



**Helsinki 27.3.2014**

**2nd Scientific Meeting of the Association for  
Medical Education in Finland**

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**Program and abstracts**



## PREFACE

### Welcome to the second Scientific Meeting of the Association for Medical Education in Finland (AMEF) organized in Helsinki!

This scientific meeting is still a new activity of the Association. We plan to keep the meeting schedule tight, but with flexibility and informality to promote exchange of information and ideas. Participation in the meeting is free for those interested in Medical and Dental Education, basic as well as postgraduate and Continuous Professional Development (CPD).

The Association for Medical Education in Finland was originally founded in 1978 to promote medical and dental graduate, postgraduate, and CPD. Alongside we aim to facilitate the activation of medical educational research, teaching and publication. Activities of AMEF were rekindled in 2005, when Special Competence in Medical Education for medical and dental teachers and educators in Finland was founded, awarded by the Finnish Medical Association and the Finnish Dental Association. AMEF has contributed to arranging medical educational meetings and seminars in Finland in the past nine years.

We hope to continue with these scientific meetings of medical and dental educators in Finland! On behalf of the organizing committee and AMEF, warmly welcome!

Minna Kaila

### Tervetuloa Lääketieteen Koulutuksen Yhdistyksen (LKY) toiseen koulutustutkimukseen keskittyvään kokoukseen, tällä kertaa Helsingissä!

Kokous järjestetään nyt toisen kerran – edelleen yksipäiväisenä. Toivomme voivamme edelleen edistävää laajaa tutkimusideoiden ja -tulosten pohdintaa, uusien verkostojen kutomista ja vanhojen ylläpitämistä. Kokouksessa ei tänäkään vuonna ole osallistumismaksua.

LKY perustettiin jo vuonna 1978 tarkoituksenaan lääkärien ja hammaslääkärien perus-, jatko- ja täydennyskoulutuksen, siihen kohdistuvan tutkimus-, opetus- ja tiedotustoiminnan sekä alan koulutusyksiköiden keskinäiseen koulutukseen liittyvän yhteistyön edistäminen. Vuosien hiljaiselon jälkeen maaliskuussa 2005 toiminta käynnistettiin uudelleen. LKY on aloittanut yhdessä Suomalaisen Lääkäriseuran Duodecimin ja muiden kanssa Lääkärikouluttajan kesäkoulun. Yhdistyksen suurin työ on ollut ja on lääkärikouluttajan ja hammaslääkärikouluttajan erityispätevyyden käynnistäminen ja ylläpitäminen; pätevyyden myöntävät Lääkäriliitto ja Hammaslääkäriliitto.

Toivomme voivamme jatkaa tällaisten koulutustilaisuuksien järjestämistä! Se on mahdollista innostuneen jäsenistön myötävaikutuksella ja tuella – tänä vuonna erityiskiitos dosentti Eeva Pyörälle ja koulutussuunnittelija Anne Vierrokselle! Järjestelytoimikunnan puolesta lämpimästi tervetuloa!

Minna Kaila

## 2nd Scientific Meeting of the Association for Medical Education in Finland (AMEF)

Date: 27.3.2014

Venue: University of Helsinki, Faculty of Medicine, Meilahti Campus, Haartman Institute, Lecture hall 1, Haartmaninkatu 3.

Organizers: Association for Medical Education in Finland, Faculty of Medicine Helsinki, Members of the Teachers' Academy in the Faculty of Medicine

### Program

- 9.00 - 10.00 Registration and morning coffee/tea
- 10.00 - 10.10 Opening of the meeting: Minna Kaila
- 10.10 - 11.00 **Keynote speaker Diana Dolmans**, PhD, Professor of Innovative Learning Arrangements, Maastricht University, School of Health Professions Education (SHE), The Netherlands: ***Building bridges between medical education research and practice***, chair Minna Kaila
- 11.15 - 12.15 **Short communication session 1: Chairperson Terhi Karaharju-Suvanto** (8 minutes for presentation and 2 minutes for discussion)
- 1SC/1 **Eye-tracking and retrospective think-aloud (RTA) for studying learning processes of 1<sup>st</sup> year medical students on ECG material**  
*Tuulari JJ, Anto E, Mikkilä-Erdman MM, Kääpä P*
- 1SC/2 **Riding on technology towards paperless curriculum**  
*Hervonen H, Masalin T, Viranta-Kovanen S, Selänne L, Englund J*
- 1SC/3 **Medical students' conceptions of critical thinking after preclinical PBL**  
*Aarnio M, Lindblom-Ylänne S, Nieminen J, Pyörälä E*
- 1SC/4 **Medical students improve clinical skills before patient contact**  
*Halttunen-Nieminen M, Unkila-Kallio L, Paavonen J*
- 1SC/5 **Wet prep examination training for medical students**  
*Halttunen-Nieminen M, Nieminen P, Paavonen J*
- 12.15 - 13.15 Lunch break

- 13.15 - 14.15                    **Short communications session 2: Chairperson Heikki Hervonen**  
(8 minutes for presentation and 2 minutes for discussion)
- 2SC/1                    **“Supertutors” inspire medical undergraduate into primary health care**  
*Karppinen H, Kuikka L, Kärppä L, Nevalainen M, Salokekkilä P, Sjöberg-Tuominen L, Eriksson J, Pitkälä KH*
- 2SC/2                    **Pediatric cardiology core curriculum for medical students - how well does it reflect problems encountered in the primary care setting?**  
*Sarkola T*
- 2SC/3                    **Clinical supervision of psychiatric trainees in hospital district of Helsinki and Uusimaa –a focus group study**  
*Svirskis T, Huttunen E, Pyörälä E, Joffe G, Brittlebank A*
- 2SC/4                    **Special competence in medical education in Finland – What do the portfolios tell?**  
*Niemi-Murola L, Kaila M, Vainiomäki P*
- 2SC/5                    **Rewarding excellence in university teaching – the Teachers’ Academy at the University of Helsinki**  
*Pyörälä E, Hervonen H, Pitkälä K, Karaharju-Suvanto T*
- 14.15 – 14.30                    Afternoon coffee and tea
- 14.30 - 15.30                    **Two parallel poster sessions**
- Poster session 1: Chairperson Minna Kaila**  
(4 minutes for poster presentation and 3 minutes for discussion)
- 1P/1                    **The development of communication skills during medical studies**  
*Sundström M, Silvennoinen H, Kääpä P, Österholm-Matikainen E*
- 1P/2                    **Challenging patients don’t take a young doctor seriously – Medical students’ self-assessed communication skills at the end of their studies**  
*Toivonen A, Pyörälä E*
- 1P/3                    **Encounters in the health care – The voice of the patient**  
*Salokekkilä P*
- 1P/4                    **Characteristics of a good physician – change of medical student s’ perceptions during the medical education**  
*Harila K, Hurtig T, Parkkila V, Levy A, Kääpä P, Taanila A, Vainio O*
- 1P/5                    **What happens to critical thinking in PBL?**  
*Peltonen LM*

1P/6	<b>How to stimulate students to learn preventive medicine? Try virtual patients</b> <i>Korhonen T, Helaskoski E, Lagerstedt R, Romanov K, Pyörälä E</i>
1P/7	<b>Training the trainees in occupational health in Finland</b> <i>Jungewelter S</i>
	<b>Poster session 2: Chairperson Jussi Merenmies</b> (4 minutes for poster presentation and 3 minutes for discussion)
2P/1	<b>Tablet computer use in self-study by medical students in the University of Helsinki</b> <i>Bodgan N, Wilkman M, Kurkisuo L, Tarkkila H, Romanov K, Pitkäranta A</i>
2P/2	<b>iPads in teaching and the attitudes of the medical teachers at the Faculty of Medicine at the University of Helsinki</b> <i>Masalin T, Sundvik M, Hervonen H</i>
2P/3	<b>Students' perceptions of their learning in the anatomical dissection at the University of Helsinki</b> <i>Viranta-Kovanen S, Hervonen H, Masalin T</i>
2P/4	<b>Does the type of clerkship have an impact on professional skills?</b> <i>Mars N, Halttunen-Nieminen M, Kalske J, Pitkäranta A</i>
2P/5	<b>How the pain related education should have been implemented during basic medical education: views of primary and secondary care doctors</b> <i>Kauppila T, Huvinen S, Karhula T, Elonheimo O, Pöyhä R</i>
2P/6	<b>Using ISBAR model in a prehospital telephone consultations – a pilot study</b> <i>Hallikainen J, Väisänen O, Saarela S, Niemi-Murola L</i>
15.30 - 15.50	<b>AMEF Award Presentation Heli Vinkka-Puhakka: <i>Designing innovative dental curriculum - inspirations and challenges</i></b>
15.50 – 16.05	<b>Comment by Diana Dolmans</b>
16.05 – 16.15	Discussion, chair Eeva Pyörälä
16.15 - 16.20	Close of the day
16.45 ->	Get-together at the Restaurant Messenius

# **2<sup>nd</sup> Scientific Meeting of the Association for Medical Education in Finland (AMEF)**

## **Organizing committee**

Minna Kaila, Helsinki, President, chair

Jaana Franck, Turku, Secretary General

Juhani Jääskeläinen, Tampere

Outi Kortekangas-Savolainen, Turku

Jussi Merenmies, Helsinki

Ritva Näpänkangas, Oulu

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Olli Vainio, Oulu

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## **Local Organizing Committee**

Eeva Pyörälä, chair

Anne Vierros, secretary

Heikki Hervonen

Minna Kaila

Terhi Karaharju-Suvanto

Leila Niemi-Murola

Kaisu Pitkälä

## Keynote speaker: DHJM (Diana) Dolmans, PhD



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Maastricht University, the Netherlands  
School of Health Professions Education (SHE)  
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Diana Dolmans (1966) is a professor in the field of innovative learning arrangements at Maastricht University, the Netherlands.

Diana Dolmans' line of research is strongly related to student and teacher learning in innovative curricula in higher education. Her research contributes to bridge-building between educational theory and practice and yields guidelines for designing innovative learning environments in general and problem-based learning in specific. Her studies focus on the role of meaningful problems, the role of the teacher and the role of students within innovative curricula. Her studies on the role of the use of real patient problems demonstrate that these problems stimulate students towards active learning and clinical and biomedical reasoning. Results of studies on the role of the teacher show that teachers in innovative curricula should know how to deal with subject matter expertise and how to facilitate the learning process. Studies on the role of the teacher within workplace settings demonstrate that effectively tailoring supervision to the learner's level of learning is the key to successful learning. Studies on the role of the students demonstrate that active participation in a group discussion facilitates deep learning and leads to better knowledge retention on the long term.

Since 2012 she is the educational director of the Interuniversity Centre for Educational Research (ICO), a Dutch national research school recognized by the Royal Netherlands Academy of Arts and Sciences (KNAW), in which 13 Dutch and Flemish universities with PhDs within the education sciences collaborate in offering a training programme for their PhD candidates.

Diana Dolmans is a member of the management team of the research programme Research in Education within the School of Health Professions Education and the coordinator of an advanced course on writing a PhD research proposal within this school. Furthermore, she is a member of the management team of the Master of Health Professions Education programme and a supervisor of several PhD candidates. She is associate editor of *Advances in Health Sciences Education*, editorial board member of several international journals and has published in many refereed international journals.

## 2<sup>nd</sup> Scientific Meeting of the Association for Medical Education in Finland (AMEF) Abstracts

11.15 - 12.15

Short communication session 1: Chairperson Terhi Karaharju-Suvanto

1SC/1 **Eye-tracking and retrospective think-aloud (RTA) for studying learning processes of 1<sup>st</sup> year medical students on ECG material**

*Tuulari JJ, Anto E, Mikkilä-Erdman MM, Kääpä P*

University of Turku

Background: Eye-movement recording, combined with verbalization protocols, has been successfully used for reading process studies and web page usability testing.

Aim: To explore relationship of eye movements and verbalized learning process.

Material and Methods: We recorded eye-movements of 1st year medical students (n = 42) while they studied learning material concerning ECG basics. Thereafter, eye movement recordings were replayed to the readers and they were asked to verbalize their learning process (retrospective think aloud, RTA). We extracted individual eye movement data from the recordings (fixation time and amount). Thematic analysis of the verbalizations was paired with the eye-movement data and their associations explored with correlation analysis. Results: We found positive correlation between total fixation time of the text and verbalizations categorized as deeper processing of content (Pearson's correlation test,  $r = 0,464$ ,  $p = 0,034$ ). Furthermore, an association was found between fixation time on graphics and difficulty of the element (text or graphics): the higher the level of element difficulty was, as commented by the reader, the larger proportion of the time he/she spent on graphics (Pearson's test of correlation,  $r = 0,662$ ,  $p = 0,001$ ). Conclusion: Eye-tracking combined with RTA allows simultaneous assessment of reading and learning, thus, bringing new depth into (medical) learning research.

1SC/2 **Riding on technology towards paperless curriculum**

*Hervonen H, Masalin T, Viranta-Kovanen S, Selänne L, Englund J*

University of Helsinki

Background: The Faculty of Medicine in the University of Helsinki has strongly moved towards paperless teaching and studying during the past 10 years. In September 2013, every first year student received an iPad thanks to a grant from Jane and Aatos Erkko Foundation. Materials and methods: We describe the current state of studying with or without paper in our faculty. Results: University of Helsinki's intranet serves as a platform for steady course materials, like course description and aims of the studies. Terkko's Digital course library (DiKK) is a database in which any teacher can share his/her materials (lecture notes, laboratory instructions etc.). These materials are open to every student and teacher in the faculty. The use of electronic books was greatly boosted when the iPads were adopted. Three of the first year textbooks were loaded in the devices in the form of interactive InKling books. Our instant observation is, that the students use effectively their iPads effectively in reading, making notes and searching & processing knowledge. Conclusions: Delivering course materials in digital form is simple and practical. When the recipient has an easy to use device at his/her disposal, there is no need to print materials at all. Take home message: You really can carry all your textbooks, course materials and life time notes in a small easily portable mobile device with many more inspiring applications.



1SC/3 **Medical students' conceptions of critical thinking after preclinical PBL***Aarnio M, Lindblom-Ylänne S, Nieminen J, Pyörälä E*

University of Helsinki

Background: Learning to think critically is an important objective in medical education. Among the many ways to teach critical thinking, problem-based learning (PBL) has an important role in helping students acquire medical knowledge, while also developing their critical thinking. Despite the interest, there is a lack of conceptual clarity what critical thinking means. The present study focuses on medical students' conceptions of critical thinking in the context of PBL. Methods: The study involved medical students answering to questionnaires in the first and third year. Qualitative content analysis was conducted to examine students' conceptions of critical thinking. Results: The majority of the students perceived critical thinking as an individual effort where the reliability of external sources of information, such as the learning materials, is judged. Few students perceived critical thinking also as a collaborative effort where each other's thinking processes, assumptions and hypotheses are examined and viewed from different perspectives. Many students perceived that critical thinking was not developed in PBL. Conclusions Students' understanding of critical thinking may explain why critical thinking was not perceived to be developed in PBL. In preclinical PBL, students lack expertise to evaluate the reliability of the learning materials. Therefore, in terms of learning critical thinking, they should concentrate on evaluating each other's thinking regarding the learning materials. Take-home message: By helping medical students understand various aspects of critical thinking, they would appreciate the possibility of learning them in PBL and making use of them later in their careers.

1SC/4 **Medical students improve clinical skills before patient contact***Halttunen-Nieminen M, Unkila-Kallio L, Paavonen J*

Helsinki University Central Hospital

The intake of medical students in Helsinki University is increasing. In obstetrics and gynecology the class consists of 130 students per year at present. The number of students will increase to 160 in the coming few years. Due to the nature of gynecological examination we divide the students in small groups of 5 medical students. Previously we had two days of propedeutic introduction class, immediately followed by small groups teaching including clinical examination of real patients. Thus, the first patient contacts for a group of students just starting their ob/gyn clerkship could consist of strikingly complex cases, such as obstetric high risk patients or patients with advanced gynecological cancer. This structure has now been changed and the curriculum has been revised accordingly. Now we start each course with a 3 weeks of propedeutics class including key terminology and basics of obstetrics and gynecology. This class consists of core lectures and interactive seminars. The students learn clinical skills based on so called OSCE stations supervised by experienced clinical teachers. Only after passing web-based propedeutic examination, the students are allowed to start small group teaching with real patients. The feedback both from our students and clinical teachers has been strikingly positive indicating that these improvements provide better understanding of clinical ob/gyn problems the students face. The students also have better skills in handling the gynecological instruments, collecting specific samples and in general performing clinical examination of the patients referred, compared to the situation we had before this significant modification of the program.

1SC/5

**Wet prep examination training for medical students***Halttunen-Nieminen M, Nieminen P, Paavonen J*

Helsinki University Central Hospital, Dept. Ob/Gyn

Bedside tests during clinical examination have multiple advantages. Such tests are rapid, easy to perform, test results are readily available, do not require complex instrumentation and are cost-effective. Wet prep examination is certainly one of the best examples of such bedside tests which are likely to have major impact in patient care. We prepared a simple module to teach 5th year medical students wet prep examination during small group sessions. The topic was introduced to the students by giving first a formal class room lecture of the sampling technique, instrumentation and handling of the microscope. Educational objectives were next outlined including identification of normal vaginal discharge, various causes of vaginitis or vaginal inflammation, evaluation of hormonal effects and in general how to evaluate vaginal ecosystem. Practice based learning during small group teaching sessions included hands-on training of obtaining vaginal sample and preparing the wet mount for microscopic examination. This was performed after clinical pelvic examination while the patient was getting dressed. Our teaching office was equipped with a high quality Olympus microscope attached to two TV monitors. Clinical teacher first reviewed the most significant wet prep findings after which each of the three medical students present each time personally performed microscopy while the other medical students reviewed the findings on the monitors. This was then followed by brief discussion and review of the key findings. Our goal is to provide medical students with wet prep examination skills to improve patient care. Our goal is also to demonstrate cost effectiveness of wet prep examination which is likely to save health care costs. These skills would be important for general practitioners in community service seeing OB/GYN patients complaining of vulvovaginal symptoms. Such patients are strikingly common in general practice and often are poorly managed.

2SC/1

**“Supertutors” inspire medical undergraduate into primary health care***Karppinen H, Kuikka L, Kärppä L, Nevalainen M, Salohekkilä P, Sjöberg-Tuominen L, Eriksson J, Pitkälä KH*

University of Helsinki, Department of general practice and primary health care

Background: Primary health care has had waning reputation and the general practitioner’s (GP) work has become less tempting for young doctors worldwide. Aim: To develop an inspiring curriculum of general practice. Material and methods: All 3rd and 4th-year medical students were offered a course in health centres to practice their consultation skills with real patients in 2007, instead of being merely spectators. Ten GPs were hired as part-time clinical teachers, and pedagogical training was offered to them. These “supertutors” guided medical students during the training periods and assessed their performance in a structured way. Feedback was gathered electronically. The students rated the overall impression of the course on a 1-5 Likert scale and free-form answers. These numeral ratings were compared before and after the new “supertutor” courses were implemented. Results: Evaluations have improved significantly. The overall impression of the course was 2.36 in 2006, compared with 4.44 in 2012 (1=poor, 5=excellent). The undergraduates are more confident with own practical skills, and they appreciate the immediate feedback from the “supertutor”. Conclusion: Early patient contacts under supervision of trained “supertutors” inspire the students and enhance their professional development. Take home message: Professionalism and enthusiasm for primary health care can be achieved by modifying the curriculum. Contribution of several committed part-time clinical teachers seems to be one key to success.

2SC/2

**Pediatric cardiology core curriculum for medical students - how well does it reflect problems encountered in the primary care setting?***Sarkola T*

Children’s Hospital, Helsinki University Central Hospital, Helsinki

Background: Cardiovascular findings are common in the pediatric population in the primary care setting. It is unclear how well the current medical student core curriculum reflects the needs of physicians in the management of pediatric cardiovascular problems encountered in primary care. Aim: Compare non-urgent primary care referral indications for pediatric cardiology with the core curriculum provided for 5th year medical students. Material and Methods: Retrospective review of 188 primary care referrals to tertiary care between June 1st and December 13th 2013. The core curriculum was defined by consensus of a questionnaire sent to all universities in Finland providing medical student teaching in pediatric cardiology. Results: Main indications for referrals included murmur (62%), suspected history of cardiac rhythm abnormality or unclear ECG (21%), previously detected congenital heart disease (5%), chest pain (4%), and miscellaneous (8%). 61% of the referrals were scheduled for an outpatient visit assessment with those scheduled being significantly younger of age. A minor abnormality was found among 13% of murmurs and 15% of rhythm abnormalities, none of them requiring invasive intervention or treatment. 16% were scheduled for a follow-up visit. The current core curriculum included the most common congenital cardiac defects and rhythm abnormalities, cardiovascular history taking and status assessment including ECG, as well as indications for referral to tertiary care. Conclusion: The most common conditions referred from primary care are covered in the current core curriculum. The need of intervention or treatment is rare. Due to the low yield among referrals, the core curriculum could benefit from more focus on the management and indications of referral to tertiary care.

2SC/3 **Clinical supervision of psychiatric trainees in hospital district of Helsinki and Uusimaa –a focus group study**

*Svirskis T, Huttunen M, Pyörälä E, Joffe G, Brittlebank A*  
University of Helsinki

Background: Clinical supervision with high quality feedback is a powerful tool to change behaviours of doctors in specialist training. However, only one third of the specialists in Finland reported to have received good quality supervision during their specialization (Aine et al. 2011). Aim: The goal of this project is to set up a faculty development program for clinical supervisors in psychiatry in the Hospital District of Helsinki and Uusimaa in order to promote competency based clinical supervision while supervising trainees (comprises five hospital areas with population of 1.5 million inhabitants). Material and methods: A qualitative study was carried out among 1) psychiatrists (supervisors) and 2) trainees in psychiatry to study attitudes, skills, needs and satisfaction related to clinical supervision and how clinical supervision is currently being delivered. The data gathered in focus group interviews (2-5 participants per group) was analyzed using content analysis. Results: Expected goals and content of supervision were unclear for both supervisors and trainees. Supervisors had no training for delivering clinical supervision, and supervision was usually understood to be the same as clinical consultation. Trainees reported to get very little feedback of their performance. Conclusions: Clinical supervision, its' goals and ways of delivery need to be more clearly defined. Clinical supervisors need training in pedagogy and how to give feedback. As trainer training is practically non-existing in the Finnish psychiatry, our train the trainer program will be a pioneering step in developing specialist training in psychiatry in Finland. Take-home message: There is a real need to train the supervisors to ensure better learning outcomes of the trainees.

2SC/4 **Special competence in medical education in Finland – What do the portfolios tell?**

*Niemi-Murola L, Kaila M, Vainiomäki P*  
University of Helsinki, Department of Anaesthesiology and Intensive Care Medicine

Background: Since 2008, Association for Medical Education in Finland (LKY) is working with establishing special competence in medical education. The purpose of this study is to analyse the applicants' approaches to learning in their work as teachers and how they utilise received feedback. Methods: The portfolios of the accepted applicants (N = 137) were included in the study. The applicants' portfolios were read and analysed independently by two experienced medical teachers with emphasis on approaches to learning, ways of promoting learning, their identity as teachers and utilisation of feedback. The applicants' texts were categorised using grading described by Postareff and co-workers (1). Results: There was a great deal of variation in the texts. Most applicants (91%) mentioned theoretical basis of their approaches to teaching, 12% described their personal development while 80% de-scribed the present status. Eleven percent of the applicants described their development as teachers in promoting learning, 83% described the current status and 5% did not mention their efforts in promoting students' learning. Thirty-eight percent identified themselves as teachers, 8% were categorised as having physician's identity. Half of the applicants described results of some new educational intervention or hinted to active to continuous personal development as a teacher. Thirty-nine percent of applicants collected feedback but did not mention any reaction to it, 27% described their actions and 28% aimed to react to the received feedback. CONCLUSION: The majority of teaching portfolios were reports of activities rather than dynamic analyses of effects of pedagogical training. References: Postareff L et al. Teaching and Teacher Education 2007; 23: 557-71.

2SC/5

**Rewarding excellence in university teaching – the Teachers' Academy at the University of Helsinki***Pyörälä E, Hervonen H, Pitkälä K, Karaharju-Suvanto T*  
University of Helsinki

The Teachers' Academy was established in 2012 at the University of Helsinki to reward excellent teachers. The Academy aims at improving the careers of university teachers and the status of teaching as well as promoting teaching and learning cultures in the academic community. This paper describes the background and the practices of the Teachers' Academy. The Academy was based on a theoretical model of Scholarship of teaching and learning. It required that teachers focused on student learning, develop over time and have a scholarly approach to teaching and learning. International examples were studied in Sweden, Great Britain, Australia and USA. The criteria for selecting the Academy members focus on continuous development of teaching and student learning, expertise in using and developing teaching materials, and collaboration in teaching and learning. The Academy members and their home units are provided a two-year grant. In the first round 30/133 and in the second round 20/69 members were selected. Six of them work in the Faculty of Medicine. The Academy has given a positive stimulus for teaching at the University of Helsinki. The members of the Academy form a multidisciplinary community of teachers which shares good teaching practices across disciplinary and faculty borders. They organize seminars and workshops in collaboration with the pedagogical experts of the University of Helsinki. They form working groups on teaching and learning philosophy, activating learning methods, constructive alignment and assessment, international development, critical thinking, supporting young teachers, and communication. Universities require new models for rewarding excellent teachers, enhancing good teaching practices between the faculties and promoting quality culture in teaching and learning.

1P/1 **The development of communication skills during medical studies**

*Sundström M, Silvennoinen H, Käpä P, Österholm-Matikainen E.*

University of Turku

This qualitative longitudinal study analyzes development of medical students' communication skills in patient encounters as part of professional growth. Research sample comprises of students who began their education in 2006 at the Medical faculty of the University of Turku. The same sample of students was followed up over the period of their studies, and the student progress was tracked by conducting annual evaluations during the years 2006-2012. The data (N= 137) were collected from the first-, third- and sixth-year medical students. Students were asked to resolve a short written patient case. The questionnaire remained the same every year. Patient case assignments were analyzed by inductive content analysis. This study is part of longitudinal follow-up study on medical education Learning Medical Expertise (LeMex) conducted by the University of Turku and the University of Oulu.

The results of the study show that the communication skills got professionally better during the education. Evaluated during the studies, there could be seen qualitative differences in how students approach to the patient and close-relatives. The first-year students' used multiple ways and more time for interaction and remain longer in communication level than later in the studies. Expressions of empathy decreased as the students proceeded in their studies. At the same time there was to be seen positive development in students' skills in making of medical decisions of how to proceed with the case, as well as in multi-professional teamwork.

1P/2 **"Challenging patients don't take a young doctor seriously" – Medical students' self-assessed communication skills at the end of their studies**

*Toivonen A, Pyörälä E*

University of Helsinki, Hjelt Institute, Department of Public Health

Communication skills studies (CCS) are well established in medical schools. At the University of Helsinki CCS form a continuum in the medical curriculum. In the final study year CCS are studied in an optional seminar entitled "Doctor's good communication skills". The aims of this study were to find out how graduating students think they master communication skills, how they learn communications skills and what challenges they have in communication. The data were collected with a questionnaire including quantitative and qualitative questions in autumn 2013. It was returned anonymously and students were asked an informed consent. 45 students (94% of the participants) agreed to take part in research. Student's self-assessments showed they mostly mastered well communication skills. The mean varied from 3.18 to 4.62. Students understood the importance of communication in medical practice. Students rated lowest their ability to handle malpractices and to discuss risks for complications. Best ways of learning communication skills were interaction with real patients, simulations with actors and everyday life interaction. The greatest challenges in communication were time management and challenging patient encounters. Also encountering family members and multicultural communication were demanding. Students expressed they were prepared for professional communication. They recognized the importance of doctor-patient communication but still lacked confidence in some areas which should be better covered in CCS. Research is required to indicate how to improve the CCS to better meet the students' needs in multifaceted communication in health care. Students' self-assessment of mastering communication skills at graduation provides important insights into how to further develop CCS.

1P/3 **Encounters in the health care – The voice of the patient***Salokekkilä P*

Helsinki city, Dept of Social services and Health care

This is a study of the experiences of people consulting their doctors and narratives they have told based on these experiences during the interviews. Most of the 33 informants were interviewed at their homes. They were asked to tell about successful and failed encounters with the health care providers and to define “benefit” and “unnecessary visit”. The consultation is the core event in general practice. The patient and the doctor construct the contents of the encounter together. The texts have been analyzed by using the content analysis. Bayesian network modeling has also been used for the analysis of the interviews. The informants have expressed their long lasting suffering, chronic pain and sometimes even struggle against the faceless health care system but also great experiences of caring doctors and excellent treatment outcomes. The expert doctor gives face to the system and influences the patient perception towards the whole health care system. The messages from this study are directed to the decision makers of the medical education and the health care organizations. An innovative and user friendly approach with a strong moral dimension and concern for ethical issues is needed when building the health care system for the next decade.

1P/4 **Characteristics of a good physician – change of medical students’ perceptions during the medical education***Harila K, Hurtig T, Parkkila V, Levy A, Kääpä P, Taanila A, Vainio O*

University of Oulu

One of the aims of medical education is to help students to develop a sense of their own professional identity as a physician based upon knowledge, skills, values, attitudes and beliefs. Medical educators have an important role in guiding and supporting students in the process of professional growth. The purpose of this study was to find out which characteristics are valued by medical students in their future profession and how the perceptions change during the medical education. We hypothesized that medical students value different characteristics depending on the phase of their studies and that studies prior to medical school play a role in the perceptions students attribute to a good physician.

This study is a part of a longitudinal follow-up study on medical education entitled ‘Learning Medical Expertise’ (LeMex). Participants were medical students at the University of Oulu (n=116) and the University of Turku (n=111) who started their studies in 2006. The students were asked to name five characteristics of a good physician in the beginning of their studies and during the final year (2011). Socio-demographic information was collected in the first year questionnaire. The data was analyzed by content analysis.

Our preliminary data shows that medical expertise (both skills and knowledge) stays at top priority throughout studies. Interestingly, qualities such as collegiate behavior and tolerance to stressful situations were increasingly reported by the 6th year medical students compared to 1st year students. These results suggest that education has an influence on students’ perceptions of their future profession.

1P/5

**What happens to critical thinking in PBL?***Peltonen LM*

University of Helsinki, Institute of Biomedicine, Physiology

Problem based learning is an educational approach that has been adopted worldwide by medical schools to promote deep approach to learning, critical thinking, interaction and collaboration. In the Faculty of Medicine of the University of Helsinki, PBL has been used since 1994 as a principal learning method during the first two years of medical studies. Some key elements of PBL were surveyed by questionnaires at real time group sessions. For example, students and tutors were asked if learning objectives were achieved and critical thinking “used”. Students also made self-descriptions and described “a good tutor”. Majority of 1st years’ thought of thinking critically. On their 2nd year, score declined significantly. 1<sup>st</sup> years’ collective self-description was active, collaborative, critical and passive. In the 2<sup>nd</sup> year, students became more passive, less active and more critical. A “good” tutor had the “ability to adjust the performance to the group activity”. In the 2nd year students appreciated more the tutor’s “ability to motivate and help” and “to create a good atmosphere”. Interestingly, students’ self-descriptions and scores of critical thinking contradicted in the 2<sup>nd</sup> year. This transient phase in academic development is suggested to be connected with the decline in one’s self-beliefs of efficacy, a key determinant of academic success<sup>1</sup> (individual’s beliefs about her/his attributes and abilities as a learner). Similar phenomenon has been shown in the faculty at the beginning of their teaching careers. 1 Postareff et al., 2007.

1P/6

**How to stimulate students to learn preventive medicine? Try virtual patients***Korhonen T, Helaskoski E, Lagerstedt R, Romanov K, Pyörälä E*

University of Helsinki, Department of Public Health

Background: The Department of Public Health teaches preventive medicine in PREVENT course. It involves theory of prevention and three recently created virtual patient cases in the Virtual Patient Bank (VPB). Aims: The PREVENT course aims that students (1) apply theory of preventive medicine in primary and occupational health care; (2) understand the processes of health behavioral change and different levels of prevention; (3) use counseling tools to support favorable health behavior; (4) become motivated in preventive counseling. Material and Methods: Preventive VPB cases were the following (1) Primary prevention: A 16-year-old student comes to student health care for contraceptive pills. She is a cigarette smoker; (2) Secondary prevention: A 40-year-old woman comes to occupational health care suffering from insomnia and asking for sleeping pills. She suffers from stress and self-medicates insomnia with alcohol; (3) Tertiary prevention: A 56-year-old man suffers from DM2 treated by insulin shots. He has quit smoking two weeks ago and uses varenicline medication. He feels unwell and nauseous. The symptoms can be explained by multiple mechanisms. The students were given two months to solve three virtual patient cases and were able to consult medical information systems. In VPB, students could ‘ask’ questions, check lab results etc., and present their solutions online. After submitting their solutions, they received general feedback about each case. The students’ performances were stored in the system. Results: Preventive VPB cases have been used twice and about 240 students have completed them. There has been substantial variation in the accuracy of solutions. The course feedback has been mainly positive. Based on the ratings to a statement “Virtual cases enhanced my learning” (1=completely disagree – 5 = completely agree) the median was 4. However, the challenge is to give students individual constructive feedback. Conclusion: Feedback is important motivator in learning. Our further challenge is to develop VPB so that it allows individual constructive feedback to students.



14.30-15.30

**Poster session 1: Chairperson Minna Kaila**

1P/7

**Training the trainees in occupational health in Finland**

*Jungewelter S*

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Background: Occupational health (OH) is our largest speciality in addition to general practice in volume of residents. We count approximately 750 residents in OH and 250 trainers in 200 training units. The trainers commit themselves to give their trainees personal guidance in OH at least two hours weekly in addition to their daily consulting needed in medical problems. Different themes for these weekly sessions can be found in the current OH log book established by the university authorities. Material and methods: To be a trainer in OH it takes the speciality in OH and the will to work with the trainees in their resident time. All five medical faculties offer training for the OH trainers in form of local education in basic pedagogic skills in courses at regular intervals, local informal pedagogic afternoon meetings, nationwide semester opening seminars and nationwide yearly two-day seminars for OH trainers and their trainees and start up seminars. All trainers are required to attend at least two of these pedagogic events yearly. To support the trainers in their education work the universities set up in 2003-2005 a internet forum ([www.tthvvo.fi](http://www.tthvvo.fi)) collecting lots of material about OH, the current log book, different application forms, information about coming events and last not least offering web courses for the trainees. In 2012 we opened a "Teacher's café" for the trainers to do net working with their colleagues nationwide. Take home message: With a little help from their friends at the university training can be rewarding for the trainers (the main message in our trainer survey in 2012)!

2P/1

**Tablet computer use in self-study by medical students in the University of Helsinki**

*Bodgan N, Wilkman M, Kurkisuo L, Tarkkila H, Romanov K, Pitkäranta A*  
University of Helsinki, Faculty of Medicine

The Helsinki University Medical School received a two-year grant from the Jane and Aatos Erkko Foundation to fund tablets for 2013-2014 incoming students. The initiative aims at introducing tablets as a tool for more interactive teaching, while also providing students with a means for versatile self-study. Through an e-mail questionnaire sent out to all students of the faculty, we investigated how tablets are currently used, in order to study how they can best be utilized to support learning in the future. Participants were asked to identify specific applications and resources they use, and to rate their strengths and weaknesses. Several students were individually interviewed to determine expectations and opinions on tablet use on campus. We also studied current campus IT infrastructure and the requirements for its development. Tablets were used to create and share mind maps, take notes, read e-textbooks, access online medical databases, use anatomy and radiology applications and to watch learning videos. Students trust that tablets provide versatile self-directed and interactive learning opportunities. However, the use of tablets was seen as potentially distracting. Current campus network coverage was extensive but not complete. The use of tablets is already providing methods for more effective learning; however, a forum should be developed for students and faculty to share learning resources and problems encountered. Campus IT infrastructure must be upgraded to allow optimal utilization of tablets. Tablets offer creative applications and methods for enhanced self-study. The Faculty should have an active role in encouraging this and providing appropriate guidance.

2P/2

**iPads in teaching and the attitudes of the medical teachers at the Faculty of Medicine at the University of Helsinki**

*Masalin T, Sundvik M, Hervonen H*  
University of Helsinki

Background: The first year medical students and their teachers at University of Helsinki, Faculty of Medicine received iPads during 2013 as part of a Jane and Aatos Erkko Foundation funded project to revitalize teaching. The teachers have had the opportunity to use iPads, mobile applications and wireless connection to displays and interactive projectors in teaching. Problem based learning (PBL) is used as a teaching method and teachers are provided on-going support and guidance to use iPads in teaching. Material and methods: All the teachers at the Institute of Biomedicine were surveyed before the semester started, in the summer of 2013, via a web-survey and again in February 2014. Teachers at the anatomy department, teaching the cell biology histology course participated in a two stage web-based survey in October and November 2013, and molecular biology course teachers in February 2014. The use of iPad in teaching and learning was analyzed with the pedagogical design model based on publications by Masalin and Vahtivuori-Hänninen. Results: The results report that teachers have very positive attitudes towards using iPad as a teaching tool. iPads have helped to improve the PBL-sessions in many ways. Furthermore, teachers feel that students are more active, efficient and collaborative. Conclusion: Teachers are using iPad diversely and PBL-sessions can benefit from the use of new mobile technology. Teachers are motivated to explore teaching with mobile technology, when sufficient guidance and support has been provided. Take home message: New mobile technology can be integrated successfully to medical teaching.

2P/3

**Students' perceptions of their learning in the anatomical dissection at the University of Helsinki**

*Viranta-Kovanen S, Hervonen H, Masalin T*  
University of Helsinki

Background: Dissection is a traditional method of studying and learning anatomy. Despite of other changes in anatomy curricula, most medical schools still maintain dissections as part of their anatomy courses. Aims: The aim of the study was to survey and analyze student's perception of their learning in dissection sessions. Material and methods: Faculty of Medicine at the University of Helsinki has an integrated curriculum based on problem-based learning. Preclinical studies offer dissection sessions to support student's learning of topographic anatomy. During the tutor supervised dissection session a group of students follows a dissection guide to perform a dissection of the relevant part on an embalmed cadaver. Students take turns in different roles during the procedure. We asked students about their learning of anatomy during dissection. Results: Students' roles in dissection were: Dissector, his/her assistant, handout reader, anatomy atlas presenter and observer. Students felt that all roles supported their learning. They considered watching as well as discussions with peers and tutor as important as performing the dissection. Learning by doing and pondering were considered equally important. Conclusion: Dissection sessions support students' learning by watching, analyzing, thinking, reasoning and doing. Take home message: Learning anatomy in dissection may be studied in the light of the theory of experiential learning.

2P/4

**Does the type of clerkship have an impact on professional skills?**

*Mars N, Halttunen-Nieminen M, Kalske J, Pitkäranta A*  
University of Helsinki

A minimum of four months of training in clinical settings is included in the curriculum and can be on certain terms carried out as either a junior house officer or as an equal to a doctor in training. Personal feedback in form of a logbook has been collected for five years as part of clerkship training in Helsinki University Faculty of Medicine. Our aim was, based on information from the logbooks, to evaluate how the type of clinical training in workplace settings impacts learning in different areas of interest, which were diagnostic skills, procedures and transitional care, medical records, communication skills and operating in a work environment. We analyzed feedback from both students and their mentors. Our findings suggest that performing independently in an authentic environment as a doctor in training has a higher impact on learning and progression than working as a junior house officer in almost every investigated area.

2P/5

**How the pain related education should have been implemented during basic medical education: views of primary and secondary care doctors***Kauppila T, Huvinen S, Karhula T, Elonheimo O, Pöyhiä R*

Helsinki University hospital, Department of General Practice and Primary Healthcare

Curriculum should be applied in a form which is individually tailored for the need of different student groups. To study the perceived requirements of pain teaching on clinicians a formerly produced questionnaire (Pöyhiä and Kalso, 1999; Pöyhiä et al., 2005) provided a useful and valid tool. Our aim was to study if there were differences between GPs and secondary care doctor in require different methods of teaching when implementing curriculum and studying pain related issues. In May 2011-March 2013 an electrical questionnaire modified from the former tool was sent to all physicians of Vantaa City (GPs) and South Karelia Health and Social District (EKSOTE both GPs and secondary care doctors). The participants were asked to answer to a question how they now retrospectively think that the pain related education should have been implemented during basic medical education. The doctors in secondary care (n=33) thought that when preparing curriculum for pain education problem based learning and self-study should be used as a teaching method more than the doctors (n=41) in primary care did. No such difference was observed when lecturing, different forms of group studying, seminars and case reports (patient cases) were considered to be used methods of teaching. There may be differences between the views of primary care doctors and secondary care doctors about how medical education should be applied and which methods of teaching should be used. Putative importance of these differences should be studied. Pöyhiä and Kalso, Pain 1999; 79:121–5. Pöyhiä et al., Pain 2005; 115:234–7.

2P/6

**Using ISBAR model in a prehospital telephone consultations – a pilot study***Hallikainen J, Väisänen O, Saarela S, Niemi-Murolo L*

Helsinki University hospital, Peijas area EMS

Background: ISBAR is a modified, standardized way of reporting patient information in health care. It was originally developed for military purposes to give situation reports in a standardized way. Aims and objectives: Physician on-call in Southern Finland Helicopter Emergency Medical System (HEMS) receives more than 7000 telephone calls of from the prehospital EMS personnel asking advise or acceptance for procedures or in decision making. The quality of the calls varies, which is a risk for patient safety. The purpose of this pilot study was to test if a structured consultation model would improve the quality of the consultation to make the on-call physician's task easier. Material and methods: Twenty voluntary Emergency Medical Technicians and paramedics were evaluated twice in a simulated unstable chest pain scenario. After the pre-test everyone attended a two-hour education of ISBAR and started to use it clinically. The same group was evaluated again about two months after the implementation of ISBAR model to the physician's consultations. Results: Eighteen items were assessed from the eighteen phone calls of pre- and post-test video recordings. The observer was blinded to the groups. Cronbach's alpha was poor: 0.397. After the intervention, the personnel were better able to identify their clinical capabilities ( $p < 0.01$ ) and to describe patients symptoms more accurately ( $p < 0.05$ ). Conclusions: The change was smaller than expected, but it might make a significance in patient safety. Take home message: More studies of the EMS personnel's reporting practices are needed.