education could improve the quality of doctor patient-relationship
      1 2 3 4 5

2

Medical ethics education in the Department of Behavioral Sciences for Hungarian medical students

Course	Type	Semester	Students	Course	Exam	Class/Week	Credit
Medical ethics	Compulsory	6.	210	Lecture	Examination	1	3
				Practice	Signature	2	0

Summary of the most relevant results

Attitudes towards Medical Ethics education (n=51)	Avarage (1-5 Likert scale)	Statistical Dispersion
Helps me to understand the basic rights and obligations of patients in **(THEORY)**	4.5	0.58
Helps me to understand the basic rights and obligations of patients **(PRACTICE)**	3.76	0.93
Helps me to understand the legal duties of the Act CLIV of 1997 on Healthcare **(THEORY)**	4.31	0.58
Helps me to understand the legal duties of the Act CLIV of 1997 on Healthcare **(PRACTICE)**	3.74	0.90
Helps me to enhance the ability *to recognize* the most important ethical issues in clinical practice **(THEORY)**	4.11	0.71
Helps me to enhance the ability *to solve* the most important ethical issues in clinical practice **(PRACTICE)**	3.73	0.82
Teaching medical ethics is an essential part of the medical curricula	4.13	0.78
We should learn medical ethics in clinical setting as well	4.10	0.94

References: [1] Johnston C, Haughton P: Medical students' perceptions of their ethics teaching. *Journal of Medical Ethics* 2007;**33:**418-422.
[2] Macpherson, C., & Veatch, R.: Medical Student Attitudes about Bioethics. *Cambridge Quarterly of Healthcare Ethics 2010*;**19**(4), 488-496.

Poster 12

Measuring Students' Attitudes towards Medical Ethics Education among Hungarian Medical Students at the University of Szeged

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Objective: Teaching medical ethics to medical students is an essential, however always a challenging part of the medical curriculum. The measurement of students' attitudes has a key role in the development of Medical Ethics courses. The Faculty of Medicine at the University of Szeged is officially measuring students' attitudes towards all of the subjects in each semester. Additionally, in the Department of Behavioral Sciences we pay special attention on the monitoring of students‘ feedback. Our aim is to explore our students' attitudes towards our Department's Medical Ethics courses.

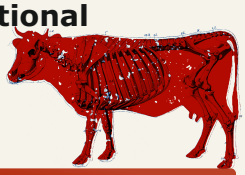
Subjects and Methods: After a literature review we edited two questionnaires for Hungarian medical students.As a pilot study, we collected 51 self-administered questionnaires from our 3rd year Hungarian medical students. By applying 1-5 Likert scales we wanted to explore, how effective our students consider the medical ethics curricula. We are gathering students' attitudes in two steps. Firstly, at the very beginning of the semester, before the first practice started. Secondly, on the final class finishing the last topic of the seminar.

Results and Conclusion: Data of the first-stage of the questionnaire suggests that 3rd year medical students consider ethics education as an important part of the medical curriculum. However, it is obvious that students more likely believe, that Medical Ethics courses provide a theoretical knowledge, rather than a practical that they could use in the clinical setting. Accordingly, most of our participants support to continue the Medical Ethics courses from their 4th year as well.

Discussion: With this method our aim is to explore our students' attitudes in a more detailed way compared to the previous methods. Also, it will be possible to compare the effectiveness of the medical ethics curricula reviewing the differences between the two steps of students‘ feedback.

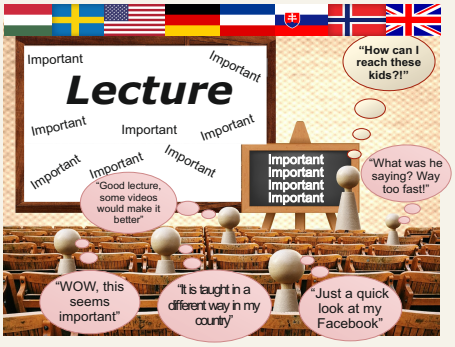
University of Veterinary Medicine Budapest

Students' feedback on lectures in a multinational environment: primary experiences



Istvan Toth[1], Barbara Kerekes[2], Tibor Bartha[1], Mira Mandoki[2]

[1]Department of Physiology and Biochemistry, University of Veterinary Medicine
[2]Department of Pathology, University of Veterinary Medicine



Feedback

To answer the question, we decided to ask the students for their opinion about the best practices in the lecture hall for possible ways of improvements. With the valuable opinions and general impressions of students, it becomes easier to find a better ways of teaching in complex subjects as well.

Furthermore, the second-hand goal was to start a well-functioning feedback system at our university, in which students are able to give useful criticism as well as positive comments.

Acknowledgement

This research was supported by the 12190-4/2017/FEKUTSTRAT grant of the Hungarian Ministry of Human Capacities.

How can we keep up with the rapidly changing generations with regard to the knowledge-transfer?

In the modern era of higher education, the students with serious workload are harder to reach in order to provide an acceptable level of knowledge-transfer.

At the University of Veterinary Medicine, Budapest, we teach in 3 languages (Hungarian, German, and English) that further complicates the question.

This can be answered only, if teachers acquire and analyze the most relevant background information including the personal opinion of the students (feedback).

"Sandwich method of giving feedback"
Picture: Steven Groves, https://commons.wikimedia.org/wiki/File:BLT_sandwich_on_toast.jpg

Results and discussion

The results showed that the students could be engaged by short but informative multimedia contents, clear blackboard drawings, and they preferred the lectures with more interactions.

With some basic differences, the expectation of Hungarian and English classes expectations in the lecture hall are quite similar.

In general, the students appreciated the opportunity of sharing their opinion, especially when they saw that this opinion had real value and visible effects.

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Poster 13

Students' feedback on lectures in a multinational environment: primary experiences

Istvan Toth[1], Barbara Kerekes[2], Tibor Bartha[1], Mira Mandoki[2]

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Introduction: The main goal of lectures and lecturers is to help students through their academic carrier to the degree. In the modern era of higher education, the students with serious workload tend to forget this noble intention of the lecturers, especially if the teacher lacks the necessary level of interaction. The good intention is not enough for an acceptable level of knowledge-providing, it is also important to find the perfect balance in teaching material (not too deep, not too superficial). At the University of Veterinary Medicine, Budapest, we teach in 3 languages (Hungarian, German, and English) that further complicates the question: how can we keep up with the rapidly changing generations with regard to the knowledge-transfer. This question can be answered only, if teachers acquire and analyze the most relevant background information including the personal opinion of the students (feedback).
Methods: To answer the question, we decided to ask the students for their opinion about the best practices in the lecture hall for possible ways of improvements. With the valuable opinions and general impressions of students, it becomes easier to find a better ways of teaching in complex subjects as well. Furthermore, the second-hand goal was to start a well-functioning feedback system at our university, in which students are able to give useful criticism as well as positive comments. We started an online questioner, in which students must share the positive thoughts as well as some negative insights that we should improve on. We also constantly responded to the feedbacks (feedback on feedback) that helped the students to understand the role and function of the feedback system.
Results: In the last semester, second year students received 4 online questioners. The results showed that the students could be engaged by short but informative multimedia contents, clear blackboard drawings, and they preferred the lectures with more interactions.
Discussion: Although we do not have enough data yet, but it seems that there were some basic differences between the Hungarian and English classes, but we can also state that their expectations in the lecture hall are quite similar. In general, the students appreciated the opportunity of sharing their opinion, especially when they saw that this opinion had real value and visible effects.
Conclusion: In our daily life, feedback is everywhere in every minute (although sometimes we do not realize that it was a useful feedback factor). Based on this fact, it is important to bring a well-functioning feedback system into the lecture halls as well. Preparing and analyzing these questioners may take time, but in a longer run, it is definitely worth our while.

STUDENTS' PERCEPTION OF PROGRESS TESTING

University of Maribor
Faculty of Medicine

Janina Ulbl[1,2] MS, Monika Sobocan[1,2,3] MD, Assoc. Prof. Sebastjan Bevc[1,4] MD, PhD, Assoc. Prof. Radovan Hojs[1,4] MD, PhD

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INTRODUCTION

Progress test (PT) is a longitudinal assessment tool which follows the knowledge acquisition throughout the educational process. Students of different years in medical school are given the same written test which covers all the relevant disciplines in a medical curriculum. For effective implementation of PT it is important to know how students themselves perceive PT and what benefits of testing they recognize. Our aim was thus to analyse students' viewpoint of PT.

METHODS

Medical students (years 1-6) were involved in PT in academic years 2016/17 (*n*=44) and 2017/18 (*n*=50). This was a pilot implementation of testing with voluntarily participation. Afterwards students were asked to fill in a questionnaire (MCQs and level of agreement with statements) regarding their opinion on PT. The response rates were 75% (year 2016/17) and 44% (year 2017/18).

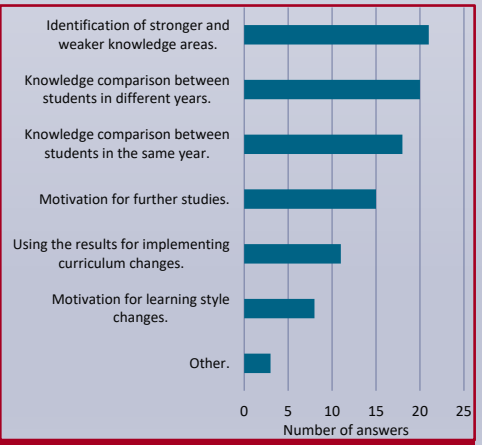

Figure 1: Students' answers to the question „What do you consider as the greatest strength of progress test and obtained results?"

RESULTS

85% of students felt that difficulty of test questions was appropriate and that given time of test writing was suitable, neither too long nor too short. When asked about test length 82% of participants felt that it was appropriate and majority of students (70%) said they were satisfied with test design. As the greatest strength of PT students recognized identification of their own strong and weak knowledge areas followed by comparison of students' knowledge (figure 1). Motivation for changing learning style was seen as strength and benefit of testing only by a few students. The main motivation for participation in testing was the opportunity to evaluate medical knowledge. 85% of participants said they are willing to take part in PT again in the future.

DISCUSSION

Attitude towards PT is mostly positive as students were satisfied with testing implementation. They agreed to high extent with statements on how PT results provide knowledge evaluation and increase self-confidence. However, students said they are not willing to change their learning style due to PT nor did recognize this as a possible benefit of testing.

CONCLUSION

It is encouraging to see how pilot test implementation was well-accepted among students. Nevertheless, they perceive PT only as an evaluation tool and not as a driving force to change their learning habits.

Poster 14

Students' perception of progress testing

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Introduction: Progress test (PT) is a longitudinal assessment tool which follows the knowledge acquisition throughout the educational process. Students of different years in medical school are given the same written test which covers all the relevant disciplines in a medical curriculum. For effective implementation of PT it is important to know how students themselves perceive PT and what benefits of testing they recognize. Our aim was thus to analyse students' viewpoint of PT.

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A Concept to Implement ERC Guideline Based Skill Training to Lectures for Medical Students at the Medical University of Graz

Gert Warncke, Berthold Petutschnigg, Christoph Castellani und Holger Till

Medizinische Universität Graz

Conclusions

1. Knowledge and skills should be acquired at an early stage of medical education to ensure maximum patient safety.
2. Skill training has great impact on the performance of medical staff in emergency situations from the present point of view.
3. Regarding quality management the skill training concept has to be widened out to reach all students oft he MUG.
4. The implementation of an ILS Diploma would also improve the chance in future applications of the medical students.

Simulation center of the Medical University of Graz

Background

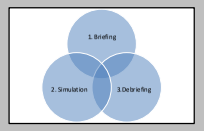
Skill training on medical simulators is an essential part in the training of basic and advanced life support. Thus skill training has been implemented into all emergency medicine course systems of the European Resuscitation Council (ERC). Up to now this essential aspect has not been adequately addressed in teaching sessions of medical students at the Medical University of Graz. This means integrating risk management into training and further medical education.

Aim

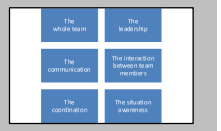
The aim of the present work is to demonstrate simulation-based training as a method for improving patient safety in student teaching at the Medical University of Graz and to test its effectiveness in the future.

Methods

The teaching concept of skill training addresses medical students (5th-6th semester of medical school) with special interest in the module special emergency and disaster medicine. The teaching concept is based on publications and psychological trainings dealing with learning and teaching concepts of adults [1]. This includes both technical and, especially, non-technical skills [2]. The simulation training was planned and conducted by active instructors of international course formats (EPALS, ETC, PALS).



3 phases of simulation training



Non-technical skills

Results

Form 2015 to 2017 74 students participated in the module special emergency and disaster medicine. 100% of these underwent skill training work-shops. The feedback of the students was very positive and the skill training was rated highly important for the future profession.

Planning for the future

Hence an increasing focus will be put on this issue in future modules.
An implementation of an Immediate Life Support (ILS) Diploma is planned beginning with winter semester 2018/19. Next to certifying skills in basic life support this ERC diploma can be used for future applications of the students.
Additionally we plan a prospective evaluation of the impact of this training on the performance of medical students in emergency situations.

References

1. Baschnegger, H., et al., *Full-scale simulation in German medical schools and anesthesia residency programs : Status quo.* Anaesthesist, 2017. **66**(1): p. 11-20.
2. Issleib, M. and C. Zollner, *Simulation-based training in anesthesia and emergency medicine: preparation for the unexpected: on the way to new standards of education in Germany.* Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz, 2015. **58**(1): p. 67-73.

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Poster 15

A Concept to Implement ERC Guideline Based Skill Training to Lectures for Medical Students at the Medical University of Graz

Gert Warncke[1], Berthold Petutschnigg[2], Christoph Castellani[1] und Holger Till[1]

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Methods: The teaching concept of skill training addresses medical students (5th – 6th semester of medical school) with special interest in the module special emergency and disaster medicine. The teaching concept is based on publications and psychological trainings dealing with learning and teaching concepts of adults. The contents of the sessions relies on ERC guidelines fort he treatment of acutely ill new-borns (New Born Life Support, NLS and European Paediatric Advanced Life Support, EPALS). At the end of the training students were asked to evaluate the training using standardised forms provided by the university. The concept was preliminarily implemented in pilot workshops for two consecutive years.

Results: Form 2015 to 2017 74 students participated in the module special emergency and disaster medicine. 100% of these underwent skill training work-shops. The feedback of the students was very positive and the skill training was rated highly important for the future profession. Hence an increasing focus will be put on this issue in future modules. An implementation of an Immediate Life Support (ILS) Diploma is planned beginning with winter semester 2018/19. Next to certifying skills in basic life support this ERC diploma can be used for future applications of the students. Additionally we plan a prospective evaluation of the impact of this training on the performance of medical students in emergency situations.

Interpretation: Skill training has great impact on the performance of medical staff in emergency situations from the present point of view. Regarding quality management the skill training concept hast o be widened out to reach all students oft he MUG. The implementation of an ILS Diploma would also improve the chance in future applications of the medical students.

University of Maribor
Faculty of Medicine

Longitudinal monitoring of self-directed learning skills: do novice and returning students score comparably?

Introduction: Self-directed learning (SDL) is a skill students acquire during formal studies to support them in unstructured educational environments and foster their learning beyond university level. SDL is especially important in medicine as a high educational demand is put on students in residency through less structured learning. Longitudinal studies on SDL are rare, as they are time-consuming, but represent the basis for any intervention to enhances students' SDL abilities as well as evaluate any curricular changes. (1) We present our 2-year progress on understanding SDL progress.

Methods: In the academic years 2016-17 and 2017-18 students at the Faculty of Medicine, University of Maribor participated in the SDL study. The study used the validated self-rating scale for self-directed learning (SRSSDL). (2) In year one 100 students participated. 84 of them returned to participate in the second research year, providing us with valuable baseline SDL progress information. Next to the returning participants, the study recruited additional 52 students. Compiling data from 136 different students over two years. Data analysis was done using the Mann Whitney U-test and descriptive statistics.

Results: Among the students, 43 participants from the 2nd and 3rd year of undergraduate medical studies were involved. Data was analyzed to understand differences in returning and novice study participants in a sensitive transition from pre-clinical to clinical education. Returning participants scored on the questionnaire comparably to novice participants. There was no significant difference in mean awareness (44.4 vs. 44.1; p>0.268), study strategy (43.3 vs. 44.0; p>0.835), study activity (43.2 vs. 42.9; p>0.482) and evaluation (40.3 vs. 40.7; p>0.189).

Discussion: Our data shows, that SRSSDL is reliable in long term, as returning and novice students in the same year score comparably. Furthermore, detailed data analysis shows moving from pre-clinical to clinical education in our school doesn't result in significant changes in study strategies and self-evaluation, enabling us now to form decision making on SDL enhancement.

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Literature:

1. Murad MH, Varkey P. Self-directed Learning in Health Professions Education. Ann Acad Med Singapore. 2008;37:580–90.
2. Williamson SN. Development of a self-rating scale of self-directed learning. Nurse Res. 2007;14(2):66–83.

Take home message

SRSSDL is a reliable tool for long-term skill evaluation and enables us a detailed understanding of impactful events such as educational transitions.

Poster 16

Longitudinal monitoring of self-directed learning skills: do novice and returning students score comparably?

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Discussion and Conclusion: Our data shows, that SRSSDL is reliable in long term, as returning and novice students in the same year score comparably. Furthermore, detailed data analysis shows moving from pre-clinical to clinical education in our school doesn't result in significant changes in study strategies and self-evaluation, enabling us now to form decision making on SDL enhancement. SRSSDL is a reliable tool for long-term skill evaluation and enables us a detailed understanding of impactful events such as educational transitions.

References:

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Medical Students like learning with multiple choice questions

Medical University of Graz

David Zweiker
Department of Cardiology, Medical University of Graz

Introduction

Multiple-choice questions are used in a considerable proportion of exams in biomedical sciences. Pre-examinal training using questions is a convenient tool to get used to the questioning technique. However, little is known about the acceptance of students learning content with multiple choice questions.

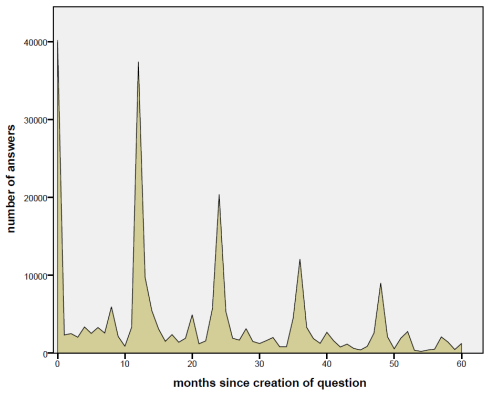
Methods

From 2009 to 2015, a medical student created multiple-choice single-select questions in all subjects of medicine for learning purposes. The questions were compromised into a custom-made system that allowed a realistic exam experience, similar to electronic exams performed at the Medical University of Graz, and gave feedback at the end of each session. The system was made available on a website for free to the student's colleagues, without further updates. The acceptance of the questions by his colleagues was measured with analysis of usage.

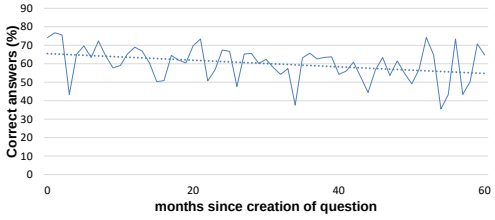
A preview of the website.

Results

During the analysis period, 4,740 questions were used a total of 261,236 times. The questions were used the majority of times within the first 5 years after creation after creation (243,663 answers, 93.2%). 159,553 answers (65.5%) were correct. In the first 5 years, the questions were answered a mean of 3391±723 times per month with spikes once a year, corresponding to exam dates. The questions were used most often within the first month (40,191 times) and 12 months after creation (37,410 times). Even after 60 months, the questions were used several times (1224 times).



Use of multiple-choice questions per month, 0-60 months after creation. There were substantial spikes yearly, probably corresponding to exam dates.



The proportion of correct answers declines as the questions becomes older.

Discussion

Despite being outdated, free-access multiple-choice questions were used for training purposes by student-colleagues several years after creation.

Conclusion

Students seem to seek training material especially in the same form as the corresponding exam.

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Poster 17

Medical Students like learning with multiple choice questions.

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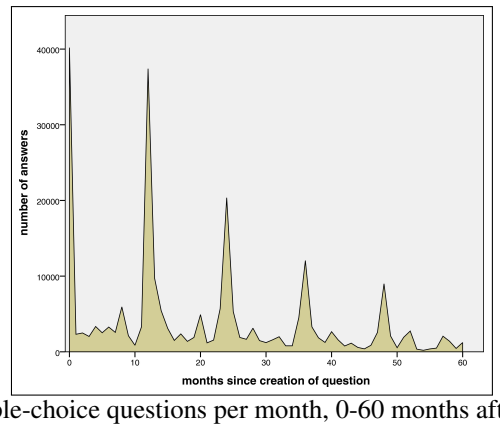

Figure 1: Use of multiple-choice questions per month, 0-60 months after creation. There were substantial spikes yearly, probably corresponding to exam dates.

7 Teilnehmer/Participants

Participants of the 22nd Graz Conference, Maribor, Slovenia
(by 29 March 2018)

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ISBN: 978-3-200-05654-1