

### Medical assistants and students knowledge and practice rate regarding documentation of provided care to patient from medical discipline aspect

**Keywords:** Knowledge, Practice, Medical assistants and students, documentation, Medical discipline.

**Authors:** Kahooei, M.

**Institution:** Semnan medical sciences university

**Summary:** Kahooei M (M.Sc.), Hasani Shariat Panahi. S (M.Sc.). History and object: In spite of medical society and health care staff activity and progress of medical technology, unfortunately patient unsatisfactory rate from medical staff is increasing. One of factors that a physician can not defend himself in claims, is uncompleted medical records. Materials and methods: The study is a descriptive and analytic which studied on 134 assistants and students knowledge and practice regarding medical documentation of provided care in 2000-2001. the measurement device was a twelve section questionnaire and a checklist that was used after their validity and reliability. Data collection was carried by interview to the statistic society and medical chart review.

**Results:** 60 percent of the statistic society do not know legal aspects of documentation. 74.8 percent of them do not know how use abbreviations in final diagnosis and surgeries. 85.8 percent of them do not know time duration of confirmation of verbal orders. Between knowledge and teaching course was significant ( $p < 0.05$ ). Between practice and education course and knowledge were significant ( $p < 0.05$ ).

**Conclusion:** The knowledge and practice were weak. Process of clinical education must be evaluated in outpatient and inpatient wards.

### Dissatisfaction with student attendance as a catalyst for programme evaluation

**Keywords:** student attendance, teacher-centered, student-centered learning

**Authors:** Pickworth, G.

**Institution:** University of Pretoria

**Summary:** Lecturers at the School of Dentistry, University of Pretoria, expressed dissatisfaction with student attendance of learning opportunities and some suggested that attendance of learning opportunities should be made compulsory. A project was undertaken to ascertain teaching staff and students' perceptions of the learning environment. A combination of qualitative and quantitative research methodologies was used to capture teaching staff and students' responses to questions relating to the learning environment, including the attendance of learning opportunities. Teaching staff strongly endorsed compulsory attendance of lectures, discussion groups, practical sessions and clinical sessions. Students only endorsed compulsory attendance of practical and clinical sessions. Poor attendance of lectures is a common symptom of a teacher-centered learning environment. A narrow focus on attendance addresses the symptom and not the cause. A shift from a teacher-centered to a student-centered learning environment requires careful planning in the aligning of outcomes, assessment and teaching methods. Miller's pyramid was used to classify the levels of learning outcomes and to evaluate the appropriateness of associated assessment practice. A shift toward a more student-centered learning environment was facilitated by starting with assessment revision and the development of assessment plans.

### Effect of nursing practice in student performance

**Keywords:** nursing practice & student performance

**Authors:** Asemanrafat, N.

**Institution:** university

**Summary:** Introduction & Objectives: In teaching nursing skills when, where, how ? and how much must be teach. Lidman said the practicing in laboratory is beneficial and this experimental help to clinical teaching and is very important in nursing education. Yass in and Robinson said for decrease gap between theory and practice laboratory teaching is suggestion.

**Materials & methods:** This is an quasi \_ experimental research about the examination of the survey and compare of individual , group practicing of the survey and compare of individual , group practicing of nursing student in skills lab and hospital , us student were participated in this study .a check list and observation is used for data collection the validity was done by content validity and the reliability is tested.

**Result:** the finding were summarized in to tables the result shows

- 1) individual and group practicing in skill lab showed statistically significant  $p < 0/006$
- 2) individual and group practicing is hospital statistically significant  $p < 0/003$  key words: individual and group practice, nursing skills, laboratory, hospital

### Comparative study: Medical graduates, competencies from clerkship courses in medical schools of Iran and selected countries of the world

**Keywords:** Competency, Clerkship, Medical School, graduat.

**Authors:** Biabangardi, Z. (ph.D), Nikravesh.J.M.(ph.D),

Ammini.A.(M.D), soltani, K. (M.D), Tabibi.S.J.(ph.D)

**Institution:** Iran Medical University

**Summary:** Introduction: The goal of all graduates medical education is to ensure that the graduating physician is completed to practice in his or her chosen field of medicine. But the results of the studies on medical education have shown that there are not enough competencies for doing medical practice.

**Purpose:** to determine and comparative graduates, medical competencies from clerkship courses in medical schools of Iran and selected countries of world.

**Methods:** It was comparative study. 11 medical schools of three zone of ministry of health and medical education and 14 medical schools from six regions of WHO were selected by stratified random sampling. A questionnaire was used to gather the data. The questionnaire was adjusted according to teaching program used in Indiana and Brown medical schools. Faculty member of medical schools in Iran and graduates of medical schools of selected countries completed it.

**Results:** The clerkship courses can promote basic clinical skills competency in world 35% and in Iran 18/2% at very high level. There is a significant difference between basic clinical skills competency in Iran and world, but there are not significant differences between others competencies in Iran and world.

**Discussion:** More than 50%, from three zone of Iran and six regions of WHO has shown that clerkship courses can promote, competencies in very high level. It is recommended that pay more attention to clerkship courses in all of the world for improving the basic clinical skills competency.

## Methodology in teaching pharmacology in physiotherapy, oriented to the achievement of professional competences

**Keywords:** Professional competences, pharmacology, physiotherapy

**Authors:** Mestres, C.

**Institution:** Escola Blanquerna d'Infermeria, Fisioteràpia i Nutrició

Summary: In the last months we have undertaken some changes in the programme of pharmacology of the studies of physiotherapy. The aim of these changes has been to fit it with a new orientation towards the free circulation of professionals in Europe. Therefore, the new programme is based in the professional competences to be achieved by our students. It has been a usual trend in our classes to use different didactic strategies with a practical application in the future job of our student. The aim of these strategies has been to help our students in a subject that usually present important difficulties for them, and also to give them a practical view of pharmacology. In this work we explain the different teaching strategies that we use and how they are related to the professional competences described in our programme.

## From a Traditional to a Systems Based and Integrated Undergraduate Curriculum in Kosovo

**Keywords:** Reform. Undergraduate. Kosovo

**Authors:** Hedley, R.

**Institution:** University of Pristina, Kosovo

Summary: From a Traditional to a Systems Based and Integrated Undergraduate Curriculum in Kosovo. A consortium including the Universities of Nottingham and Barcelona led by HLSP Consulting won a contract from the European Agency for Reconstruction in Kosovo for the reform of basic medical education. The Medical Faculty of Prishtina University formed a working group, facilitated by consultants from the University of Nottingham and HLSP, to evaluate their current position in relation to the 9 areas and 36 sub areas of the World Federation for Medical Education (WFME) global standards (1). Action plans were produced with a time scale and the responsible person to ensure delivery. The Ministry of Health was represented on this working group as well as the student body. For curriculum reform consultants from the University of Nottingham were invited to Prishtina where they assessed the present curriculum and the views of teachers and students. Workshops were facilitated by the consultants from Nottingham on curriculum development, linking aims, methods of learning and teaching, assessment methods, criteria and procedures for marking and providing feedback to students on their progress (curriculum alignment)

At a conference for all stakeholders it was proposed:

- The course should be 5 years
- There should be a new curriculum, systems based and integrated
- Modern teaching methods
- Modern assessments
- Curriculum evaluation

The above was accepted unequivocally.

(1) World federation for Medical Education. Basic medical Education. WFME Global Standards for Quality Improvement. WFME Copenhagen 2003

## Outcome Based Procedural Skills-implementation and evaluation

**Keywords:** procedural skills, outcome based education, evaluation

**Authors:** Carr, S.

**Institution:** University of Western Australia

Summary: A junior doctors ability to function as an intern is deter-

mined by competency and experience in clinical and procedural skills as well as scientific knowledge. Fitness to practice- the main outcome of undergraduate medical training is an important issue for universities. At the University of Western Australia in late 2002 the results of outcome evaluation of three cohorts of interns confirmed that many graduates feel well prepared to take histories and perform physical examinations but less well prepared to perform practical and procedural skills. At the same time the Postgraduate Training Accreditation Committee came to a similar conclusion and wanted to establish which procedural skills were essential for day one of internship and which skills should be taught during the early postgraduate years. As a result a blueprint of skills taught in the medical curriculum was developed and a survey of postgraduate teaching committees at all teaching hospitals was conducted. Results of the survey transposed over the skills map lead to the identification of the skills required for day one of internship that are currently not well taught and/or assessed in the undergraduate curriculum. The skills map and survey results enabled the development and implementation of an outcome based procedural skills training program in the last three years of the six year undergraduate course. The purpose of this workshop is to describe the processes and evaluation results obtained to date and discuss issues related to implementation of skills training programs.

## Implementation and problematic issues regarding the model core curriculum of medical education in a Japanese private medical school

**Keywords:** core curriculum, medical education, implementation

**Authors:** Shimura, T.

**Institution:** Nippon Medical School

Summary: The model core curriculum is taught via systematic lectures by departments of basic medicine and via comprehensive courses by departments of clinical medicine. As yet, viewpoints on what would be considered an effective style of teaching of the core curriculum have not been established. In order to investigate weaknesses in core curriculum lectures and to search for effective teaching styles, we examined the entire content of the core curriculum to determine which lectures were or were not given in accordance with the core curriculum in a total of 39 subjects. We also determined which lectures were given partially or almost completely in accordance with this curriculum. Lectures on two items were given neither partially nor almost completely in accordance with the core curriculum: "examinations of children" in E (basic examination skills) of the preclinical medical education core and "clinical trials and medicine" in F (medicine and society) of the same core. Among lectures on 18 items in the model core curriculum, lectures in a subject were given partially in accordance with the core curriculum: 8 items in C (structure and function of human organs) of the same core, 3 items in D (physiological changes in the body), 6 items in E, and 1 item in F. These items were taught in 5 basic medicine sections, in 12 courses of clinical medicine and in basic clinical training. For our school's core curriculum education, the establishment of courses that integrate basic and clinical medicine is desirable.

## Student Performances on COMLEX Level I Licensing Exam Following Implementation of an Integrated Clinical Presentation Curriculum

**Keywords:** Curriculum, Performance, Licensing Exam

**Authors:** El-Sawi, N. and Citarelli, M.

**Institution:** University of Health Sciences

Summary: Student Performances on COMLEX Level I Licensing Exam Following Implementation of an Integrated Clinical

Presentation Curriculum Nehad I. El-Sawi, Ph.D.; Melissa Citarelli, M.A. The University of Health Sciences College of Osteopathic Medicine, Kansas City, MO The purpose of this study is to examine student performance on the Comprehensive Osteopathic Medical Licensing Examination (COMLEX) following the implementation of an integrated clinical presentation curriculum at an osteopathic medical school. The COMLEX is the United States licensing exam for physicians and physicians-in-training in the field of osteopathic medicine. Most medical schools, including UHS, require their students to pass the Level I examination before they can be promoted to the third year of medical training. Performances on Level I of the licensing exam for eight classes (1994 - 2001) in the traditional curriculum were compared with those of the first two classes to study in the integrated curriculum (2002 - 2003). The pass rates for the classes learning in the integrated curriculum are higher than the pass rates for the classes that learned in the traditional curriculum. Further, the pass rate for the students studying in the integrated curriculum is significantly higher than the national average. This study demonstrates that student performance on the licensing examination has not decreased as a result of the integrated clinical presentation curriculum, and that the integrated curriculum may have contributed to the high pass rates. The comparative results on the Level I testing since the integrated curriculum was implemented have exceeded those in any prior year in the history of the university.

## MD

**Keywords:** *end of life care, respiratory disease, medical education, illustrative case, small group discussion*

**Authors:** *Ronald Damant; Justin Weinkauff*

**Institution:** *University of Alberta*

**Summary:** Case-Based, Facilitated Small Group Discussions to Teach End of Life Care for Patients with Advanced Chronic Respiratory Disease Chronic respiratory disease is a common cause of death in many countries. "Graying" of the population age structure will result in increasing mortality from these "non-malignant" respiratory conditions. Guidelines are available to assist those caring for patients with "end-stage" respiratory disease at the end of life. The use of small discussion groups focusing on illustrative cases has been proposed as one method with which to teach these essential skills. This pilot project is meant to evaluate the acceptability and effectiveness of case-based, facilitated small group discussions to teach principles of end of life care to medical students and resident physicians. Small groups consisting of 4 to 6 physician-trainees and 2 expert facilitators work through a hypothetical, illustrative patient case. Key principles to be emphasized include the following: communication, continuity, and trust at the end of life; patient-centered care/patient autonomy; determination of competence; determination of philosophy of care; advance directives; surrogate decision makers; prognosis and prognostic uncertainty; futility; withholding and withdrawing life-sustaining therapy; symptom control; values, beliefs, knowledge, and expectations at the end of life; coping as a caregiver at the end of life. Participants then complete a questionnaire immediately following the discussion. Some groups participate in a second reinforcement discussion 1 to 2 weeks later. The study will be completed by June 2004. Preliminary results suggest this to be an acceptable and effective method with which to teach end of life care.

## A new approach to change the biochemistry and molecular biology curricula

**Keywords:** *Biochemistry, Molecular Biology, Curricular*

**Authors:** *Martínez F, Milán R, Sánchez V, Espinosa MT, Álvarez G, Cea A, Meraz N and Flores O.*

**Institution:** *Departamento de Bioquímica, Facultad de Medicina, Universidad Nacional Autónoma de México. PO Box 70159, Mexico City, 04510, Mexico. fedem@bq.unam.mx*

**Summary:** Biochemistry and Molecular Biology is a course of the first year in the Medical School in the National University of Mexico. Every year, this program is analyzed by assigned professors and then some changes are made to improve it. However, in the last 10 years, changes were made to the curricula without take in consideration the requirements in other basic and clinical courses. Biochemistry and molecular biology are areas of science of fast growth. Then, it is necessary its understanding to accomplish the knowledge of other basic courses such as physiology, pharmacology, as well as the clinical practice. To improve the relationship between basic and clinical courses, the Biochemistry and Molecular Biology curriculum was analyzed taking in consideration the objectives and the content of all other courses in the Medical School program. Although there are several knowledge areas which are interrelating with biochemistry and molecular biology, the course should be adjusted to basic concepts. The results also showed that it is necessary to include several subjects until now not considered such as: neurosciences, apoptosis, and proteomics. At the same time, it is an urgent requirement to include clinical examples to incorporate biochemistry concepts. This work was partially supported by Grant EN206606 from PAPIIME, from National University of Mexico. Campbell AM (2003) Public Access for Teaching Genomics, Proteomics, and Bioinformatics. *Cell Biol Edu*, 2, 98-111. Feldberg RS (2001) The new biochemistry: in praise of alternate curricula. *Biochem Mol Biol Edu*, 29, 222-224.

## Mapping Transferable Skills in the Undergraduate Medical Curriculum

**Keywords:** *Curriculum mapping; transferable skills; assessment; electronic mapping.*

**Authors:** *Robley, W.*

**Institution:** *University of Leeds*

**Summary:** Student directed project work aims to facilitate development of a range of transferable skills by undergraduate medical students. The wide range of learning opportunities provided by the Leeds Student Selected Components (SSCs) programme, and the pattern of 'selection' of projects by students makes the monitoring of delivery and coverage of skills through the curriculum very complex. Leeds has developed a skills curriculum map based on the model of 'declared'; 'delivered'; and 'learned' maps, and has added to this a fourth 'assessed' map. The 'declared' map is derived from course documentation and validated by programme co-ordinators. The 'delivered' and 'learned' maps are taken from supervisor and student feedback forms respectively, and validated using interviews. The 'assessed' map is taken from assessment documentation and matched against assessed work. By superimposing the four maps it is possible to monitor:

- The extent to which the declared aims of the curriculum are perceived to be delivered, and learned.
- The opportunities provided by the curriculum to develop transferable skills through the curricular programme
- The extent to which assessment targets the skills delivered.

The project is now investigating options for creating an electronic map to form part of a larger system which would allow student feedback and student self-assessment data to be used to maintain the currency of the map. This would additionally allow students to match their personal skills profiles and project selection to the future learning opportunities offered.

## Integrating clinical skills in a Problem Based Learning curriculum

**Keywords:** *Clinical competency, integration clinical skills and PBL*

**Authors:** *Martineau, Bernard, Waddell Guy, Hivon René*

**Institution:** *Université de Sherbrooke*

**Summary:** Introduction: With the growth in the body of knowledge and skills that are needed in order to meet professional practice standards, medical schools are packing an ever increasing number of components into their undergraduate curricula. This has caused many medical students to have trouble integrating the various components into clinical practice. In this presentation we propose the integration of clinical skills teaching in a Problem-Based Learning (PBL) curriculum as a strategy to improve integration in practice.

**Methods:** Using the results of a literature review and of a qualitative evaluation of the undergraduate curriculum, we designed a vertically integrated clinical skills program horizontally integrated with PBL modules. We are currently implementing and evaluating this program.

**Results:** The program has three principal elements: 1) History taking and physical examination taught by PBL tutors, 2) A clinical reasoning and patient communication course taught over two years in which groups of six students are followed over the period by the same mentor, 3) Regular encounters with patients during the first two years of medical school. The program was launched in September 2003 for first year medical students. Program evaluation is focusing on student satisfaction and on the program's capacity to improve acquisition of clinical skills.

**Conclusion:** Integration of clinical skills in a PBL program is a promising strategy to meet the high standards required of medical practitioners. In our Faculty, the development, implementation and evaluation of this program are well underway and preliminary data support its effectiveness

## Case-based Curriculum in Pediatric Nephrology

**Keywords:** *pediatric nephrology, case-based learning, residency education*

**Authors:** *Wesseling, K.*

**Institution:** *University of California at Los Angeles*

**Summary:** In light of the recent recommendations from the American Academy of Pediatrics task force on the Future of Pediatric Education (FOPE) II which stress the changing, increasingly complex nature disease seen by primary care pediatricians, residency programs are under increasing pressure to prepare pediatric residents to pass the pediatric boards as well as prepare these residents to be excellent physicians in a very limited amount of time. The traditional curriculum for residents is based on experiential learning from the patients admitted to the hospital and seen in the clinic. This results in a non-uniform education—the amount of knowledge that a particular resident obtains may vary greatly from that of his classmates. Optimally, all residents would be exposed to a wide variety of cases and would learn to handle all of the common conditions and know when to refer the serious conditions that they encounter. In order to fit a structured curriculum into limited time, I have developed a computerized, case-based curriculum. Learning objectives are based on the needs assessment of the FOPE II task force and the Pediatrics Review and Education Program (PREP) Content Specifications. Objectives include mastery and management of renal physiology, electrolyte and acid-base disorders, glomerulonephritis, common urologic problems, hypertension, growth failure, bone metabolism, tubular reabsorption defects, urinary tract infections, and systemic conditions affecting the kidney. Resident knowledge and clinical judgment in handling common

renal problems will be assessed with a short examination before and after participating in the case-based curriculum.

## Dr

**Keywords:** *PBL, medical curriculum, dissection, anatomy, student perception*

**Authors:** *Samy Azer (1), Norm Eizenberg (2), Tammy Teoh Han Qi (3), Tan Hong Jin (3)*

**Institution:** *Faculty Education Unit, Faculty of Medicine, Dentistry and Health Sciences (1), Department of Anatomy and Cell Biology (2), University of Melbourne, Australia, Faculty of Medicine, University of Science (3), Malaysia*

**Summary:** Learning anatomy in an integrated problem-based course: Do we need dissection? The introduction of a problem-based learning (PBL) course at the School of Medicine, the University of Melbourne has necessitated a reduction in the number of lectures and limited the use of dissection in learning anatomy. In the new curriculum, students learn anatomy of different body systems using PBL tutorials, pre-dissected specimens, dissection and lectures. Students also use resources such as computer-aided learning (CAL) programs and textbooks in their private studies. The aims of this study are: (i) to assess the views of medical students (graduate students and year 12-school leavers) enrolled in the undergraduate medical course, on the importance of dissection in learning about the anatomy of human body, (ii) to assess which educational tool helped them most in learning anatomy of the human body and whether dissection sessions have helped them in better understanding of anatomy. **Methods:** First (n = 218) and second year (n = 220) medical students enrolled in the undergraduate course agreed to complete a questionnaire. Data was analysed using Mann-Whitney's U-test, Wilcoxon's signed-ranks or the calculation of the Chi-square value. First year students found dissection (44%), textbooks (23%), CAL (10%), self-directed learning (6%) and lectures (5%) of most value in learning anatomy, while second year students found textbooks (38%), dissection (18%), pre-dissected specimens (11%), self-directed learning (9%), lectures (7%) and CAL (7%). Neither group showed a significant preference for pre-dissected specimens, CAL programs or lectures over dissection. This study demonstrated that medical students' perception about the importance of dissection changed significantly as they progressed in the course. However, new innovations in teaching anatomy such as CAL programs have not replaced their views that dissection is important.

## A New Course for New Students in Obstetrics and Gynaecology at a London Medical School

**Keywords:** *Graduate Entry, Obstetrics and Gynaecology, New Curriculum*

**Authors:** *Hayes K, Penna L, Williams B, Arulkumaran S, McCrorie P.*

**Institution:** *St George's Hospital Medical School, Cranmer Terrace, London, SW17 0RE*

**Summary:** A New Course for New Students in Obstetrics and Gynaecology at a London Medical School

Hayes K, Penna L, Williams B, Arulkumaran S, McCrorie P  
Department of Obstetrics and Gynaecology, St George's Hospital Medical School, London

**Background:** Why a new O + G course for graduate entry students? The Undergraduate (UG) and Graduate Entry Programme (GEP) MBBS courses at St George's Hospital Medical School (SGHMS) have markedly different entry criteria, resulting in different student characteristics (Table 1).

Different students, different learning, different course.

Course Objectives

1. Design curriculum for shortened 5-week clinical attachment.
2. Build on the previous 2 years PBL-derived, O+G-related learning objectives, reinforcing spiral learning.

3. Provide maximum clinical exposure to real patients.
  4. Encourage community – oriented learning relevant to O+G patients.
  5. Inform all staff of the course ethos.
  6. Design assessment relevant to the new curriculum.
  7. Provide support and media for student feedback and evaluation.
- Curriculum Delivery: Time-tabled core clinical activities alongside self-directed clinical Flexible Learning Opportunities (FLO). Weekly two-session student-led “real patient” Clinical PBL. Weekly themed interactive seminars including lectures, history / examination demonstrations, small group patient management, Teaching OSCE (TOSCE), expert fora. Themed Web-based Clinical PBL cases. Community placements with community midwifery and family planning services Clinical assessment, written case report, extended matching questions (EMQ), minicase, OSCE – 35 / 35 passed. Confidential written evaluation – overwhelmingly positive. Conclusion: Starting a new course has provided a fantastic opportunity to maximise the learning of a new group of medical students in O+G in a shorter and more clinically relevant way. Initial assessment and evaluation indicates it has been successful for both staff and students and has not detracted from the concurrent undergraduate course.

	Graduate Entry (GEP)	Undergraduates (UG)
Median Age on Entry	25.5	19
Entry Criteria	Any Degree (2:2 or better) GAMSAT Exam <sup>1</sup> Structured interview	A Levels / equivalent Science Degree (5% of intake)
Course Duration	4 years	5/6 years
Curriculum	Problem Based Learning Contextualised learning with clinical skills integration Spiral learning	Traditional systems based Lecture dominated Illustrative case scenarios
Student Characteristics	Possible: More life experience Higher motivation Increased SDL skills <sup>2</sup> Greater financial concerns Family ties Limited scientific background	Possible: Less mature Lower motivation Lesser learning skills All have scientific background

Table 1. Differences in Undergraduate and Graduate Entry Courses

## Investigation of educational needs of education officers in Isfahan University of Medical Sciences

**Keywords:** need evaluation

**Authors:** Aminolroayaei Yamini, M. Yarmohammadian M. H., Yousefi A.

**Institution:** faculty of nursing, Education office

**Summary:** Introduction: The most important step in planning and holding educational programs is appropriate administration of needs investigation process. The present study has targeted at defining the educational needs of education officers in Isfahan University of Medical Sciences in three fields of technical, Perceptual and human skills in 2003.

**Methods:** this is descriptive survey study carried out on the head educational officers and the ones in the faculties of Isfahan University of Medical Sciences (47 Samples). The data were analyzed by descriptive analytic statistics in SPSS software.

**Results:** The analysis of the findings showed that the educational needs of education officers of Isfahan University of Medical sciences in the fields of technical, perceptual and human skills were over average level. Their most needs were as in fields of technical human skills and Perceptual respectively. Other findings of the research showed that there was no significant association between the course of study, work experience and organizational post of the education The education officers and their educational needs.

**Discussion:** Education officers need education in all three fields of technical perceptual and human Skills They feel their need more in technical field. Computer softwares as well as handling skills and technology were mentioned as the most important needs in technical field.

## Learning styles in nursing students and their trainers in mums in 2003

**Keywords:** learning styles, cognitive style, divergent, convergent

**Authors:** Hassan Gholami, A.Derakhshan, S.Bajouri, J.Mdabber azizi, M.Dashti rahmatabad, S.M.hossaini.

**Institution:** Mashad University of Medical Sciences

**Summary:** Introduction: Considering multifactorial nature of learning, adaptation of students' learning styles and their fields of study could be of great importance, particularly cases leading to prediction students' success in different fields of study. According a research was conducted to recognize learning styles in MSc students of Mashad Medical University based on David Kolb's learning theory and comparing them with learning styles of their instructors in 2003.

**Materials and methods:** Tacking a Sample of 48 in size and a questionnaire with 12 multi-choice and some background questions as Kolb's four- step cycle tools including: 1- concrete experiences 2- reflective observation 3- abstract conceptualization 4- active experimentation. Learning styles are usually defined combining above learning methods as Convergent, divergent, assimilating and accommodator styles. Based on above definitions, and Kolb's tools, learning styles of each participant was obtained. Objective of research was to study correlation of students' learning styles and their instructors'.

**Results:** There was an overall weak correlation between student's learning styles and their instructors' but the correlation between instructors'. In %43 of students, there was a fit between their learning styles and their instructors'. Distribution of students' learning styles was %17 divergent, %34 convergent, %37 assimilating and %12 accommodator. Dominant learning style in students of obstetrics was assimilating with %37 and in nursing students convergent but we found no significant difference.

**Conclusion:** Results revealed that majority of researched people trend convergent and assimilating. It is suggested a variety of teaching methods be taken in education to make appropriate opportunities for learning.

## Outcome- Based Education

**Keywords:** Outcome- Education

**Authors:** Jahanbin, I.

**Institution:** College of nursing&Midwifery. Shiraz University of Medical Sciences

Over the past four decades there have been several precursors to this move to outcome-based education. These include competence-based education, criterion-referenced learning and mastery learnings which focus on competences or criterion levels of performance that are achieved by carefully sequenced teaching. Outcome-based education has com to be characterized by the development of clearly defined and published learning outcomes That must be achieved before the end of the course,the design of a curriculum, learning strategies and learning opportunities to ensure the achievement of the learning outcome,an assessment process matched to the learning outcomes and the assessment of individual students to ensure that they achieve the outcomes, and provision of remediation and enrichment for students as appropriate. Criticism of outcome-based education has related to concerns that it places limitations and imposes a rigid model on curriculum developers and teachers;that it limits creativity;that it inappropriately addresses the attitudinal domain;and that it imposes excessive demands on teachers in terms of specification of outcomes,assessment and record keeping. Many disagree with these criticisms. It has been argued that learning outcomes are likely to have a significant impact on education. Outcome-based education as an education approach is still in its infancy in medical training. Clarification of the learning outcomes in medical education helps teachers,wherever they are, to decide what they should teach and assess,and students what they are expected to learn.

## Investigation of students learning styles at Fasa medical school

**Keywords:** *learning style, inventory, medical education*

**Authors:** *Najafipour, Sohrab., Khoshnami, Maryam., Najafipour, Sedigheh*

**Institution:** *Fasa medical school*

Summary: Investigation of students learning styles at fasa medical school Learning styles research has given educators new directions for making changes in their activities. Students have different leaning styles that reflected in preferences in the way they perceive and process information. Understanding learning style differences is thus an important step in designing balanced instruction that is effective for all students. Student leaning styles can be assessed by specifically designed inventories. This study was performed to determine if students possess a dominant learning style according to the DVC learning style survey for college and whether this style is related to mean point grades of students in academic courses. Eighty three students (52 women, 31 men) from fasa medical school participated in this study. No subject had previously taken the learning styles. The purpose of this inventory is to categorize respondent as visual/nonverbal, visual/verbal, tactile/kinesthetic, and auditory/verbal based on their answers to 32-item questionnaire. Learning style type results and mean point grades of academic course have been collected for each subject. We used statistical method to determine if differences existed in distribution of learning style type, and if differences were related to mean point grades of students. We found visual/verbal learning style as a dominant type and visual/nonverbal, tactile/kinesthetic, and auditory/verbal followed respectively. There wasn't any relationship between the learning styles distribution and mean point grades of student. It is important to build an adaptable learning environment that present the material in a variety of methods than try to determine each learner personal style.

## The convergence of technology in the medical radiation sciences: curriculum innovation to support cross-disciplinary training of medical radiation science professionals (radiation therapy, radiologica

**Keywords:** *cross-disciplinary training*

**Authors:** *Di Prospero, L., Harnett, N., Cherryman, F., Palmer, C., Catton, P.*

**Institution:** *Medical Radiation Sciences Program, University of Toronto, Department of Radiation Oncology and The Michener Institute for Applied Health Sciences*

Summary: The Medical Radiation Sciences (MRS) Program, a collaborative four-year professional undergraduate program within the University of Toronto, Department of Radiation Oncology and the Michener Institute for Applied Health Sciences, graduates professionals to meet evolving societal healthcare needs. 390 students are enrolled annually in one of three related but distinct streams: radiation therapy, radiological technology, and nuclear medicine. Until recently there has been no attempt in Canada to integrate the training of these three disciplines, despite potential benefits to the graduates, the profession and society. For example, the student acquires a spectrum of marketable skills; professionally, an overlapping scope of practice becomes increasingly important to deliver optimum care as diagnostic and treatment techniques converge; and under-served communities could address staffing shortages more readily, improving health care delivery. The MRS Program has implemented a specialized elective or Selectives Program which will provide expertise in specialized fields of practice such as MRI, PACS, Ultrasound, Health Education, Specialized Radiation Therapy Methods, and Computer-Assisted Image Analysis. Two

categories of selectives have been designed: didactic and practical. Significant flexibility is afforded the students who can construct a curriculum that responds to their own particular interests, and that qualifies or partially qualifies for specialty certification. The MRS Program has addressed a number of challenges in the design and implementation of this multidisciplinary curricular innovation and will share the strategies utilized to encourage stakeholders to buy in to the vision of cross-training our graduates.

## What do our students really do? Use of diaries to quantify time spent in curricular activities

**Keywords:** *Learning measurement*

**Authors:** *Wilkinson, T.; Bushnell, J.; Wells, E.*

**Institution:** *Christchurch School of Medicine & Health Sciences*

Summary: Diaries of actual learning activities can fill a gap in evaluation methods but have not been used in this way within a medical context. A diary was developed, piloted and then administered to fourth and fifth year medical students, in two ways: by even sampling where students completed a diary on three randomly selected days of the academic year and by context where students completed a diary for seven consecutive days within designated clinical attachments. Concurrent validity for the curriculum was explored by making comparisons with what is known about the curriculum, assessments and timetables. Concurrent validity for students was explored by making comparisons with questionnaire data and assessment results. Response rate was 83-86%. This evaluation method is able to show correlations between time spent in study and motivation, and between time spent studying with others and extroversion. Students with deeper learning strategies spent more time with patients and assignment work. There were varied correlations between study activity and assessment results. Learning activities varied as expected with timing of assessments and with weekly timetables. For information about a student, 14 days per student is needed to obtain generalisable information. The variation between days is greater than the variation between students so for information about a curriculum many students are needed to complete diaries but each student need only provide information about a few days. This novel evaluation method is feasible and can provide reliable and valid information about study activities. Reasons for good compliance will be discussed.

## An Emergency Medicine Elective Course Offered To Pre-Clinical Medical Students Is An Effective Adjunct Teaching Method Improving Competence In The Ability To Understand And Integrate Basic Science In

**Keywords:** *integration*

**Authors:** *Stearns, D.; Binder, W.; Thomas, S.H.; Farrell, S.E.*

**Institution:** *Massachusetts general hospital Harvard medical school*

Summary: Objective: To determine if bedside teaching of basic science principles and their application in the explanation of case presentations during an Emergency Medicine elective course is an effective teaching method improving pre-clinical medical student competence with understanding and integrating such concepts into clinical medicine practice.

Methods: A cohort of 28 pre-clinical medical students enrolled in an elective course that focused on bedside teaching of scientific principles, how they explain patients' symptoms, physical findings and their application to varieties of case presentations seen in a busy inner-city Emergency Department. At course conclusion, students answered a case-based essay-type written evaluation.

tion, format and subject matter similar to final examinations used in their pre-clinical courses. A 19-student control group with an identical level of training uninvolved in the elective also completed the evaluation. Evaluation responses were scored separately by each of two faculty blinded to the cohorts. These faculty were not involved in teaching the elective course.

**Results:** There were 28 Post-course and 19 Control assessments. The Median and Interquartile Range (IQR) Control total score was 34 (30.3-38.5). The Median IQR Post-course total score was 48 (42 – 53.3). Control and Post-course score differences were statistically significant. Kruskal-Wallis chi-squared value, with ties adjustment, was 16.8 with 1 degree of freedom, to yield  $p = 0.0001$ .

**Conclusion:** Bedside teaching of basic science principles and their application to explanation of case presentations during an elective course serves as an effective teaching method improving pre-clinical medical student competence with understanding and integrating such concepts into clinical medicine practice.

### The Use of Bloom's Taxonomic Hierarchy of Educational Objectives as the Basis for Designing and Refining Pre-clinical Coursework

**Keywords:** *instructional design, course design*

**Authors:** *Papa, F.*

**Institution:** *UNTHSC*

**Summary:** Bloom's taxonomy describes the evolution of intellectual capabilities in terms of a six-step hierarchy. Step 1: acquisition of information (surface learning). Step 2, comprehension via transformation of acquired information into a personalized and potentially useful knowledge base (deep learning). Step 3, application of personalized knowledge base to new situations. Step 4, analysis designed to identify the more and less relevant/useful aspects of one's knowledge base. Step 5, synthesis of a refined knowledge base following additional experience and further analysis. Step 6, evaluation of current the 'state of knowledge' designed to detect fallacies, insufficiencies and define new directions for learning and research. There is little evidence to suggest that Bloom's taxonomy serves as guiding principles in the design of medical school course work. Over the past four years the authors have designed pre-clinical coursework consistent with Bloom's first three educational objectives. In a previously presented pilot investigation, principal components analyses was used to construct three composite variables representing students' attitudes towards the utility of the information acquisition (surface learning) sessions, comprehension (deep learning), and knowledge base application segments of the course. Multiple regression analysis revealed that together, the three instructional approaches accounted for 40% of the variance in the dependent variable (evolving sense of clinical competence). Of the three instructional approaches/objectives, knowledge base application opportunities appeared to have the greatest impact in terms of the students evolving sense of clinical competence. This presentation describes ongoing efforts to use Bloom's taxonomy as the basis for redesigning additional pre-clinical courses.

### Which medical students like problem-based learning?

**Keywords:** *Problem-based learning; personality; learning style*

**Authors:** *Ewan Bigsby [1]; Chris McManus [2];*

*P Sedgwick [1], P McCrorie [1]*

**Institution:** *[1] St. George's Hospital Medical School, London SW17 0RE, UK [2] University College London, London WC1E 6BT, UK*

**Summary:** Problem-based learning (PBL) has become increasingly popular in medical schools, including in the United Kingdom, where it has been included in some of the new accelerated graduate-entry courses. Although the theory and practice of PBL have been much discussed, and meta-analysis shows it to be as effective as traditional curricula, we could find no studies asking what characterises students who do or do not like the method. Here we describe the relationship between personality, learning styles, and satisfaction with PBL in 99 students at a London medical school. Satisfaction with PBL was assessed with a 26-item questionnaire that asked about the utility and enjoyment of the components of PBL. Factor analysis identified two clearly distinguishable factors labelled Personal Learning, which assessed whether students felt PBL helped them personally in clarifying and remembering new information, and Contribution to Case Discussion, which assessed whether students found the PBL process enjoyable and useful, and found it helpful to make suggestions about the case. Personality was assessed using a 15-item questionnaire assessing the 'Big Five' personality factors (extraversion, neuroticism, openness, agreeableness and conscientiousness), and Learning Styles (Surface, Deep and Strategic) were assessed with an 18-item version of Biggs' Study Process Questionnaire. Students who learned well in PBL had a deeper learning style, whereas students who liked contributing to the group process were less neurotic, more agreeable, and had a deeper learning style and a less strategic learning style. We believe these results have implications for schools using PBL.

### Have tutors and residents got similar communication skills?

**Keywords:** *communication skills; residents; tutors; patient centered care*

**Authors:** *Herranz S., Luchetti G., Casanovas A., Nogueras A.*

**Institution:** *Institut Universitari Parc Taulí(UAB)*

**Summary:** Introduction: Improving doctor's communication skills is a matter of priority for its influence on the quality of health care. Role modelling and the informal curriculum are known to influence the training period.

**Objective:** To detect communication skill differences between tutors and residents at our hospital.

**Material and Methods:** Location: Sabadell (Spain) Hospital reference for 380,000 inhabitants, situated 30 Km from Barcelona.

**Personnel:** medical post grade programme for 18 specialities with 32 tutors, 34 R1 and 32 R2

**Material:** 1) questionnaire relating to identification, speciality, years of experience and demographic data. 2) A validated videotape with poor model communication skills in a simulated encounter between a doctor in the emergency service, dealing with a complaint from a patient's relative. As far as communication skills are concerned, there are many arguments on the video which can be improved. Procedure: Viewers, who saw the video, scoring the doctor's communication skills on a scale from 0 – 10. Statistical analysis: SPSS, Mann Whitney, Spearman.

**Results Attendance:** R1 28 (82,4%); R2 29 (90,6%); Tutors 24 (77,4%). By speciality: core specialities (CS) 23, medical (MS) 24; surgical (SS)19; central services (CeS) 15 Sex: female 49 ( 20 R1, 21 R2, 8 T) Score (SD) of the "poor" video by residents and by

tutors (  $p=,024$  Fig 1); by CS 5,04 (1,50); MS 5,60 (1,53); SS 5,79 (1,47); CeS 6,33 (0,97).  $p= ,110$

Conclusions: Tutors communication skills were worse than the resident's. Planning training activities to improve resident's communication skills should include tutors too.

### **How do internal medicine residents learn to be competent?**

**Keywords:** *communication skills; patient centered care; informal curriculum*

**Authors:** *Nogueras A., Casanovas A., Gil M., Jordana R., Monteagudo M., Oristrell J., De Nadal J.*

**Institution:** *Institut Universitari Parc Taulí(UAB)*

Summary: Introduction: Role modelling and an informal curriculum have a big influence on learning residents. Knowing the awareness of our resident's feelings, about their learning process, may help us not only to improve our post grade internal medicine programme, but also our hospital care system.

Objective: To explore the resident's minds about the key issues that they learn

Material and Methods: Location: Sabadell (Spain) Hospital reference for 380,000 inhabitants, situated 30 Km from Barcelona. Personnel: 15 residents (3 per year) from our hospital post grade internal medicine programme Material: semi-structured interview in 2003. One question was "tell us about what you have learnt to do over the past year" (positive learning) followed by "and now, tell us about what you have learnt not to do" (negative learning).

Procedure: literal transcription; every item of the answer was attributed to one of the seven key competencies of the Can MEDS 2000 Project by one of us; the first four competencies mentioned in each answer were scored from 1 to 4, depending on its ordinal position, i.e. 1st, 2nd, 3rd, etc.

Results: Attendance 100% Expertise is mainly the first key of competency mentioned, followed by manager and collaborator. Communication and professionalism are mentioned as competencies learnt in a "not to do" way. Scholars and specially advocates are mentioned, but very poorly.

Conclusions: Communication skills and patient-centered care, need to increase their formal and informal curriculum presence in our hospital.

### **Modernising Medical Careers in the UK: The Northern Deanery Learning Portfolio**

**Keywords:** *Learning Portfolio, Curriculum, Foundation Programme*

**Authors:** *Hrisos, S; Illing, JC; van Zwanenberg TD; Livingston, M; Bregazzi, R; McAvooy, P;*

**Institution:** *University of Newcastle upon Tyne*

Summary: Background Modernising Medical Careers represents a fundamental change in the way junior doctors are to be trained in the UK from August 2005. Following graduation, doctors will undertake a 2 year Foundation Programme (FP) designed to provide broader specialty sampling in the context of a generic curriculum. A portfolio, collated by the doctor as evidence of their progress, may form part of a summative assessment at the end of the programme. Prior to national implementation, the Northern Deanery is currently piloting prototype FP programmes and a learning portfolio designed to facilitate access to the curriculum through the promotion of reflective practice and self-directed learning.

Aims:

- to identify to what extent the curriculum was accessed by junior doctors
- to explore experience of portfolio use: perspectives from junior doctors, educational supervisors and clinical assessors

Study Design: Postal survey using a self-completion questionnaire devised for the study.

Year 1 (Phase 1) Questionnaire development: items will be deri-

ved from themes emerging following interviews with sub-samples randomly selected from each of the 3 target groups.

(Phase 2) Survey: 1st year junior doctors given the learning portfolio in August 2003, their educational supervisors and clinical assessors.

Year 2 Survey: 1st year junior doctors given the learning portfolio in August 2004, their educational supervisors and clinical assessors plus doctors in their 2nd year of training.

Discussion: The overall study findings will ultimately inform FP programme development. This poster reports the outcome of Phase 1: the study questionnaire, and suggestions for research expansion during Phase 2.

### **Pedagogical challenges of a revised medical program by competencies**

**Keywords:** *revised medical program, competencies, pedagogical challenges*

**Authors:** *Bélanger, N., Glenn, J., Côté, L., Beauchemin, J-P., Laberge, L., Leblanc, F.*

**Institution:** *Université Laval*

Summary: A major revision of the undergraduate medical program at Laval University was undertaken in the fall of 2003. Presently, over 50% of the curriculum is organized by systems, and the basic sciences are presented individually. A diversity of learning methods is used. A series of courses, « Initiation to clinical practice », present in each semester of the two preclerkship years, provides the students an opportunity to integrate various learning contents. The revised program will be oriented toward a progressive acquisition of five competencies: clinical expertise, communication, collaboration, autonomous learning and professionalism. For each competency, a definition has been proposed and the objectives fixed for the end of the preclerkship and the clerkship periods. We have chosen to maintain diverse pedagogical methods in accordance with andragogic and cognitive psychology principles and values. The acronym PUIGE (Prevalence, Urgency, Intervention, Gravity, Educational example) has been used to assure that pertinent choices of course content are made. The structure chosen for the organization of the program content of the two preclerkship years represents a major pedagogical challenge. The desired product: a program with a coherence in the configuration of the course contents which permits the students to integrate the basic and clinical science components, to progressively develop the five competencies and to attain the levels desired for advancing to their clerkship training. This poster presents the definitions of our five competencies and our proposed organization for the course contents. We wish it to be a catalyst for a pedagogical exchange.

### **The quality of pharmacology teaching is an strategic objective in medical education**

**Keywords:** *pharmacology education quality assessment*

**Authors:** *Ramirez-Gonzalez, M.D.*

**Institution:** *Universidad Nacional Autónoma de México*

Summary: The quality of pharmacology teaching is an strategic objective in medical education. María Dolores Ramírez-González. Departamento de Farmacología, Facultad de Medicina, U.N.A.M. (mdrg@servidor.unam.mx) This work contains an analysis on the institution mechanisms related to assure the learning and the quality of the learning of pharmacology as the foundation of pharmacotherapy. The main findings of a 15 years retrospective study indicate that: 1) the assessment of pharmacology learning is limited to the use of written exams integrated with multiple choice questions mostly aimed at addressing the short lasting rote memory; 2) The teaching load relies on one or more professors who are not directly responsible of the evaluation of learning; 3) The internal regulations of the institution may contribute to grade inflation in as much as they contribute to increase

grades by mechanisms not related to learning; and 4) The medical curricula is strongly academic but makes no emphasis on the achievement of essential skills such as drug prescription, a fundamental issue for a competent design of drug related treatments. A proposal for the assessment of quality and quality control of the education process based on the total quality control method is presented with six basic steps for reengineering of the education process. The importance of this approach relates to the fulfilment of standards of quality and the world wide criteria for certification and accreditation of medical schools and their graduates, as well as with the professional performance of physicians when prescribing drugs to patients.

### The Investigation of Doctor-Patient Communication Skills: How do Interns Learn to Communicate?

**Keywords:** Doctor-patient relationship, Communication Skills, Clinical ward-learning

**Authors:** Soltani Arabshahi, S.K.(M.D.), Ajami, A. (M.D.), Siabany, S. (M.D.)

**Institution:** Iran Medical University of Medical Sciences, Deputy of Education, Education & Developmental Center

**Summary:** Introduction: Communication skills considered as one of the main components of clinical competence helping precise diagnosis and patient's compliance for therapeutic measures. Through communication skills the physician is able to demonstrate better performance.

**Objectives:** To investigate how communication skills are learned at 2 Universities by interns.

**Materials and Methods:** This is a descriptive-analytic study. A self-administered questionnaire was given to target population in 4 major clinical wards (Internal Medicine, OB & Gyn., Pediatrics, and Surgery).

**Results:** 43.7% of students were not informed about communication skills that are significant. The places of experience in communicating with patients were clinical ward, hospital classroom, emergency and outpatient. The impact of teacher/ resident presence on learning assessed as very high and high. Observing teacher's behavior and communication with patients got the highest score and those of the resident's score got the next score. Less than 5% of scores allocated to the other methods of learning.

**Conclusion:** Teaching and learning methods at both universities should be revised. the formal instructional programs have to be implemented, meanwhile medical staff have to play more active role in teaching the skills.

### Educational reforms in Kosovo

**Keywords:** change management, Kosovo

**Authors:** Simpson, D.

**Institution:** HLSP

**Summary:** Kosovo has been isolated from the mainstream of medical education reforms for many years. In 2003 through the funding of the European Agency for Reconstruction, a project on health education modernisation began. The project aims to improve medical education at undergraduate and postgraduate levels as well as strengthening continuing professional development. Early results are promising with changes agreed to reform all levels of medical education. Implementation has begun. At undergraduate level a systems based integrated curricula is being designed and modern teaching methods introduced. At postgraduate level, a core curricular for all specialties has been agreed and modern curricula adopted. A personal portfolio system is in the process of being implemented to empower doctors to take charge of their own continuing professional development. We would like to share with participants information on the change process which contributed to success. The main elements included: Leadership from the top; Team building; Stakeholder invol-

vement; Using external change agents; Adopting a planned approach; Continuous improvement. Lessons learned included the importance of the following topics: Timing; Ownership; Pace; Sequencing.

### The relationship between mental health and academic achievements of students studying at the Faculty of Nursing and Midwifery

**Keywords:** Mental health, academic achievement, student

**Authors:** Dr. Rsharif, F.; Rafatee, F.; Dr. Ahmadi, J.; Dr. Zeyghami, B.

**Institution:** Shiraz university of medical sciences

**Summary:** A descriptive analytical study that aims at assessing the relationship between mental health and academic achievement of student studying at faculty of nursing and midwifery. Subject consisted of 307 full-time undergraduate nursing and midwifery students. The subjects were assessed by a demographic questionnaire, General Health Questionnaire, Beck Depressive Inventory, Eysenck personality inventory and total average of grades as academic achievement. The data were analyzed using t-test, Tucky test, Pearson correlation and multiple regression. The results revealed that 59.8 % of the students suffered from depression (33.4% mild, 18.4% moderate, 5.9% rather severe, 1.6% severe). Also, the results revealed a significant negative correlation between general health, depression, neuroticism (extracted from Eysenck personality inventory) and academic achievement. But, with multiple regression, only depression proved to have a significant relationship with academic achievement.

### A new curriculum for the development of a career in clinical academic medicine

**Keywords:** clinical academic medicine, career, curriculum development

**Authors:** Dr. D Gallen, Prof. B Williams

**Institution:** Postgraduate Medical And Dental Education Deanery For Leicestershire, Northamptonshire and Rutland

**Summary:** Formal career pathways for those wishing to pursue a career in clinical academic medicine are virtually non-existent in the NHS of the United Kingdom. Modernising Medical Careers (1) specifically states, 'a clear structure is necessary to encourage and support the development of academic, research and teaching skills and to support those who opt for an academic career'. We are proposing a formal programme of training for those interested in a clinical academic career that encompasses the second foundation year and further develops the trainee in a combined General Internal Medicine and research post. The post would develop the trainee through the core competencies of research methodology and expose them to a variety of research opportunities, ultimately leading to research fellowship applications. The trainee would also develop a solid grounding in General Internal Medicine (GIM) progress to a certificate of specialist training in GIM. This opportunity to have an academic career pathway outlined will aid in the recruitment and retention of junior doctors to academic medicine. The 'Savell report' (2) addressing training for academic medicine, identified bright SHOs being effectively forced into undertaking pre-Specialist Registrar doctoral research in order to enhance their competitiveness to gain entry to specialist registrar programmes. This paper will outline why this is no longer necessary and map the career structure for clinical academic medicine in the future.

1. Modernising Medical Careers. Proposals for reform of Senior House Officer grade. Department of Health. London 2003.
2. The tenure-Tract Clinical Scientist, The Academy of Medical Sciences. 2000.

## Towards a five-year Problem Based Learning curriculum in the University of Transkei, South Africa

**Keywords:** *Problem-based-learning, Outcome-based-education*

**Authors:** *MEEL, B.*

**Institution:** *University of Transkei*

**Summary:** Abstract: The aim of this article is to create awareness about the five-year Problem Based Learning (PBL) curriculum. PBL has many advantages over the traditional system of teaching. One of them is that it allows students to gain and retain information better. The hypothetico-deductive strategy traditionally used in PBL should be replaced by scheme-driven search strategies so that students develop a more organized and logical approach to problem solving. Knowledge is stored in long-term memory, and therefore PBL is a time saving method of learning. This justifies the implementation of the 5-year teaching curriculum. The Faculty of Health Sciences at the University of Transkei is a leading institution in Southern Africa with regard to PBL. Since the introduction of PBL method in UNITRA in 1992, there has been a drastic reduction of student dropouts. The PBL curriculum provides students from weak academic backgrounds with the opportunity to keep in step with the program from year to year. The author has discussed a number of issues related to students and community in this presentation, and recommended that the other universities in South Africa should also utilize the same curriculum of teaching, so as to maximize the chances of success among disadvantaged. The State is expecting outcome-based-education to meet the deficiencies of the past, which the community has been expecting for a long time. Implementing the five-year PBL curriculum in all medical schools could fulfill this goal.

## Systems Design in Medical Education

**Keywords:** *systems design, integrated curriculum, community health*

**Authors:** *Ian Johnson, M.D.; P. Niall Byrne, Ph.D.; Katherine MacRury, Ph.D.*

**Institution:** *University of Toronto; 200 Elizabeth Street 1ES-565; Toronto, Ontario; M5G 2C4*

**Summary:** The volume and diversity of material to be learned by students continues to grow exponentially. With fixed curriculum time and broader demands on graduating students to be competent in fields ranging from molecular medicine to the social and environmental determinants of health, there is pressure on the undergraduate medical curriculum to be more learner and teacher efficient. Accordingly, we propose a systems approach to curriculum design, defined as the selection and arrangement of fundamental and artistic elements that make a functional curriculum, as a means to meet expansionary challenges now and in the future. Applications of systems design in medical education have been few and far between. The presentation will review different approaches to curriculum design, and then examine a systems designed curriculum on Community Health implemented at the University of Toronto, showing how elements of the curriculum are both independent, yet articulated with one another and integrated throughout the four-year undergraduate medicine program.

## An evaluation of a pilot curriculum for basic surgical education 'General Professional Practice in Surgery' (UK)

**Keywords:** *Senior house officers, basic surgical education, clinically-based learning*

**Authors:** *Brigley, S.*

**Institution:** *University of Wales College of Medicine*

**Summary:** An external evaluation was commissioned by the Royal College of Surgeons of England of its pilot curriculum

'General Professional Practice in Surgery' (GPPS), designed for SHO in basic surgical education. The evaluation was to be formative, i.e., to assist the further development of GPPS. The evaluation team, drawn from backgrounds in general education, medicine and healthcare, conducted ethnographic fieldwork at district general hospitals and a university teaching hospital in 2002-3. Following a round of visits to gain familiarity with basic surgical education at the sites, a further series of visits was carried out to collect qualitative evidence of the pilot implementation of GPPS. Some 315 hours in total were spent on observation of SHOs' learning in ward rounds, clinics and operating theatres, in depth interviews mainly of SHOs and surgeons, accessing key documents and general information gathering. From its close examination of authentic surgical environments, the evaluation found: Considerable positive regard among surgeons and SHOs for key principles of GPPS: clinically-based learning, reflective practice, assessment of competence and the educational partnership between SHO and surgeon Participants still coming to terms with the distinctive philosophy of GPPS and its practical implications for educational and clinical work Substantial challenges as the GPPS programme is rolled out: managerial, resource and educational; and fundamentally for the way in which professional practice is understood. A need for continuous educational endeavour among key participants and for institutionalised monitoring and evaluation.

## Curricula Reform in Family Medicine

**Keywords:** *vertical integration; curriculum mapping*

**Authors:** *Spike, N. and Wellard, R.*

**Institution:** *Monash University*

**Summary:** Vertical integration of undergraduate, postgraduate, vocational and continuing medical education is an ideal that may overcome both inefficient duplication and significant gaps in the teaching of appropriate knowledge and skills. In Australia, family medicine education and training lacks continuity. The curricula at different levels are compartmentalised and have been the responsibility of different institutions. This project aimed to develop a vertically integrated curriculum for family medicine education and training in Australia. Methodology involved a detailed analysis of the undergraduate curriculum content in the medical course of two universities and a generic curriculum for the first and second postgraduate years, matched against the curriculum domains of the postgraduate specialist family medicine body. The results of this analysis demonstrated similar emphases in the weighting across the domains in both undergraduate curricula. Applied professional knowledge and skills heavily dominate the curricula whereas population health, professional and ethical content, and the patient-doctor relationship and communication skills represent lower proportions of curriculum content. Both curricula emphasise case/problem based learning to integrate biomedical knowledge with other domains. This is even more evident in the curriculum for the first and second postgraduate years which are exclusively hospital based. Following this analysis, a framework was developed to map a vertically integrated curriculum for family medicine. The emerging curriculum mapping framework includes a description of the breadth of related knowledge and skills at various stages with increasing depth and complexity of knowledge and skills as the learner progresses vertically through the curriculum.

## Guinea pigs or trail-blazers? The first cohort of students in a new PBL curriculum

**Keywords:** *curriculum reform; pioneers; problem-based learning*

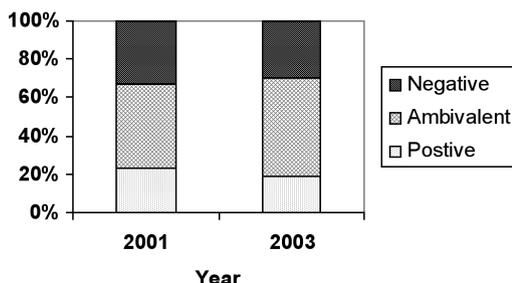
**Authors:** *McLean, M.*

**Institution:** *University of KwaZulu-Natal*

**Summary:** With curriculum reform, a group of students will always experience each year of the curriculum for the first time.

After three years (2001-2003) of problem-based learning (PBL) at the Nelson R. Mandela School of Medicine (South Africa), the first cohort was canvassed (October 2003), largely in an open-ended manner about being the pioneers of Curriculum 2001 in 2001, and how they felt as third year students (2003), almost half way through their undergraduate studies. Notwithstanding that only 40% of students returned questionnaires, those who did provided valuable information regarding their emotional status during their first year of study, when they had no other PBL students from whom they could seek assistance, and, at the time of the survey, as the senior PBL students. Student comments (n = 64) in response to the queries "How did you feel about being a pioneer in 2001?... and 2003?" were categorised as positive, negative or ambivalent. A considerable number were ambivalent about being pioneers in 2001 and remained so in 2003 (Figure 1). So, trail-blazers or guinea pigs? While we might view pioneer students of curriculum reform as trail-blazers, many see themselves as 'guinea pigs' in an experiment. Faculties need to recognise the importance of this group of students and should nurture them, as their response to the curriculum can ultimately dictate how successfully it is further implemented. In addition, their attitude to the faculty and to the curriculum can significantly influence that of the students who follow in the PBL programme.

Figure 1. Summary of the sentiments of the first cohort of students in a PBL curriculum with regard to being pioneers. A comparison is made between their sentiments retrospectively in Year 1 (2001) and then in Year 3 (2003). Sentiments were categorised as either positive, negative or ambivalent.



### The Optimal Medical Selection Interview?

**Keywords:** Assessment, Evaluation, Interview

**Authors:** Miller, SR.

Gruppen, LD.

**Institution:** University of Michigan

**Summary:** Objective: We implemented a new residency selection interview format to increase the amount of information obtained from the student applicants without increasing the number of interviews.

**Design:** The students had three formal interviews. Each interview had three to four standard questions asked of every student. Additional questions could be asked within the area of emphasis. The "academic" interview emphasized scholastic performance and learning style. The "non-academic" interview was based on the student's volunteer, leadership and work experiences. Prior to these interviews the student's application was reviewed. Before the "blind" interview, no student data was reviewed. This interview focused on experiences in PM&R, career plans and his/her proudest accomplishment. Each interviewer ranked interviewees on a scale of 1 – 5, with 5 being excellent. The residents used the same scale to score their informal assessment of the students.

**Results:** There is a correlation between the "blind" interview and the resident and "non-academic" interviews in addition to the

final rank. Stepwise regression analysis revealed that the "blind" interview contributed information different than that gained from the other two interviews and resident assessment. Over the last two years, the "blind" interview accounted for approximately 4.5 percent of the variance in the rank outcome.

**Conclusion:** The "blind" interview contributes additional, different information that the "academic" and "non-academic" interviews do not elicit. Asking slightly different questions may increase the information the "blind" interview provides and enable a more accurate assessment of the applicants, which may help anticipate a student's learning needs.

### Modernizing Dutch Postgraduate Medical Training

**Keywords:** postgraduate curriculum CanMEDS2000

Netherlands

**Authors:** Olle Th.J. ten Cate, Otto P. Bleker, Chris M.T.

Plasmans, Jan C.A. Hoorntje, Reinout van Schilfgaard, Willem J. Schudel, Fleur Sprangers, Robert-Jan Stolker.

**Institution:** University Medical Center (presenter) and Central College of Medical Specialities

**Summary:** In 2003 postgraduate medical training in the Netherlands has entered a period of extensive reform. The Dutch governing body of medical specialty training, the Central College of Medical Specialities, has issued a number of modernizations, to be put through before 2006 in all 29 postgraduate specialty training programs. A model of seven general competency fields was introduced in 2003, specified into 28 key competencies. This model, adapted from the CanMEDS 2000 project, now serves as a framework for all programs. Before 2006 all specialty boards are to design (a) discipline-specific competencies within this framework, (b) a modular program structure including off-ward courses where necessary, (c) a framework for periodic knowledge testing and in-training-assessment, using the mini-CEX model and regularly progress evaluation sessions, (d) a portfolio method to guide learning processes and (e) teacher training programs or to adopt existing courses. The Dutch Colleges of General Practice and Public Health have agreed to follow this CCMS-directive of postgraduate educational objectives. This will result in a national approach for all postgraduate medical courses. Details and backgrounds of the plans will be discussed.

### The need for undergraduate medical curriculum reform

**Keywords:** undergraduate medical curriculum,

Reform, Iran

**Authors:** Tavakol, M.

**Institution:** Nottingham University

**Summary:** A medical curriculum based on values and Islamic culture was designed after the revolution. In preclinical studies, there is an excess of attention paid to anatomy and an insufficient emphasis on physiology and biochemistry. Nearly all of Iranian medical schools still offer courses based on the traditional system; that is, a discipline-based approach with a teacher-centred structure, in which each subject is taught independently and there is little practical training.

**Purpose:** This qualitative study sought to gain an understanding of senior lecturer's experiences of the nature and the improvement of the current status of undergraduate medical curriculum. **Method:** Ten in-depth interviews were conducted with senior medical lecturers who have firsthand experience of the phenomena under investigation. Spot checking of transcripts was conducted for the data accuracy. The researcher conducted a thematic analysis of the data, identifying themes by a process of repeated review of in-depth interview data.

**Findings:** In general, three central themes were emerged based on the narratives of doctors. These themes are: factors influen-

cing the educational strategy, factors influencing the skill based assessment and financial pressure as an inhibitory factor for reforming the curriculum.

Discussion. It is concluded there is a real need for undergraduate medical curriculum reform in Iran, which is linked to different ethnic and religious backgrounds. The possible explanations for each knowledge claim (paradigms) have been discussed. Some recommendations are made and the limitations of the study are discussed.

### **A quantitative survey of intern's knowledge of communication skills: relevance for curriculum development**

**Keywords:** Knowledge, Communication skills, medical students, curriculum development, Iran

**Authors:** Tavakol, M.

**Institution:** Nottingham University

**Summary:** It is a high priority that health care providers have effective communication skills. It has been well observed that the doctor-patient relationship is central to the delivery of high quality medical care, and it has been shown to affect patient satisfaction, to decrease the use of pain killers, to shorten hospital stays, to improve recovery from surgery and a variety of other biological, psychological and social outcomes. This study sought to quantify the current knowledge of interns about communication skills. A cross-sectional study using a self-administrated questionnaire was conducted among interns. Data analysis was based on 223 questionnaires. The internal consistency of the items was 0.8979. Overall, knowledge levels were unsatisfactory. There was a statistically significant main effect for sex and the interaction effect did reach statistical significance. Free response comments of the interns are also discussed. It is argued that there is a real need for integrating a communication skills course, which is linked to various different ethnic and religious backgrounds of interns, into Iranian medical curricula. Some recommendations are made and the limitations of the study are discussed.

### **Tutors' perceptions of the relevance of behavioural and social sciences towards medical students' education**

**Keywords:** Behavioural and social sciences, Attitudes

**Authors:** Pilkington, A.

**Institution:** University of Manchester

**Summary:** The University of Manchester is at the forefront of medical education in the UK. One of three major components of the programme is the Behavioural and Social Sciences (B&SS) 'strand'. Despite the Medical School considering the B&SS relevant areas of study as shown in a move to greater horizontal integration with the biosciences and clinical medicine; this perception is not always shared by students or bio-scientist colleagues. A previous study with students aimed to identify the factors affecting beliefs as to the relevance of B&SS within the curriculum, one of these being the influence from tutors and clinicians. We found a perceived neutral at best attitude by clinicians and tutors as to the importance of the behavioural and social sciences within medical education. A positive correlation was found between tutors' and clinicians' ideas of importance, and students' ideas. This study focusses on the need for a direct assessment of tutors' and clinicians' thoughts about this area of education and exploration as to the reasons why negative attitudes are expressed to students. We used a mixed methodological approach to explore these issues. The results will be presented along with suggestions to increase tutor and clinician support for the behavioural and social sciences.

### **Life Drawing in Undergraduate Clinical Attachments**

**Keywords:** Life Drawing; Humanities in Medicine

**Authors:** Gull, S.

**Institution:** University of Cambridge School of Clinical Medicine

**Summary:** The Cambridge Graduate Course in Medicine has provided the opportunity to develop the potential for the humanities in medical education as part of the core curriculum. This study explored the potential for Life Drawing during Clinical Attachments.

**Aims:** Core learning objectives were identified through the process, along with possible constraints. Whether such activity should be optional or core within the curriculum was also considered, along with the role of assessment. Setting: A medium-sized District General Hospital in East Anglia

**Participants:** 3 workshops were offered to different groups of 20-25 students using a nude life model during a clinical attachment at the hospital. The first 2 were optional and the third programmed as part of core activity.

**Method:** Data was collected through student questionnaires, participant observation and a research diary by the authors, a doctor and an artist, who acted as facilitators.

**Results:** The students were mainly positive in their acceptance of Life Drawing, and confirmed that it helped observational skills. The workshops developed to use examples of visual art which provoked discussion over many issues to do with experience of the physical condition, the doctor-patient relationship and the role of science and art in medicine.

**Conclusions:** The humanities can be incorporated into core activity within the undergraduate curriculum with appropriate support. Life drawing helped develop observational skills and promoted wide-ranging discussion. The "otherness" of life drawing encouraged critical reflection and challenged pre-conceived assumptions. Student assessment, if needed, can be through exhibition of their work.



### **Strategic plan for a continuous teaching and research work of basic science in the school of medicine**

**Keywords:** Educación Médica

**Authors:** Moreno Barral, J.

**Institution:** Facultad de Ciencias Médicas Universidad Nacional de Córdoba - Argentina

**Summary:** Strategic plan for a continuous teaching and research work of basic science in the school of medicine. José Moreno Barral, José María Willington, Ana Antolin, Julio Enders. Secretaría de Ciencia y Tecnología, Decanato de la Fac. de C. Médicas, Univ. Nac. de Córdoba, república Argentina. The teaching experience of basic sciences along the first 3 years of the Career of Medicine has shown the need of some adjustments. The enormous development of biology and Biochemistry, and the lack of strategies for keeping curricular changes up to date, has limited the number of physicians interested in the basic areas

and skilled in the transference of the basic concept to clinical investigation. Consequently, it is desirable to establish curricular changes according to those standards proposed by the CONEAU (National Committee for Evaluation and Academic Performance of the Universities). Three areas of action are defined in order to obtain those goals :

- Programs of Basic topics in modules which will be integrated with the clinical sciences.
- These modules should be developed in the Hospital of the Medical School.
- The Final Practice should offer an option to use 20 % of the total time to do research work in a group with a line of investigation already approved by the SECYT (Ciencia and Technology Secretary) - teaching and research integration-. The methods to be used will include:
  - Fulfil a complete diagnostic of the present courses and human medical resources.
  - To organize new specific teaching units.
  - To define the contents of the modules and teaching strategies to be used

### Comaprision of three instructional methods

**Keywords:** *Modified PBL, Instructional Method, Teacher student ratio*

**Authors:** *Al-Faris, E.*

**Institution:** *King Saud University, College of Medicine*

**Summary:** Objective:- To compare the three instructional methods namely lectures, Problem Based Learning (PBL) and modified PBL for undergraduate medical students at University in Saudi Arabia. In the modified PBL method, students are provided with a suggested reading material and 2 to 3 clinical scenarios about the topic of discussion and some question to answer. The modified PBL is an affordable option for schools that can not meet the PBL curriculum requirements.

**Design:** An extended cross-over design was used. Three instructors participated in the teaching of three topics to three groups of students. Students acted as control for themselves across the three instructional methods. Thirty three, fourth year medical students of KSU were the study subjects.

**Results:** In the initial assessment there was a significant difference among the three methods regarding the topic comprehension as tested by short answer questions ( $p = 0.0001$ ), problem solving skills as tested by clinical case management (ccm) ( $p = 0.002$ ) and the total score ( $p = 0.001$ ). The scores obtained by PBL method are significantly higher than the lectures method, but was not significantly different from the modified PBL method. On the other hand, non-significant results were observed at the second assessment( two weeks later). The modified PBL method was the preferred one for 39% of the students, followed by the PBL (36%) and lastly the lectures (25%).

**Conclusion:** This empirical study suggests some advantages for the PBL method and the modified PBL over the lecture method particularly for the student comprehension of the topics discussed.

### Working with the AAMC Curriculum Management and Information Tool (CurrMIT)

**Keywords:** *curriculum management, assessment methods, educational methods, outcome objectives, competencies*

**Authors:** *Reynolds, R.; Salas, A.*

**Institution:** *Association of American Medical Colleges (AAMC)*

**Summary:** Available from the Association of American Medical Colleges (AAMC) since June 1999, CurrMIT is a password-protected, online database that offers a state-of-the-art method to document and manage detailed information on medical school curricula. CurrMIT contains information on course and clerkship organization, content, outcome objectives, assessment methods,

educational methods, competencies, and more. CurrMIT is designed for use by curriculum managers, faculty and medical education researchers. Data can be entered into CurrMIT via a web-based user interface, or it may be loaded using XML. In addition to assisting with internal curriculum management, CurrMIT allows users to review curricula of other medical schools using the system. All Liaison Committee on Medical Education (LCME) accredited U.S. and Canadian allopathic medical schools, and several U.S. osteopathic medical schools, have entered basic information about their curricula into CurrMIT. The AAMC is pursuing a plan to allow international medical schools access to CurrMIT. The proposed plan will allow groups or associations of international medical school to access CurrMIT for management purposes. Subscribers will also be able to view curricula of U.S., Canadian and other international medical school subscribers. During this presentation, we will provide an overview of CurrMIT content and structure, and will demonstrate several of the powerful reporting features available. Working with the system, we will generate reports that answer important curriculum related questions that medical schools face on a daily basis.

### Creating a Skillslab for Kenya Medical Training College

**Keywords:** *skillslab, curriculum development and implementation, educational dilemma*

**Authors:** *boruett, n.Paul Ketele, Surgeon, Marianne Darwinkel, Medical Doctor, Derese Anselm, visiting Professor and consultant to the project, Waswa Reuben lecturer skillslab, Margaret Chege lecturer skillslab, Andendo Rosemary lecturer skillslab.*

**Institution:** *Kenya Medical Training College*

**Summary:** Two years after the developing a Skillslab in Kenya Medical Training College from scratch and devising a curriculum appropriate to local conditions and probably the only one in East and Central Africa, the Skillslab team describes the tribulations and achievements of the project. In a poor country like Kenya, developing a Skillslab is a major undertaking. The fact that the methodology was new and the low-level teacher qualification further made the scenario more difficult. We describe how we in Kenya founded the Skillslab with the help of the Belgium Government. The goals of this project were to transfer the new methodology to Kenya paramedic colleges and to assess its feasibility and value in the Kenya Medical Education system. We also present some statistical evidence proving that students who acquired their practically clinical skills training before proceeding to the clinical area, performed better than their counterparts who never utilised the skillslab methodology. We are indebted to Mrs Fox the VVOB country representative who supported us morally and financially.

### A Model for Innovation and Change in Medical Education: Four Case Studies

**Keywords:** *curriculum innovation and change, decision-making*

**Authors:** *Prideaux, D.*

**Institution:** *Flinders University*

**Summary:** This paper examines the decision-making processes and structures that underpinned innovation and change in four medical schools located in Australia, Canada and England. Exploratory models of change and innovation were developed from the four case studies. Initially questionnaires were administered to staff in the Australian medical school. Following this preliminary analysis in-depth interviews were conducted with key staff and relevant documents and records collected. In the three overseas schools similar data were collected through interview and document and record analysis. Interviews were transcribed and categorised and data were triangulated with those from other sources to develop the explanatory models. The

models were built up from a complex interaction of factors associated with external influences, the nature of the change or innovation and the pre-existing change or innovation culture. The change mechanisms were developed in response to that interplay. External factors were shown to have an important role in determining change as was the adoption of dynamic change models. It was also shown that short term change or innovation strategies did not necessarily build ongoing cultures of change and, in all four schools, there were issues of longer term sustainability of change or innovation. The results confirmed that the predominant models of change or innovation which present change as a dichotomy of decentralised or centralised approaches were inadequate to explain the complexities involved. There was support for newer approaches which represent change or innovation as dynamic, complex and open processes.

### **Changing Spanish medical studies: Our experience**

**Keywords:** *curriculum, spanish, undergraduate*

**Authors:** *Alfonso-Roca, M.T. Saez Mendez, L. Serrano Casarrubio P.*

**Institution:** *Unidad de Educación Médica, Facultad de Medicina Universidad Castilla La-Mancha.*

Summary: The Medical School of the University of UCLM develop an innovative program that will prepare the new medical professionals to answer the health necessities of the society of the XXI century. This model will replace the traditional educational system for an integrated learning based on the establishment of the professional competences. We develop a curricula model based on integration of disciplines, learning based in modules of objectives and learning based on problems. In this work, we describe, discuss and evaluate the difficulties and expectatives generated by this new system in Spain.

### **Knowledge of medical law before graduation – do they know enough?**

**Keywords:** *Undergraduate teaching package, medical law, clinical governance, regulation, case senario*

**Authors:** *Lambert, J., Parsons, J., Bark, M. & Murdoch-Eaton, D.*

**Institution:** *Leeds School of Medicine*

Summary: Practising doctors need to be aware of law as pertains to clinical practice, legislature in relation to their licensing and the bodies involved in clinical governance. The aim of this project was to develop and pilot a specific teaching package covering essential principles for students approaching finals. Curriculum content was based on core competences and professional standards expected of the newly qualified doctor. Topics relating to regulation included an outline of professional bodies, how issues of conduct or capability are investigated and possible consequences. A clinical governance theme highlighted clinical effectiveness and audit, complaints and litigation and clinical risk management. The package is made up of 2 half day teaching sessions consisting of lectures and small group teaching facilitated by law tutors and practising clinicians. Contextualised case scenarios were developed incorporating learning methods to promote interactivity and engagement with the material, and to allow students to explore and express concerns about areas in which they may have had little or biased exposure. Students found the teaching informative and relevant. Knowledge improvement was demonstrated by pre and post extended matching question assessment scores showing a statistically significant knowledge improvement ( $X^2 = 7.04 (>0.01)$ ). Valuable feedback on the context of the sessions in the curriculum suggested less pre knowledge than anticipated, and a need for additional pre course material. The strong support for the project from professionals combined with student feedback indicated the value of this teaching prior to graduation.

### **Uses of a curriculum map in the new Medical curriculum at UNSW**

**Keywords:** *curriculum map*

**Authors:** *Watson, EGS., Toohey, SM., Hughes, C., McNeil, HP., Mobbs, SL., & Leeper, J.*

**Institution:** *Office of Medical Education UNSW*

Summary: As part of the development of the new Medicine program at UNSW, the Faculty's Office of Medical Education has developed a web-based curriculum map that holds information about the program's outcomes, learning activities and assessments. The Faculty is using the map to:

- Present information on the curriculum design.
- Encourage integration.
- Identify gaps and overlaps.
- Ensure the alignment of activities, graduate outcomes and assessments.
- Facilitate collaboration between design groups and teachers.
- Promote consistent terminology.

The map is used by design groups, teachers and students. It captures information about the scenarios, cases, learning activities and assessments, and the links between these and the course, phase and program goals. All courses, scenarios, learning activities and assessments can be searched to determine where any given topic or graduate outcome is addressed. The map has helped to broaden the understanding and commitment of campus and clinical staff to the new curriculum, to identify gaps and duplications, and to support room booking and assessment tracking. It is supporting communication between design groups and the many clinical and campus based staff who will be teaching sessions. The map also supports the development of student self-direction by allowing them to explore links and look forward and backwards as they plan their study in a program that affords them considerable freedom to choose the focus and timing of learning. The paper will describe the key features of the map and discuss its use in the development and implementation phases of the program.

### **Curriculum delivery through case discussion**

**Keywords:** *curriculum delivery; small group learning; vocational training*

**Authors:** *Martin, A.*

**Institution:** *Sturt Fleurieu General Practice Education and Training*

Summary: Sturt Fleurieu General Practice Education and Training (SFGPET) provides vocational training in South Australia for trainees (registrars) preparing for Fellowship of the Royal Australian College of General Practitioners (RACGP). Our challenge is to integrate curriculum delivery with experiential learning for registrars working in general practice [1]. Another challenge is to maintain the momentum of the learning and professional development continuum which commences in medical school, where teaching modalities are increasingly small group, problem based learning rather than lecture style, through vocational training towards the self-directed learning of continuing medical education. SFGPET meets these challenges with a case discussion model of curriculum delivery. Small groups of registrars meet regularly with a GP Supervisor facilitator to discuss cases from their recent experience. Registrars describe their actual clinical interactions, and trains of thought during the consultation, rather than structure their presentation in the traditional, idealised format of history, physical examination, etc. We encourage the integration of several elements in the one educational encounter, eg: identification of learning opportunities in clinical practice; sharing of registrars' diagnostic processes, management strategies and schemes [2]; reflection on practice; expansion from a narrow focus on clinical details to the broader context of general practice; and regular opportunities for feedback on progress in addressing the RACGP curriculum. A challenge for GP

Supervisors is to move from a tendency for didacticism towards facilitation, from paternalism as teachers to partners in learning. Evaluation of the program has shown that registrars and supervisors find the program interesting, enjoyable and rewarding.

References:

1. Stanton, F. and J. Grant, Approaches to experiential learning, course delivery and validation in medicine. *Medical Education*, 1999. 33(4): 282-97.
2. Mandin, H., et al., Helping students learn to think like experts when solving clinical problems. *Academic Medicine*, 1997. 72(3): 173-9.

### **A framework for the evaluation of networked learning and the implications of evaluative research for the process of redesign**

**Keywords:** *evaluation, networked learning, curricular change / redesign*

**Authors:** *Brigden, D.*

**Institution:** *University of Liverpool / NHSE (Mersey Deanery)*

Summary: This presentation introduces a framework for the evaluative research that has been used in the designing and delivering of networked learning programmes. The evidence produced by the four aspects of the evaluative framework are analysed, and modifications made to the networked programmes as a result of reflections on the results of the research are discussed. The process of redesign is highlighted with particular reference to the Postgraduate Certificate in Teaching and Learning in Clinical Practice and the Masters programme in Clinical Education.

### **Communication skills: a challenge in the medical curriculum**

**Keywords:** *Communication skills, education, training, OSCE, simulated patients.*

**Authors:** *Deveugele, M.*

**Institution:** *Ghent University*

Summary: Nowadays nobody doubts the importance of good doctor patient communication and as a result most of the medical faculties have embedded communication training in their curricula. Two major problems arise: first the training often consists of isolated issues, like braking bad news, leaving the students unaware of global communication principles and secondly the training often starts late in the curriculum. In the new medical curriculum at Ghent university, communication skills are seen as a continuum during the whole curriculum. The first year Bachelor starts with general communication principles, e.g. active listening, empathising with patients and responding to emotional cues. Role-playing and working with simulated patients are used as a tool. In the second year these skills are consolidated in interviewing exercises within a family with a new born baby. During the third year a global model of consultation is presented and exercised. The years to get the Master degree are used to train in specific issues, e.g. breaking bad news, preparing a patient for surgery, talking with parents and seriously ill children and communicating with chronically ill people. Specific problems within communication, like angry or non compliant patients and patients from other cultures, are in the picture. Every year the students are assessed by the means of an OSCE, using simulated patients. Remedial teaching is given to students with weak results. All students are assigned to focus groups in order to get feedback and to be able to restructure the training.

### **Using the WONCA European definition to develop the UK curriculum for general practitioners**

**Keywords:** *Curricular reform, general practice*

**Authors:** *Fraser, A.; Allen, J.; Deighan, M.; Field, S.; Kelly, S.; Thomas, H.*

**Institution:** *Royal College of General Practitioners*

Summary: After the enquiries arising from the Shipman case and at the Bristol Royal Infirmary, radical change in the governance of post-graduate medical education and training in the United Kingdom is requiring a major review of the training curriculum and assessment of prospective general practitioners. While the review is being undertaken by a team commissioned by the Royal College of General Practitioners, final approval rests with a new statutory body, the Post Graduate Medical Education and Training Board (PMETB). Initial proposals for the new curriculum are being devised using the framework devised by WONCA Europe in 2002, 'The European Definition of General Practice/Family Medicine'. The European definition is intended to lead 'directly the core competencies of the general practitioner/family doctor' where 'Core means essential to the discipline, irrespective of the health care system in which they are applied'. Its three parts include eleven central characteristics, three areas of implementation and three background features of a person-centred discipline. This presentation will, first, summarise the three paragraphs; second, critically review their inter-relationship; third, illustrate their application to the UK context; and, fourth, review their compatibility in a specific national context with existing national criteria and guidelines on the training of general practitioners.

### **Does hospital practice meet the needs of trainee general practitioners in the UK?**

**Keywords:** *Curricular reform, general practice*

**Authors:** *Fraser, A.; Deighan, M.; Field, S.; Kelly, S.; Thomas, H.*

**Institution:** *Royal College of General Practitioners*

Summary: Responsibility for approving post-graduate medical education and training in the United Kingdom is moving to a new statutory body, the Post Graduate Medical Education and Training Board (PMETB). It is in that context that the Royal College of General Practitioners has commissioned an extensive review of the training curriculum for general practitioners, including field research on existing training.

The objective of the study reported here is to examine the role of hospital practice in preparing trainee doctors to become effective general practitioners.

The method is a large-scale national postal survey of five groups: trainees completing their training; GPs who have completed their training but are not yet GP principals; GP trainers; course organisers; and GP principals who completed their training in the last five years. The sample is a population sample of the first four groups in half the deaneries in the UK and a random national sample of the fifth group. The survey design has been informed by extensive focus group meetings and a pilot survey undertaken in the West Midlands. The national surveys will be undertaken in April 2004, so that results will be reported at the presentation. The paper will report data on the hospital specialties studied by trainees and their opinions about this training, as well as the views of others on the suitability of these specialties – and the training provided within them – as preparation for general practice.

## Re-modelling the training of general practitioners in the UK

**Keywords:** Curricular reform, general practice

**Authors:** Fraser, A.; Deighan, M.; Field, S.; Kelly, S.; Thomas, H.

**Institution:** Royal College of General Practitioners

**Summary:** Responsibility for approving post-graduate medical education and training in the United Kingdom is moving to a new statutory body, the Post Graduate Medical Education and Training Board (PMETB). It is in that context that the Royal College of General Practitioners has commissioned a review of the training curriculum for general practitioners, including field research on existing training.

The objective of the study reported here is to examine models of training, the response of key stakeholders to alternatives and whether there is consensus on alternatives to existing practice.

The method combines interviews with national representatives of key stakeholders, focus groups with a wider group and a large-scale national postal survey of five groups: trainees completing their training; GPs who have completed their training but are not yet GP principals; GP trainers; course organisers; and GP principals who completed their training in the last five years. The sample is a population sample of the first four groups in half the deaneries in the UK and a random national sample of the fifth group.

The survey design is informed by extensive focus group meetings and a pilot survey undertaken in the West Midlands. The national surveys will be undertaken in April, 2004, so that results will be reported at the presentation. The paper will report on views of existing models of training, the extent of agreement on alternatives and the shape of future models of training.

## Reforming general practice training in the UK: directions for change

**Keywords:** Curricular reform, general practice

**Authors:** Fraser, A.; Bedward, J.; Burke, S.; Deighan, M.; Field, S.; Kelly, S.; Thomas, H.

**Institution:** Royal College of General Practitioners

**Summary:** The education and training of general practitioners in the United Kingdom is subject to a major review that will lead to a national curriculum and matched arrangements for assessment. Curriculum is much broader than content. The nature of the curriculum in practice requires:

- (1) an understanding of the management and service context in which it is provided;
- (2) the knowledge, skills and understandings of trainers and their heterogeneity;
- (3) the diverse experiences trainees bring to their training posts;
- (4) the time allowed for trainees to learn;
- (5) the nature and suitability of the pedagogy and assessment methods that are used; as well as
- (6) the funding and resources provided for training. These issues are initially placed in the context of contemporary policy imperatives, leading to the principal focus of the presentation which is an analysis of these issues through an extensive review of the UK literature on the education and training of general practitioners and by examining developments in other countries. It analyses these issues in the context of principles of curriculum design, the needs of adult learners, a contemporary emphasis on the competences and the need to develop capacities of lifelong learning among general practitioners.

## Devising a national curriculum for the education and training of general practitioners in the UK

**Keywords:** Curricular reform, general practice

**Authors:** Fraser, A.; Deighan, M.; Field, S.; Kelly, S.; Thomas, H.

**Institution:** Royal College of General Practitioners

**Summary:** The Shipman case and that at Bristol Royal Infirmary have contributed to a new structure of governance for post-graduate medical education and training in the United Kingdom. From 2005, final approval for post-graduate medical education and training will rest with a new statutory body, the Post Graduate Medical Education and Training Board (PMETB). The change is a potential challenge to the traditional role of Royal Colleges and this presentation examines the response of the Royal College of General Practitioners to the change. The presentation will, first, provide the context that has led to reviewing the education and training of those wishing to become general practitioners; second, describe activity in the College prior to establishing the review; third, summarise the structure of the review process itself; fourth, analyse and examine the working methods of the review team; and, fifth, consider the consultation process devised to consider the first draft of recommendations. Our purpose is to examine the feasibility of this approach as a means of developing a curriculum that meets the expectations of a range of stakeholders whilst meeting the contemporary needs of the UK's National Health Service.

## Developing the foundation year for postgraduate medical training in the UK

**Keywords:** Curricular reform, foundation year

**Authors:** Bullock, A.; Field, S.; Fraser, A.; Palmer, R.; Spurgeon, P.; Thomas, H.; Whitehouse, A.

**Institution:** Centre for Research in Medical and Dental Education, School of Education, University of Birmingham, Edgbaston, Birmingham, B15 1BR, United Kingdom.

**Summary:** The application of the European Working Time Directive and the government's target to produce more consultant posts is contributing to the introduction of two foundation years of training after graduation. The Pre-Registration House Officer (PRHO) year becomes the first foundation year (F1) from 2004 with F2 being introduced nationally from 2005. The F2 year is currently being piloted in four hospital trusts in the West Midlands and its experience provides the basis for this paper.

The objectives of the study are: first, to explore the perceptions of the trainees on entry to the scheme and their experience of the initial four months; second, to examine organisational and training issues arising from the development and implementation of the programmes in the four settings; and, third, to draw upon the evidence in order to make recommendations for the further development of these posts and their extension.

The methods include documentary analysis, a base line survey of the first group of trainees, interviews with clinical tutors, educational supervisors and with the trainees after their first six months in post. Data from the base line survey indicate that the trainee group of 22 to be of high quality with clear views on their reasons for applying to join the programme and these will be analysed against their comments during interviews in the Spring of 2004 as well as those of their tutors and supervisors. As the data is currently being analysed, the results will be reported at the presentation.

## Vertical integration requires vertical structures

**Keywords:** curriculum reform, vertical integration,

**Authors:** Bushnell, J., Wilkinson T.

**Institution:** Faculty of Medicine, University of Otago, New Zealand

**Summary:** Just as form should follow function, function will follow form. If we want vertically integrated curricula, we need vertically integrated structures. Experience from other medical schools informed us that building a curriculum year by year can help horizontal integration but can still lead to lack of vertical integration. Vertically integrated themes can help but curriculum development also requires vertically integrated teams. In case based courses, observation and experience has also taught us that much work can fall on few people. We explored other structures that might assist in staff ownership, spread of the workload while encouraging vertical integration. We have formed case writing teams who have responsibility for curriculum content over components of all years of a curriculum and report on our experience in changing to this administrative structure. Putting people together from different backgrounds for the first time can produce heat as well as light.

## Training programme mouth care for nurses

**Keywords:** health education, oral cavity care, oral complications, chronic illness.

**Authors:** Julián Castro, G.; Simó Sánchez, B.; Guirao Gené, M.; Collell Doménech, N.

**Institution:** corporacio sanitaria parc tauli

**Summary:** Introduction: Oral mucosa pathology in patients with chronic or palliative disorders often leads to associated pathology at local and/or systemic level. This has encouraged us to introduce an educational programme to make nursing and other staff more aware of the importance of mouth care in these patients.

**Objectives:** Establishing an educational programme for nursing staff in order to prevent and reduce oral pathology in patients with chronic or palliative disorders.

**Methods:** An educational programme for nursing staff was designed and introduced. The programme included 10 hour seminars with lectures, workshops and practical sessions. A prospective observational study of 50 patients admitted in our units was designed and the programme was introduced halfway through. Demographic, diagnostic, drug therapy, oral mucosa status and nursing plan data before and after the introduction of the programme were analyzed.

**Results:** Oral mucosa pathology and risk factors were common before admission in the patients studied. The incidence of oral pathology was reduced after the introduction of the educational programme. Lingual candidiasis was reduced from 17% to 2%; mucosal candidiasis remained at 4%, oral dryness was reduced from 44% to 36%, seborrheic tongue from 47% to 34%, aphthous ulcers from 8% to 2%, halitosis from 20% to 10%. The entries in the nursing plans regarding oral mucosa pathology increased from 2% to 68%. The nursing staff regarded very positively the improved knowledge acquired through the programme and the impact on their daily tasks.

**Conclusions:** Educational programmes make nursing staff more aware of the importance of oral care. This reduces the incidence of oral pathology with its complications in patients with chronic and terminal pathology making their existence more comfortable.

## It's time to trust the students – an innovative approach to ward-based attachments

**Keywords:** Clinical teaching, student self directed learning, flexible learning opportunities

**Authors:** Sandra Bailey, Emma Baker, Kevin Hayes, Andy Kent, Derek Macallan, Peter McCrorie, Penny Neild, Jonathan Round

**Institution:** St George's Hospital Medical School London UK

**Summary:** The third year of the new 4-year fast-track graduate entry programme in medicine at St George's is spent entirely in the hospital setting. Students have two 12-week general clinical attachments (GCAs) in medicine and surgery and three 5-week attachments in Paediatrics, Obstetrics & Gynaecology and Psychiatry (POP). Students design their own programmes, with the help of their tutors, using their book of course learning outcomes as a guide. They learn through:

- core activities (e.g. on-take, follow-up ward rounds, theatre)
- clinical problem based learning (based on real patients on the wards)
- flexible learning opportunities (FLOs)

Clinical staff (consultants, registrars, other healthcare professionals) offer FLOs in their own area of expertise e.g. dermatology clinic, X-ray meeting, endoscopy clinic, teaching ward round, theatre list) at set times during the week. Students sign up for FLOs which best fulfil their learning needs. They are asked to keep a record of which FLOs they have attended and comment on their value. This feedback is used to evaluate their usefulness. A similar style of programme operates in POP, the clinical PBLs being adapted to the patient group. Initially this "hands-off" approach was quite challenging for both students and staff. Now, after 2 years, the new style of ward-based learning receives very positive feedback. The whole approach is, however, very dependent on the students' ability to be self-directed and personally motivated. They have to be trusted to organise their own learning. Assessment results so far suggest the process is working successfully. The students agree.

## Understanding and Implementing a Cognitive Sciences Derived Paradigm for Instruction in, and Assessment of, Diagnostic Competencies

**Keywords:** curricular design, cognitive sciences, differential diagnosis

**Authors:** Papa, F.

**Institution:** UNTHSC

**Summary:** Differential diagnosis (DDX) is the most difficult cognitive capability students must develop. Unfortunately, a codified, evidence-based method for instruction and assessment of DDX competencies does not exist. The author suggests that the primary impediment to the development of a codified approach to DDX instruction and assessment is the difficulty faculty have in attempting to understand and apply the cognitive sciences literature most relevant to the development of DDX capabilities. The author has woven together three key cognitive sciences principles to form a new paradigm for instruction and assessment of DDX capabilities. The new paradigm involves the following seven elements: 1) Teach differential diagnosis in the context of a single problem. 2) List the problem's common and important disease differentials. 3) Introduce each disease via the use of a prototype. 4) Expose students to several typical cases examples for each disease differential. 5) Provide students with several practice cases (typical/atypical) to diagnose for each disease. 6) Provide immediate and formative feedback (when incorrect) utilizing pattern recognition techniques that enables students to consciously identify and use key S/S to both rule in (pattern

match) and rule out (pattern discriminate) the diseases under consideration. 7) Assess diagnostic capabilities one problem at a time (provide problem-specific assessments) using several typical through atypical cases to represent each of the problem's disease differentials. Following a review of the principles underlying the new paradigm, the author will discuss its implications for educators and curricular planners working to develop and implement 21st medical training curricula.

### **A survey of student opinion of the usefulness of video and DVD recordings in support of communication skills learning**

**Keywords:** *Communication skills, video, DVD*

**Authors:** *Bradley, P.; Bradley, P.; Rees, C.*

**Institution:** *Peninsula Medical School*

**Summary:** Peninsula Medical School is one of four new medical schools that have opened in the United Kingdom. The course is based on three main themes: Applied Medical Knowledge, Personal and Professional Development and Clinical Skills. This latter incorporates communication skills. The communication skills program is based on the Calgary-Cambridge (Silverman, Kurtz, & Draper, 1999) model and makes extensive use of experience as the means of learning. Students from the first year on use a variety of learning methods including role play, small group work, real patient interviews and simulated patients (SPs) to explore the various components of the communication skills curriculum. Feedback is provided to students from peers, SPs and tutors. In addition, the continued technological development and falling relative costs have made it possible to record all these interactions using digital video camcorders and for the recordings to be burnt onto DVD. These DVDs have been provided to the student to give them a permanent record of their communication skills and an archive upon which they can reflect and review their progress. The survey was undertaken by questionnaire to gather both quantitative and qualitative data relating to the value placed upon these recording by the first cohort to complete one year of communication skills learning. 109 students (from a total of 126) returned questionnaires. Student responses were largely positive about this approach to supporting their communication skills learning. Silverman, J., Kurtz, S., & Draper, J. (1999). *Skills for Communicating with Patients*. Oxford: Radcliffe Medical Press Ltd.

### **A Capability-Based Integrated Medical Education Program Built On Adult Education Principles**

**Keywords:** *capability, adult education, curriculum*

**Authors:** *McNeil H.P, Hughes C, Toohey SM, Downton SB*

**Institution:** *Faculty of Medicine UNSW*

**Summary:** The new six-year undergraduate-entry Medicine program at UNSW has been developed through a highly collaborative process aimed at building faculty ownership and ongoing viability. The result is an innovative capability-based program that features early clinical experience and small group teaching, and that offers students considerable flexibility. The program achieves a high degree of alignment between its graduate outcomes, learning activities and assessments. The program has eight graduate capabilities that focus student learning on generic outcomes - critical evaluation, reflection, communication and teamwork - as well as on the more traditional outcomes in science, social aspects, clinical performance, and ethics. Each two-year phase promotes a distinctive learning approach to support and develop autonomous learning. The approaches emphasise several adult education themes: student autonomy; learning from experience; collaborative learning; and adult teacher-learner relationships. After an eight week module that introduces students to the key learning processes

and assessment types, teaching in each phase draws on stages of the human life cycle to provide an explicit organisation for the vertical integration of knowledge and skills. Assessment supports interdisciplinary integration and rewards students who exhibit self-direction. The scheme features criterion referencing, interdisciplinary exams and vivas, a balance between continuous and barrier assessments, the incorporation of peer feedback, and performance assessments of clinical competence. A portfolio examination in each phase, in which students submit evidence of reflection and achievement for each capability, ensures overall alignment. The paper will describe the features of the program and the adult learning approaches that have been included.

### **A multifaceted approach to teaching quality improvement to residents**

**Keywords:** *Quality of care, curriculum*

**Authors:** *Holmboe, E.; Prince, L.; Green, M*

**Institution:** *Yale University*

**Summary:** Educators need new curricula to train and evaluate residents in quality improvement

**Methods:** A controlled longitudinal cohort study of self-directed curriculum in QI for residents. PGY-2 residents participated in a QI course over four weeks. The curriculum consisted of a syllabus with IOM reports, training in audits, self audit of all of their diabetic patients, weekly self-reflection, and completion of a commitment to change (CTC) survey. PGY-3 residents served as controls. The primary outcome was changes in key diabetes process of care metrics.

**Results:** In the first year of the program, thirteen PGY-2 residents completed the QI curriculum and were matched with 13 PGY-3 residents. The two groups cared for a total of 155 diabetics, but only 92 (59%) were seen by the resident at least once in both periods. The median number of visits per patient in the baseline year was 7 and in the follow-up year 6. Several process and outcome of care metrics improved in the PGY-2 group. Patients with LDL < 100 mg/dl rose from 66 to 73%, Patients with BP < 130/80 rose from 32% to 59% and patients receiving monofilament exam increased from 15% to 27%. Compared to the PGY-3 residents, patients in the PGY-2 group were significantly more likely ( $p < .05$ ) to receive monofilament exams (27 vs. 4%), pneumovax (42% vs. 27%), and a baseline ECG (36 vs. 12%). **Conclusions:** This study demonstrates that a multifaceted self-directed curriculum in quality improvement can lead to modest but meaningful effects on actual patient care. Future work should involve a larger number of residents and investigate the impact of clinic systems and continuity on resident learning and patient care in quality improvement.

### **Motivation or integration? Student perspectives on Patient Centred Learning sessions in the early years of an undergraduate medicine course**

**Keywords:** *curriculum evaluation, medicine undergraduate education*

**Authors:** *Lindley, J.; Bagot, K.*

**Institution:** *Monash University*

**Summary:** In 2002, Monash University enrolled the first cohort of students into the new five-year undergraduate medicine course, replacing a six-year course that will no longer be offered after the final cohort complete in 2005.

The new program is not merely a compression of the existing course but represents a new curriculum that aims to produce graduates who are better equipped to function within the medical workplace. The approach undertaken in the new program has been to develop an integrated curriculum with an emphasis upon the introduction of a clinical context to learning and exposure to work-

place contexts. In addition, the new curriculum has placed an emphasis upon a patient-centred approach to learning that includes consideration of cultural and social issues rather than a science based philosophy of medicine that focuses upon the conditions or illness that is 'detached' from the patient. Implementation of the curriculum has moved from a primarily didactic lecture-based delivery to small group learning together with activities to encourage the development of self-directed learning. One of the key small group learning activities in first two years of the new course are Patient Centred Learning (PCL) sessions. Evaluation activities undertaken during the first two years implementation of the new five-year course aimed at collecting data from students relating to a range of teaching and activities including PCLs. A multi-method was used to collect both quantitative and qualitative data on PCLs. Analysis of the data showed that PCL approach was highly valued by students. However, contrary to expectations, students were not using PCL sessions to guide their learning activities but rather utilised them as a new knowledge integration tool.

### **Problem-based learning and the European Convergence Process within the area of higher education**

**Keywords:** *Problem-based Learning, European Convergence*

**Authors:** *Bernabeu, M. Dolores*

**Institution:** *Escola Universitària d'Infermeria Vall d'Hebron*

**Summary:** Problem-based learning and the European Convergence Process within the area of higher education  
**Authors:** M. Dolores Bernabeu Tamayo<sup>1</sup> and Maria Cònsul Giribet<sup>1</sup> mbernabeu@vhebron.net mconsul@vhebron.net  
**ABSTRACT** In the calendar year 2002-2003 the School of Nursing of the Vall d'Hebron of Barcelona changed its whole curriculum to be problem-based, student-centered and small group learning (PBL). This experience provided elements of reflection in the two axis of university training aimed at Europe: one being the adoption of a new educational paradigm and another being the redefinition of the role of the agents of the educational process, the teachers and the students. The authors herein describe the similarities between the educational system centered on the student within the general framework for European integration for the working commission of the Agència per a la Qualitat del Sistema Universitari de Catalunya and the development of a curriculum involving the methodology of problem-based learning currently being implemented in the School of Nursing of Vall d'Hebron. PBL is congruent with the educational paradigm of European convergence since:

- It leads to the acquisition of basic as well as transversal abilities such as: the capacity to learn, resolve problems, attain attitudes for teamwork, communication techniques.
- Contemplates the total work of the students in their learning and not only the hours of classes given by the teacher.
- The role of the teacher changes from transmitter of knowledge to educational professional who facilitates and guides the student's learning process.
- On being diagnostic, the evaluation becomes a key point in the formative aspects of the learning process.

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### **View of Medical and Health Care Faculty Towards the Inclusion of Complementary and Alternative Medicine in Medical Education**

**Keywords:** *complementary/alternative medicine, undergraduate medical curriculum*

**Authors:** *Usha Sachdeva, Akbar Mohsin Mohammad and Solomon Senok*

**Institution:** *College Medicine and Medical Sciences, Arabian Gulf University, Kingdom of Bahrain*

**Summary:** Complementary/alternative medicine (CAM) has gained more attention in the past decade and there is increased interest in this expanding field. However most of the medical and healthcare workers have inadequate knowledge in CAM. The WHO and many other medical associations have supported CAM education in conventional medical schools. Therefore a workshop was organized to sensitize medical/healthcare faculty in Bahrain by way of provision of relevant literature and presentation of case studies. Pre- and post-workshop questionnaires were given to assess the awareness (using Likert Scale) and their view for inclusion of CAM in medical curriculum. Twenty-nine pre-workshop and 25 post-workshop questionnaires were analyzed. The awareness grading of some CAM modalities, rated herbal medicine highest and magnetic therapy lowest. Most faculty, (83%), had personal experience with CAM. The awareness rating was significantly increased for macrobotics, ( $p < 0.001$ ) and acupuncture, ( $p < 0.05$ ) following the workshop. Most participants, (88%), were positively disposed to inclusion of CAM in the training curricula, with the preferred modalities being herbal medicine, acupuncture, yoga and aromatherapy. There was however no consensus regarding the method of implementation. It is concluded that faculty in Bahrain have a relatively high level of awareness of CAM and support the inclusion of selected aspects of CAM in medical education. Open discussion and scientific evidence lend an enhancing influence for earning the attention of medical academics for CAM.

### **Communication clinical skills and personal and professional development (CCSPPD) at the university of Barcelona medical school**

**Keywords:** *Clinical skills, personal and professional development,*

**Authors:** *Frederic Manresa, Ramon Pujol, Francesc Gudiol, Lluís Vilar, Jose Manuel Gomez, Albert Fernandez de Sevilla, Jordi Carratalà, Xavier Sabaté, Felip Pi, Francisco Rubio, Felip Cardenal, Javier Ariza and Joan Miquel Nolla.*

**Institution:** *Associació Catalana d'Educació Mèdica*

**Summary:** Background: In 1999 our medical school jointed an International Collaborative Group whose leader was the University of Edimburgh. The aim was to develop and share innovative educational methodology.

**Methods:** In 2002 a first course of CCSPPD was done and 16 medical students of 4th year were enrolled. The course included 1) Communication skills, 2) First aid and resuscitation, 3) Technical skills, 4) Evidence-based learning and 5) Personal and professional development. Specific objectives were defined in each of these parts. Seminars and learning activities took place in our skills lab. Assessment was based on potfolio and an OSCE examination at the end of the course. In 2003 the same group of students were enrolled in a second course in which a higher level of difficulty was designed.

**Results:** 20 faculty members participated in those courses. Each student was trained a minimum of 22 hours in a classroom-basis, 4 hours on bed-side learning, 20 hours at the skills lab and 8 hours as formative assessment. OSCE results of this group were compared with a control group composed by 250 students of last academic year that did not follow these courses. There were no

statistically significant differences. Satisfaction of students and faculty members was checked up and showed excellent results. Conclusions: In 2002 CCSPPD courses began in our medical school. Clinical competence of the first cohort analysed, following an OSCE examination, showed no differences with other students in higher level of training. The project is satisfactory in the opinion of faculty and students.

### **Effective bedside teaching (BST): students' perspectives**

**Keywords:** *clinical education, teaching, bedside teaching, undergraduate*

**Authors:** *Al Weshahi Y., Skakun E.N., Cook D.*

**Institution:** *Sultan Qaboos University*

**Summary:** Learning clinical medicine in the presence of patients is an invaluable part of medical education. One form in which such learning takes place is Bedside Teaching (BST), where students hone their clinical skills through observation and practice. The research literature identifies several obstacles to effective bedside teaching. BST is hampered by factors such as lack of teaching skills, training, role models and a lack of understanding on the part of both clinicians and students as to "what is bedside teaching". The purpose of this study was to determine the perceptions that final year students at the Sultan Qaboos University College of Medicine and Health Sciences have about effective bedside teaching. A 46-item questionnaire was developed and administered to 86 final year students. The questionnaire was based on the theoretical model for BST. The Cox model consists of two cycles. The experience phase consists of the preparation, briefing, clinical experience, and debriefing steps while the explanation phase consists of the reflection, explication, and working knowledge steps. Sixty-two students responded to the questionnaire and their responses were analyzed to determine the correlation between each step and the respective items describing it. Correlations were also computed between scores on each step as well as each step with its respective cycle. All the correlations were positive and ranged from 0.02 to 0.75. These results show that the Cox model may serve useful for structuring the bedside teaching experience. The next phase of research will focus on improving the questionnaire and obtaining perceptions from clinicians.

### **Large group delivery of Problem-based learning: Is it possible to address practical delivery options whilst being true to educational underpinnings?**

**Keywords:** *Problem-based learning, large group methods*

**Authors:** *Roberts C, Butler G, Lawson, M*

**Institution:** *University of Sheffield, Monash University*

**Summary:** Problem-based learning (PBL) is one of the major curricular innovations in contemporary undergraduate health professional education. On an international basis, its use has been propagated extensively as a means to add clinical relevance to required underpinning science. Existing models vary from the use of PBL as the major instructional method to hybrid models where it is used in combination with other teaching and learning methods. One of the major barriers faced by institutions considering practical implementation has been the resource issues associated with its development and maintenance. These include concerns regarding staff time and numbers, infrastructure requirements such as rooms, and library resources. Within a hybrid model it has proved difficult to ensure that the PBL theme is integrated with other aspects of curriculum, particularly assessment and the specific content and mode of delivery of basic science teaching. To address some of these concerns a large group model of PBL has been developed at the University of

Sheffield to support the delivery of the undergraduate medical curriculum. Individual problem cases have been designed with learning objectives drawn from the core curriculum outcome database. Two facilitators are able to take a class of up to 250 through the PBL process. Evaluation data has ensured a constant refining of the process. This workshop will describe the large group method including relative strengths and weaknesses. It will also explore the applicability and flexibility of the model for participants' individual contexts. Variants of the model including e-learning support will also be discussed.

### **Achieving competence today: a model to implement ACGME competencies**

**Keywords:** *ACGME competencies, curricular change, practice-based learning and improvement, systems-based practice, e-learning*

**Authors:** *Peters, AS, Ladden MD, Kimura J, Moore GT.*

**Institution:** *Harvard Medical School*

**Summary:** Aim: To describe a bottom-up model of educational change to integrate ACGME competencies in residency training. Background: All American residency programs are required to assure their graduates' competency in systems-based practice (SBP) and practice-based learning and improvement (PBLI). Achieving Competence Today (ACT): To catalyze change in 18 residencies, we designed a program that includes a 4-week, web-based course and a yearlong leadership activity. We chose a bottom-up model of change (in contrast to administrators' designing curricula and developing faculty to teach) to foster resident buy-in and to support faculty learning. During the 4-week course, 2 volunteer residents in each program accessed the ACT curriculum electronically and learned SBP/PBLI through exercises that included (a) selecting a patient with a systems problem; (b) interviewing the insurer and administrators involved in their patient's care; and (c) outlining a quality improvement plan to address the systems problem. Throughout the year, the residents taught other resident and collaborated with faculty to design a SBP/PBLI curriculum. Characteristics of Participants: As measured by 4 baseline surveys, ACT (n=36) and comparison residents (n=33) did not differ in knowledge of, skill in or attitude toward SBP/PBLI. However, while all residents taught routinely, the ACT residents had more prior experience as educational leaders. Although baseline faculty knowledge of SBP/PBLI was superior to residents', they were not experts.

**Evaluation:** We are conducting a process-product analysis to determine the effectiveness of ACT in catalyzing innovative curricular change.

### **A comparative study of the 27 pregraduate spanish medical curricula**

**Keywords:** *spanish medical curricula / comparison*

**Authors:** *Jiménez, N., Ocaña, L., Iribar, MC, Icañizares, J. and Peinado, JM.*

**Institution:** *Faculty of Medicine. University of Granada*

**Summary:** In 1990 the Spanish Government published the basis of the medical core curriculum ("Directivas propias de la titulación de medicina, BOE 1417/1990"), introducing also optional matters for universities and students. These new curricula were based on credits, being 1 credit equivalent to 10 hrs of contact student-teacher. In addition, the core curriculum gave an important weight to practice-clinical training. Based on this core structure each medical school established their own study detailed curriculum, using different methodological approaches which move from a classical matter based to a more integrated system. The Bologna process will represent, in the short future and for all European universities, a new curriculum design, incorporating the ECTS credit system as well as the easy recognition of contents, knowledge's, competencies, skills and attitudes. In order to facilitate the new

medical core curriculum design, a comparison of the 27 study plans developed in Spain during the last 14 years, was performed grouping the matters according classical areas of knowledge. The results show that the total time to graduate in a Spanish Medical School range from 5000 to 5400 hrs, being the average 1894 hrs of core theory (37%), 2251 hrs of core practice (43%) and 1012 hrs of university-student optional hrs (20%). Among the different medical schools, only 5 integrates basic-preclinical disciplines and 16 established some degree of clinical integration. In general terms the time devoted to each subject as well as the structure of these subjects differs considerably among the different schools. There is no a clear definition of a period exclusively devoted to clinical clerkship. The differences are even higher when the offer in optional matters is considered. The data will be discussed in the frame of the European Area of Higher Education and the new Spanish system to enter in the specialized education.

### Establishing a clinical clerkship at the Kathmandu University Medical School, Nepal

**Keywords:** *clinical clerkship, internatinal collaboration*

**Authors:** *Weinreb, B.*

**Institution:** *Faculty of Health Sciences, Ben Gurion Univ., Israel*

**Summary:** Establishing a clinical clerkship at the Kathmandu University Medical School, Nepal B. Weinreb, H. Tandeter, A. Moser, A. Karki, M. Alkan An expert group was sent with the main purpose of conducting a workshop assisting the establishment of a clinical clerkship program for Kathmandu University Medical School (KUMS). Information was obtained from KUMS director (mostly via email). Team members, selected according to previous experience in medical education, faculty development activities, experience with developing and conducting clinical teaching activities and proficiency in English met weekly. A comprehensive list of topics to be included in the workshop was designed based on an extensive search of the literature and previous experience. Team members provided each other with feedback on the necessity and importance of each topic. Visiting possible teaching locations provided crucial information, on existing as well as potential teaching facilities and their applicability. We can strongly recommend to other expert teams to consider having similar visits before running an academic program. The participants developed a detailed matrix for the 3rd clinical year, e.g. the 2004 clerkship. Attendees divided into working groups, according to specialties and sub-specialties, developed a detailed checklist for topics to be included in the clerkship, grouped according to its importance, methods of teaching, possible locations and assessment methods. Visits of remote and peripheral primary care facilities provided the basis for an active discussion as for which facilities could be used for teaching and the prerequisites needed. The template of this workshop can be used for similar implementation.

### Innovation in the Teaching and Evaluation of Medical Skills

**Keywords:** *medical skills; undergraduate; curriculum; reform; integration; evaluation;*

**Authors:** *Crutcher, R.; Harasym, P.; Hollaar, G.; Mitchell, I. ; Cox, I*

**Institution:** *University of Calgary( all authors)*

**Summary:** In the medical skills program at the University of Calgary, 1st and 2nd year students develop and refine core skills essential to the practice of medicine. This longitudinal program consists of 5 units – physical examination, communication, ethics, culture health and wellness, and the well physician. In this presentation we report on our 4 years of experience in working towards the goal of integrated teaching and evaluation across all program elements. Our teaching model has evolved from a 'silo' approach (with one unit having little interaction with another)

towards a vertically and horizontally integrated curriculum. We base both teaching and evaluation on clinical presentations arising from 'real life' - the clinical scenarios in which patients and their families present with a concern but not a label. This concern - be it biological, psychological, social or spiritual – may have elements that must be addressed by our learners in a patient - centered manner based on the interplay of skills developed in each of our five units. Progress has been made in integrated teaching and evaluation, but such integration remains difficult – easier in theory than practice. This presentation will summarize the progress made to date by itemizing highlights of 4 years of examination performance data, annual course evaluations, and preceptor and student feedback. This analysis has provided insights into the challenges which must be addressed in efforts to reform undergraduate medical skills based teaching, learning and assessment.

### Procedural skills training in the internal medicine residency in Iran. A national survey of recent graduates of residency programs

**Keywords:** *procedural skills, residency training, internal medicine, Iran*

**Authors:** *Azim Mirzazadeh MD, Ali Afshari MD*

**Institution:** *Tehran University of medical sciences*

**Summary:** Objective: To obtain the opinions of recent graduates of residency programs of internal medicine in Iran about the quality of training in procedural skills and the procedures that all internal medicine residents should be able to perform.

**Method:** Questionnaire containing 50 procedural skills sent to 187 graduates of residency programs of internal medicine of 22 universities of medical sciences in 2003.

**Results:** 54/187 (29%) questionnaires were analyzed (the study are under way and final results will be presented in the conference). More than 50 % of respondents said that the quality of teaching procedural skills were not adequate. Meanwhile only 30% of respondents believe that their competencies in performing procedures are well or more. Statistical difference has been observed between male and female regarding their ideas about competencies to performing procedures ( $p < 0.001$ ). Only 36% of respondents recall that their performance on procedures had been evaluated, which nearly all of them in only 1 procedure. No statistical difference has been observed between graduates of large and small universities regarding their ideas about competency to performing procedural skills or quality of teaching these procedures ( $P = 0.72$  and  $0.30$  respectively). Ten procedures were indicated by 90% or more of the respondents as those should be learned by all the graduates. Levels of competencies of graduates in these 10 procedures have been shown in the table.

**Conclusion:** current residency training in internal medicine does not assure the minimum competency of graduates in most of the more important procedural skills. Residency programs must pay more attention to teaching procedural skills to the residents and assessing their competence.

Table: Level of competency of recent graduates in 10 more necessary procedures

Procedures	Level of necessity	Level of competency: well or more
Lumbar puncture	100%	68.5%
Endotracheal intubation	98.1%	58.8%
DC cardioversion	98%	79.6%
Thoracentesis	98%	89.3%
Paracentesis	98%	89.8%
Bone marrow aspiration and biopsy	98%	92.1%
Knee arthrocentesis	96.1%	64.6%
UGI endoscopy	96%	43.9%
Emergency UGI endoscopy	95.7%	9.1%
Peripheral blood smear	94.1%	68%

## **Incorporating Journal Club into Problem-based Learning in Medical School's Basic Science Curriculum**

**Keywords:** *journal articles, biomedical literature, medical education, problem-based learning*

**Authors:** *Krasne, S., Wilkerson, L., and Drake, T.A.*

**Institution:** *David Geffen School of Medicine University of California, Los Angeles*

Summary: Enhanced biomedical technology has resulted in the production of copious information relevant to patient diagnosis and treatment. It has become imperative that practicing physicians be conversant with the medical literature and the concepts of Evidence-Based Medicine. Essential to these goals is the ability to read and evaluate journal articles; however a systematic approach to teaching this skill during the basic science component of the medical school curriculum is uncommon. As part of a new, integrated, medical school curriculum implemented this year, we incorporated a journal article-reading component ("Journal Club") into the twice-weekly small-group Problem-Based Learning (PBL) sessions that were used to drive each week's learning. A journal article was assigned in the initial PBL session of each week to be read by all of the students with one student's discussing the paper during the return session.

Articles were chosen to accomplish the following four goals:

- 1) Provide journal papers that relate to the PBL case from either a clinical or basic science perspective.
  - 2) Familiarize the students with different types of studies (e.g. randomized control trial, meta-analysis).
  - 3) Familiarize the students with the major clinical journals that they will be reading as practitioners.
  - 4) Familiarize the students with various types of measurements commonly used in research reports (e.g. statistical measurements).
- Journal Club within the PBL setting was well received by students and provided a natural and meaningful setting to introduce them to reading the biomedical literature.

## **Workshop of Biotechnology, A model for improving the curriculum of medical course: A beginning for training physician-scientists**

**Keywords:** *Curriculum Enrichment, Medical Student, Biotechnology*

**Authors:** *Ghasemi, M.*

**Institution:** *Medical Education Development Center*

Summary: Physician-scientist-training programs began many years before in developed countries. Medical students' participating in scientific activities, using clinical views in laboratory, having both basic and clinical views and solving patients' problems by the use of laboratorial techniques are some of the advantages of such programs. A biotechnology workshop was held with 15 medical students at Isfahan University of Medical Sciences in the summer 2003, for 7 days. At the end, students answered 86 questions in Likert's scale about 6 main subjects: knowing anything about biotechnology before this workshop, it's plans and contents, it's results and effects, the relation between medicine and biotechnology and its future, their own professional future and satisfaction of workshop. Although they knew the main subjects before, this workshop was an opportunity for them to get acquainted with practicable and applied subjects of biotechnology. They thought that knowing about biotechnology subjects was necessary for medical students. They also thought that it would be better to have a laboratorial course about biotechnology in medical schools' curriculum. They believed that, their interest in biotechnology and research in this field and also their motives for studying medicine were increased after this workshop. Acquainting medical students with basic sciences, especially biotechnology through practical workshops can motivate students and also prepare creative physicians who can recognize the relation between basic

sciences and clinical findings. Job opportunities are suggesting to students with especial and wide scientific and professional skills in future; therefore planning comprehensive and perfect educational programs for medical students seems to be necessary.

## **Efect of team learning implementation styles on student ratings and goals**

**Keywords:** *Team Learning PBL*

**Authors:** *George Nowacek, Ph.D., Barbara Gorney, Ph.D., Kenneth O'Rourke, M.D., K. Patrick Ober, M.D., Ann Lambros, Ph.D.*

**Institution:** *Wake Forest University School of Medicine*

Summary: Team learning (TL) is being recognized as an alternative to Problem-based learning (PBL) because less faculty time is used while still achieving important non-cognitive goals. TL is a case-based model with assigned readings, readiness assurance testing, and application exercises. This study reports on the impact of the different implementation styles of the basic TL model as evaluated by students.

METHOD A 2-week TL session was conducted in February, 2003 as a pilot-test. A 13-week session was conducted the following Fall covering 5 topics, each facilitated by different faculty. Limitations of time prevented extensive instruction for the faculty and wide variation in the implementation of the model resulted. Using a 5-point scale, students completed a 10-item questionnaire: effectiveness of the model in six areas and their own confidence in four areas. The same items were used in both the 2- and 13-week sessions; additional items were asked about effectiveness of the TL method variations.

RESULTS Student ratings were statistically the same for all items in both sessions except significant decrease in effectiveness and confidence in basic science knowledge and a significant increase in ratings of working cooperatively and communicating with peer in the 13-week session. There were significant differences in student ratings of effectiveness of the topic implementation styles, especially those that used more lecturing than TL intends. CONCLUSION Variations in implementing TL influence student evaluations. The increased ratings in working cooperatively and communicating with peers supports the effectiveness of TL in achieving the desired non-cognitive benefits of small group case-based instruction.

## **Two different methods for teaching "Clínica Odontológica Integrada Infantil" theory: a comparison**

**Keywords:** *active teaching, students' opinion, academic results*

**Authors:** *Pascual i Sancho, M.; Brau Maire, I.; Ustrell i Torrent, JM.*

**Institution:** *Universitat de Barcelona*

Summary: In an attempt to improve teaching quality and face coming curricular changes, we have started a project to analyse the theoretical teaching methodology used. We wanted to implement active teaching, which is open to student participation, in our classroom. Basing it on clinical expositions and experiential apprenticeship, in order to compare it to traditional teaching, founded on magisterial expositions. The aim of this study is to analyse the academic results and satisfaction level of students taught in a traditional teaching environment compared to those in an active teaching environment. An initial test, similar to a clinical case study, was given to evaluate the student's preliminary knowledge levels. They were then randomly selected and placed into three groups: two of 20 and one of 50. The two groups of 20 were given classes with active methodology and the third class, 50 students, were given traditional lectures. The same clinical cases were given to all of the groups. At the end of the course another level test, similar to the one at the beginning of the course, was

given. In addition to the exam, the students were given a questionnaire to complete in order to obtain their opinion concerning the teaching style received. We are now studying how to improve the differences between active teaching methods and traditional ones, based upon the first and the second questionnaire results. In addition to this, we are analysing students' opinions, reflected in the questionnaires, concerning the two methods.

### **A Model for Evaluating Culturally Competent Medical Education**

**Keywords:** *Assessment, Evaluation, Cultural Competency*

**Authors:** *Tirado, M.*

**Institution:** *California State University, Monterey Bay*

**Summary:** This presentation will offer an overview and evaluation of a new approach to cross cultural medical education in California and the research supporting this model of evaluation. The curriculum, developed for medical students at the University of California, San Francisco, recognizes the importance of longitudinally integrating the basic sciences, clinical sciences, and the social/behavioral sciences by weaving cultural and behavioral material throughout the 4 years of the curriculum. The evaluation of this curriculum is related to a two year effort to develop a validated model for assessing the effectiveness of professional medical education in promoting culturally competent medical practice. The behaviors assessed for cultural competency are use of interpreter, history taking, treatment explanation and information, and partnership building. As part of their validation, these surveys were administered to a diverse population of over 500 patients treated for hypertension and diabetes by over 40 physicians who completed cross cultural training. The measures are designed to assess the impact of medical training on patient-reports of physician cultural competency and on the processes of care offered them. This presentation also will discuss the significance of this medical education model and the accompanying evaluation tools for the training and assessment of Catalan health practitioners preparing to care for immigrant patients. These comparisons are based on observations of Dr. Tirado, who spent several months studying the practices of physicians at medical clinics in Barcelona under the auspices of the Generalitat's Instituto de Estudios Mediterraneos.

### **Faculties, points of view about the educational situation**

**Keywords:** *point of view, educational situation, teachers*

**Authors:** *D. Shackebaie, sh. Iranfar, N montazeri, M Razi*

**Institution:** *Kermanshah University of Medical sciences*

**Summary:** Considering the using of teachers, Experiences can help managers of university for improvement of Education situation. This study was carried out to determine faculties, , points of view about the educational situation. the study was descriptive – analytical method. A questionnaire was used for data collection.. the questionnaire was two Parts, the first part concluded demographic information such as age, sex, experienced years and majors the second part concluded teachers, points of view about effectiveness of factors on teachers, s teaching activities success, Educational management, student Educational problems and Educational instrument. A pilot study was carried out for determination of validity and reliability. 157 faculty members completed the questionnaire. There were 69% male, 10.8% single and 74.4% of teachers worked in medicine faculty. 61.7% of them did not pass teaching course but 90.7% pass teaching workshop in university. The important problems were: mismanagement of resolve of Educational problems, unsuitable the Educational courses and community needs, unsuitable numbers students and unsuitable the acceptance of students. It is necessary to pay more attention to accept numbers of student, courses of university in terms of community needs. It is recommended, all of faculty participate in Educational planning for better situation.

### **Reform in Graduate Medical Education: Second step**

**Keywords:** *implementation, standards, accreditation, Graduate Medical Education*

**Authors:** *Mirzazadeh, A.*

**Institution:** *Iranian Council for Graduate Medical Education*

**Summary:** After approval of the bylaw of the new evaluation and accreditation system for Graduate Medical Education in July 2000, extensive efforts have been done to implement this system, mainly establishment of required structure and development of educational standards. Although development of standards, as the first step for a meaningful reform in GME is necessary, but the implementation of these standards has at least the same importance. In this regard, much ahead of final approval of the first set of standards in 5 specialties, in 2002 the secretariat of ICGME prepared a plan for implementation phase. The 4 principles of this plan include presentation of the system to the leadership of the Ministry and universities and achieving their support, educating the chair of departments and residency program directors about the system and implementation of the standards, use of combination of self-study and external formative evaluation in the first year of implementation of standards and clarifying the line of responsibilities regarding support of the implementation of standards in universities and Ministry. In this article, we review what have been done in these four areas and the future plan of the secretariat for implementation phase.

### **Developing educational standards: A crucial step for quality improvement of Graduate Medical Education (Postgraduate Training) in Iran**

**Keywords:** *educational standards, accreditation system, Graduate Medical Education, Iran*

**Authors:** *Azim Mirzazadeh MD, Masood Naseripour MD, MD, Saman Tavakkoli MD, Kamran Yazdani MD, MPH, Behirokh Raisi. MD, MPH, Mahshid Taj MD,*

**Institution:** *Iranian Council for Graduate Medical Education*

**Summary:** In 1999, the Iranian Council for Graduate Medical Education adopted the bylaw of new evaluation and accreditation system for Graduate Medical Education. Like any other accreditation system, the first step in this way was development of educational standards. A standard is a principle mutually agreed to by people engaged in a professional practice that if met, will enhance the quality and fairness of that professional practice. According to the aforementioned bylaw, Graduate Medical Education Standards composed of two sets of standards: University of Medical Sciences Standards and Residency Program Standards in each specialty. In last four years extensive efforts have been done for development of Residency Program Standards in 12 specialties. The remaining specialties are underway. Now, for the first time in history of Graduate Medical Education in Iran, we have comprehensive, well structured and consensus-derived standards in 8 specialties. In this presentation, we describe the process of development of these standards, including General Residency Program Standards.

### **Medical assistants and students knowledge and practice rate regarding documentation of provided care to patient from medical discipline aspect**

**Keywords:** *Knowledge, Practice, Medical assistants and students, documentation, Medical discipline.*

**Authors:** *Kahoei, M.*

**Institution:** *Semnan medical sciences university*

**Summary:** Kahoei M(M.Sc.), Hasani Shariat Panahi. S(M.Sc.). History and object: In spied of medical society and health care

staff activity and progress of medical technology, unfortunately patient unsatisfactory rate from medical staff is increasing. One of factors that a physician can not defend himself in claims, is uncompleted medical records. Materials and methods: The study is a descriptive and analytic which studied on 134 assistants and students knowledge and practice regarding medical documentation of provided care in 2000-2001. The measurement device was a twelve section questionnaire and a checklist that was used after their validity and reliability. Data collection was carried by interview to the statistic society and medical chart review.

Results: 60 percent of the statistic society do not know legal aspects of documentation. 74.8 percent of them do not know how use abbreviations in final diagnosis and surgeries. 85.8 percent of them do not know time duration of confirmation of verbal orders. Between knowledge and teaching course was significant ( $p < 0.05$ ). Between practice and education course and knowledge were significant ( $p < 0.05$ ).

Conclusion: The knowledge and practice were weak. Process of clinical education must be evaluated in outpatient and inpatient wards.

### **Dissatisfaction with student attendance as a catalyst for programme evaluation**

**Keywords:** *student attendance, teacher-centered, student-centered learning*

**Authors:** *Pickworth, G.*

**Institution** *University of Pretoria*

Summary: Lecturers at the School of Dentistry, University of Pretoria, expressed dissatisfaction with student attendance of learning opportunities and some suggested that attendance of learning opportunities should be made compulsory. A project was undertaken to ascertain teaching staff and students' perceptions of the learning environment. A combination of qualitative and quantitative research methodologies was used to capture teaching staff and students' responses to questions relating to the learning environment, including the attendance of learning opportunities. Teaching staff strongly endorsed compulsory attendance of lectures, discussion groups, practical sessions and clinical sessions. Students only endorsed compulsory attendance of practical and clinical sessions. Poor attendance of lectures is a common symptom of a teacher-centered learning environment. A narrow focus on attendance addresses the symptom and not the cause. A shift from a teacher-centered to a student-centered learning environment requires careful planning in the aligning of outcomes, assessment and teaching methods. Miller's pyramid was used to classify the levels of learning outcomes and to evaluate the appropriateness of associated assessment practice. A shift toward a more student-centered learning environment was facilitated by starting with assessment revision and the development of assessment plans.

### **Effect of nursing practice in student performance**

**Keywords:** *nursing practice & student performance*

**Authors:** *Asemanrafat, N.*

**Institution** *university*

Summary: Introduction & Objectives: In teaching nursing skills when, where, how? and how much must be taught. Lidman said the practicing in laboratory is beneficial and this experimental help to clinical teaching and is very important in nursing education. Yass and Robinson said for decrease gap between theory and practice laboratory teaching is suggestion.

Materials & methods: This is a quasi-experimental research about the examination of the survey and compare of individual, group practicing of the survey and compare of individual, group practicing of nursing student in skills lab and hospital, us student were participated in this study. A check list and observation

is used for data collection the validity was done by content validity and the reliability is tested.

Result: the findings were summarized in tables the result shows: 1) individual and group practicing in skill lab showed statistically significant  $p < 0.006$  2) individual and group practicing is hospital statistically significant  $p < 0.003$

Key words: individual and group practice, nursing skills, laboratory, hospital

### **Developing a set of standards for medical schools in Iran**

**Keywords:** *Accreditation, Standardization, and Medical Education*

**Authors:** *Hassan Zahraei, R.*

**Institution** *university*

Summary: Title: Developing a set of standards for medical schools in Iran Authors: Roshanak hassan zahraei, Alireza yosefi Education quality improvement and related standards have been considered widely by the countries specially those who are pioneer in the field and in last fifty years. Finding objective criteria to rank universities and supporting them financially is the main reason of this consideration. To assure the quality of higher education the accreditation has acted as an accepted approach and health check. This research is based on triangulation study and has been carried out in two phases with two different methods: In the first phase, in order to gather necessary data multiple choice questionnaire has been designed. And the second one, Delphi method was used. Study population consists 30 expert faculty members of medical Science University of Iran. To ensure the validity of the questionnaire, the content validity has been used. We have made use of the descriptive statistics and our findings have been summarized in 10 areas with 60 standards and 419 criteria's for accreditation medical science faculties which can be extended in all medical science schools in Iran.

\* Key Words: Accreditation, Standardization, and Medical Education

### **Comparative study: Medical graduates, competencies from clerkship courses in medical schools of Iran and selected countries of the world**

**Keywords:** *Competency, Clerkship, Medical School, graduate*

**Authors:** *Biabangardi, Z.(ph.D), Nikravesht, J.M.(ph.D), Ammini, A.(M.D), Soltani, K.(M.D), Tabibi, S.J.(ph.D)*

**Institution** *Iran Medical University*

Summary: Introduction: The goal of all graduates medical education is to ensure that the graduating physician is completed to practice in his or her chosen field of medicine. But the results of the studies on medical education have shown that there are not enough competencies for doing medical practice.

Purpose: to determine and comparative graduates, medical competencies from clerkship courses in medical schools of Iran and selected countries of world.

Methods: It was comparative study. 11 medical schools of three zones of ministry of health and medical education and 14 medical schools from six regions of WHO were selected by stratified random sampling. A questionnaire was used to gather the data. The questionnaire was adjusted according to teaching program used in Indiana and Brown medical schools. Faculty member of medical schools in Iran and graduates of medical schools of selected countries completed it.

Results: The clerkship courses can promote basic clinical skills competency in world 35% and in Iran 18/2% at very high level. There is a significant difference between basic clinical skills com-

petency in Iran and world, but there are not significant differences between others competencies in Iran and world.

Discussion: More than 50%, from three zone of Iran and six regions of WHO has shown that clerkship courses can promote, competencies in very high level. It is recommended that pay more attention to clerkship courses in all of the world for improving the basic clinical skills competency.

### Proposing an effective model for planning needs assessment in continuing medical education

**Keywords:** *Nedds assessment, Continuing Medical Education*

**Authors:** *Jaffary, F.*

**Institution:** *Dept. Of Parmacology, School of Pharmacy, MEDC, Isfahan University of Medical Sciences(IUMS)*

Summary: An effective continuing medical education (CME) program should be based on educational and professional needs of the target group. This study was primarily designed to identify different aspects of an appropriate needs assessment (NA) model for CME program. The best definition of needs, the source of data collection for NA, the required level of NA, the NA procedure and the criteria for prioritizing the needs were asked through an multiple choice questionnaire. A total of 35 CME directors and experts of the ministry of health and Medical Sciences Universities responded to the survey. From their point of view, the most proper items for CME needs assessment of doctors, pharmacists and dentists were: considering the need as the distance between the present and optimum situation, professional tasks as the source of NA, the national level for programming NA, running NA as a part of strategic planning and perceived needs of the clients, model selection according to the level of NA, and the relevance of professional tasks as the criteria for prioritizing needs. Our results further emphasis on the idea there is not any model as the best appropriate one to be used in all CME needs assessment programs. But, careful selection of NA model for each situation is the key point in planning NA.

### Metodology in teaching pharmacology in physiotherapy, oriented to the achievement of professional competences

**Keywords:** *Professional competences, pharmacology, physiotherapy*

**Authors:** *Mestres, C.*

**Institution:** *Escola Blanquerna d'Infermeria, Fisioteràpia i Nutrició*

Summary: In the last months we have undertaken some changes in the programme of pharmacology of the studies of physiotherapy. The aim of these changes has been to fit it with a new orientation towards the free circulation of professionals in Europe. Therefore, the new programme is based in the professional competences to be achieved by our students. It has been a usual trend in our classes to use different didactic strategies with a practical application in the future job of our student. The aim of these strategies has been to help our students in a subject that usually present important difficulties for them, and also to give them a practical view of pharmacology. In this work we explain the different teaching strategies that we use and how they are related to the professional competences described in our programme.

### Development of a Structured System and Curriculum in Postgraduate Education in Kosovo

**Keywords:** *Postgraduate. Reform .WFME*

**Authors:** *Hedley, R.*

**Institution:** *University of Pristina, Kosovo*

Summary: Development of a Structured System and Curriculum in Postgraduate Education in Kosovo. A working group was set up in Prishtina in 2003 to compare postgraduate education in Kosovo with the 9 standards and 36 sub standards of the World Federation for Medical Education (WFME).(1) This group consisted of the specialty board chairman, representatives from the specialties and from the Ministry of Health. The current situation was analysed and an action plan proposed with a time scale for meeting the WFME standards. Each part of the action plan had a member responsible to the group for its implementation. It was decided to develop curricula for 5 specialties:

- Internal medicine and its sub specialties
- Surgery and its sub specialties
- Radiology
- Obstetrics and Gynaecology
- Paediatrics

In September 2003 a conference was held for all stakeholders where the action plans for reorganisation of management and curricula were presented to stakeholders. The immediate feedback was approval by these stakeholders. The respective Royal Colleges of England worked with, and allowed the working groups in the above specialties to adapt the English curricula to the needs of Kosovo. Medical educationalists from the University of Barcelona facilitated groups of mentors from the specialties in implementing the new curricula and the teaching methodology needed.

1. World Federation for Medical Education. Postgraduate Medical Education. WFME Global Standards for Quality Improvement. WFME Copenhagen 2003. <http://www.wfme.org>

### From a Traditional to a Systems Based and Integrated Undergraduate Curriculum in Kosovo

**Keywords:** *Reform. Undergraduate. Kosovo*

**Authors:** *Hedley, R.*

**Institution:** *University of Pristina, Kosovo*

Summary: From a Traditional to a Systems Based and Integrated Undergraduate Curriculum in Kosovo. A consortium including the Universities of Nottingham and Barcelona led by HLSP Consulting won a contract from the European Agency for Reconstruction in Kosovo for the reform of basic medical education. The Medical Faculty of Prishtina University formed a working group, facilitated by consultants from the University of Nottingham and HLSP, to evaluate their current position in relation to the 9 areas and 36 sub areas of the World Federation for Medical Education (WFME) global standards (1). Action plans were produced with a time scale and the responsible person to ensure delivery. The Ministry of Health was represented on this working group as well as the student body. For curriculum reform consultants from the University of Nottingham were invited to Prishtina where they assessed the present curriculum and the views of teachers and students. Workshops were facilitated by the consultants from Nottingham on curriculum development, linking aims, methods of learning and teaching, assessment methods, criteria and procedures for marking and providing feedback to students on their progress (curriculum alignment). At a conference for all stakeholders it was proposed:

- The course should be 5 years
- There should be a new curriculum, systems based and integrated
- Modern teaching methods

- Modern assessments
- Curriculum evaluation

The above was accepted unequivocally.

(1) World federation for Medical Education. Basic medical Education. WFME Global Standards for Quality Improvement. WFME Copenhagen 2003

### **Outcome Based Procedural Skills-implementation and evaluation**

**Keywords:** *procedural skills, outcome based education, evaluation*

**Authors:** *Carr, S.*

**Institution:** *University of Western Australia*

Summary: A junior doctors ability to function as an intern is determined by competency and experience in clinical and procedural skills as well as scientific knowledge. Fitness to practice-the main outcome of undergraduate medical training is an important issue for universities. At the University of Western Australia in late 2002 the results of outcome evaluation of three cohorts of interns confirmed that many graduates feel well prepared to take histories and perform physical examinations but less well prepared to perform practical and procedural skills. At the same time the Postgraduate Training Accreditation Committee came to a similar conclusion and wanted to establish which procedural skills were essential for day one of internship and which skills should be taught during the early postgraduate years. As a result a blueprint of skills taught in the medical curriculum was developed and a survey of postgraduate teaching committees at all teaching hospitals was conducted. Results of the survey transposed over the skills map lead to the identification of the skills required for day one of internship that are currently not well taught and/or assessed in the undergraduate curriculum. The skills map and survey results enabled the development and implementation of an outcome based procedural skills training program in the last three years of the six year undergraduate course. The purpose of this workshop is to describe the processes and evaluation results obtained to date and discuss issues related to implementation of skills training programs.

### **Implementation and problematic issues regarding the model core curriculum of medical education in a Japanese private medical school**

**Keywords:** *core curriculum, medical education, implementation*

**Authors:** *Shimura, T.*

**Institution:** *Nippon Medical School*

Summary: The model core curriculum is taught via systematic lectures by departments of basic medicine and via comprehensive courses by departments of clinical medicine. As yet, viewpoints on what would be considered an effective style of teaching of the core curriculum have not been established. In order to investigate weaknesses in core curriculum lectures and to search for effective teaching styles, we examined the entire content of the core curriculum to determine which lectures were or were not given in accordance with the core curriculum in a total of 39 subjects. We also determined which lectures were given partially or almost completely in accordance with this curriculum. Lectures on two items were given neither partially nor almost completely in accordance with the core curriculum: "examinations of children" in E (basic examination skills) of the preclinical medical education core and "clinical trials and medicine" in F (medicine and society) of the same core. Among lectures on 18 items in the model core curriculum, lectures in a subject were given partially in accordance with the core curriculum: 8 items in C (structure

and function of human organs) of the same core, 3 items in D (physiological changes in the body), 6 items in E, and 1 item in F. These items were taught in 5 basic medicine sections, in 12 courses of clinical medicine and in basic clinical training. For our school's core curriculum education, the establishment of courses that integrate basic and clinical medicine is desirable.

### **Student Performances on COMLEX Level I Licensing Exam Following Implementation of an Integrated Clinical Presentation Curriculum**

**Keywords:** *Curriculum, Performance, Licensing Exam*

**Authors:** *El-Sawi, N. and Citarelli, M.*

**Institution:** *University of Health Sciences*

Summary: Student Performances on COMLEX Level I Licensing Exam Following Implementation of an Integrated Clinical Presentation Curriculum Nehad I. El-Sawi, Ph.D.; Melissa Citarelli, M.A. The University of Health Sciences College of Osteopathic Medicine, Kansas City, MO The purpose of this study is to examine student performance on the Comprehensive Osteopathic Medical Licensing Examination (COMLEX) following the implementation of an integrated clinical presentation curriculum at an osteopathic medical school. The COMLEX is the United States licensing exam for physicians and physicians-in-training in the field of osteopathic medicine. Most medical schools, including UHS, require their students to pass the Level I examination before they can be promoted to the third year of medical training. Performances on Level I of the licensing exam for eight classes (1994 - 2001) in the traditional curriculum were compared with those of the first two classes to study in the integrated curriculum (2002 - 2003). The pass rates for the classes learning in the integrated curriculum are higher than the pass rates for the classes that learned in the traditional curriculum. Further, the pass rate for the students studying in the integrated curriculum is significantly higher than the national average. This study demonstrates that student performance on the licensing examination has not decreased as a result of the integrated clinical presentation curriculum, and that the integrated curriculum may have contributed to the high pass rates. The comparative results on the Level I testing since the integrated curriculum was implemented have exceeded those in any prior year in the history of the university.

### **MD**

**Keywords:** *end of life care, respiratory disease, medical education, illustrative case, small group discussion*

**Authors:** *Ronald Damant; Justin Weinkauff*

**Institution:** *University of Alberta*

Summary: Case-Based, Facilitated Small Group Discussions to Teach End of Life Care for Patients with Advanced Chronic Respiratory Disease Chronic respiratory disease is a common cause of death in many countries. "Graying" of the population age structure will result in increasing mortality from these "non-malignant" respiratory conditions. Guidelines are available to assist those caring for patients with "end-stage" respiratory disease at the end of life. The use of small discussion groups focusing on illustrative cases has been proposed as one method with which to teach these essential skills. This pilot project is meant to evaluate the acceptability and effectiveness of case-based, facilitated small group discussions to teach principles of end of life care to medical students and resident physicians. Small groups consisting of 4 to 6 physician-trainees and 2 expert facilitators work through a hypothetical, illustrative patient case. Key principles to be emphasized include the following: communication, continuity, and trust at the end of life; patient-centered care/patient autonomy; determination of competence; determination of philosophy of care; advance directives; surrogate decision makers; prognosis and prognostic uncer-

tainty; futility; withholding and withdrawing life-sustaining therapy; symptom control; values, beliefs, knowledge, and expectations at the end of life; coping as a caregiver at the end of life. Participants then complete a questionnaire immediately following the discussion. Some groups participate in a second reinforcement discussion 1 to 2 weeks later. The study will be completed by June 2004. Preliminary results suggest this to be an acceptable and effective method with which to teach end of life care.

### A new approach to change the biochemistry and molecular biology curricula

**Keywords:** *Biochemistry, Molecular Biology, Curricular*

**Authors:** *Martínez F, Milán R, Sánchez V, Espinosa MT, Álvarez G, Cea A, Meraz N and Flores O.*

**Institution:** *Departamento de Bioquímica, Facultad de Medicina, Universidad Nacional Autónoma de México. PO Box 70159, Mexico City, 04510, Mexico. fedem@bq.unam.mx*

**Summary:** Biochemistry and Molecular Biology is a course of the first year in the Medical School in the National University of Mexico. Every year, this program is analyzed by assigned professors and then some changes are made to improve it. However, in the last 10 years, changes were made to the curricula without take in consideration the requirements in other basic and clinical courses. Biochemistry and molecular biology are areas of science of fast growth. Then, it is necessary its understanding to accomplish the knowledge of other basic courses such as physiology, pharmacology, as well as the clinical practice. To improve the relationship between basic and clinical courses, the Biochemistry and Molecular Biology curriculum was analyzed taking in consideration the objectives and the content of all other courses in the Medical School program. Although there are several knowledge areas which are interrelating with biochemistry and molecular biology, the course should be adjusted to basic concepts. The results also showed that it is necessary to include several subjects until now not considered such as: neurosciences, apoptosis, and proteomics. At the same time, it is an urgent requirement to include clinical examples to incorporate biochemistry concepts. This work was partially supported by Grant EN206606 from PAPIIME, from National University of Mexico. Campbell AM (2003) Public Access for Teaching Genomics, Proteomics, and Bioinformatics. *Cell Biol Edu*, 2, 98–111. Feldberg RS (2001) The new biochemistry: in praise of alternate curricula. *Biochem Mol Biol Edu*, 29, 222–224.

### Mapping Transferable Skills in the Undergraduate Medical Curriculum

**Keywords:** *Curriculum mapping; transferable skills; assessment; electronic mapping.*

**Authors:** *Robley, W.*

**Institution:** *University of Leeds*

**Summary:** Student directed project work aims to facilitate development of a range of transferable skills by undergraduate medical students. The wide range of learning opportunities provided by the Leeds Student Selected Components (SSCs) programme, and the pattern of 'selection' of projects by students makes the monitoring of delivery and coverage of skills through the curriculum very complex. Leeds has developed a skills curriculum map based on the model of 'declared'; 'delivered'; and 'learned' maps, and has added to this a fourth 'assessed' map. The 'declared' map is derived from course documentation and validated by programme co-ordinators. The 'delivered' and 'learned' maps are taken from supervisor and student feedback forms respectively, and validated using interviews. The 'assessed' map is taken from assessment documentation and matched against assessed work.

By superimposing the four maps it is possible to monitor:

- The extent to which the declared aims of the curriculum are perceived to be delivered, and learned.

- The opportunities provided by the curriculum to develop transferable skills through the curricular programme
- The extent to which assessment targets the skills delivered.

The project is now investigating options for creating an electronic map to form part of a larger system which would allow student feedback and student self-assessment data to be used to maintain the currency of the map. This would additionally allow students to match their personal skills profiles and project selection to the future learning opportunities offered.

### Integrating clinical skills in a Problem Based Learning curriculum

**Keywords:** *Clinical competency, integration clinical skills and PBL*

**Authors:** *Martineau, Bernard, Waddell Guy, Hivon René*

**Institution:** *Université de Sherbrooke*

**Summary:** Introduction : With the growth in the body of knowledge and skills that are needed in order to meet professional practice standards, medical schools are packing an ever increasing number of components into their undergraduate curricula. This has caused many medical students to have trouble integrating the various components into clinical practice. In this presentation we propose the integration of clinical skills teaching in a Problem-Based Learning (PBL) curriculum as a strategy to improve integration in practice.

**Methods :** Using the results of a literature review and of a qualitative evaluation of the undergraduate curriculum, we designed a vertically integrated clinical skills program horizontally integrated with PBL modules. We are currently implementing and evaluating this program.

**Results:** The program has three principal elements: 1) History taking and physical examination taught by PBL tutors, 2) A clinical reasoning and patient communication course taught over two years in which groups of six students are followed over the period by the same mentor, 3) Regular encounters with patients during the first two years of medical school. The program was launched in September 2003 for first year medical students. Program evaluation is focusing on student satisfaction and on the program's capacity to improve acquisition of clinical skills.

**Conclusion:** Integration of clinical skills in a PBL program is a promising strategy to meet the high standards required of medical practitioners. In our Faculty, the development, implementation and evaluation of this program are well underway and preliminary data support its effectiveness

### Case-based Curriculum in Pediatric Nephrology

**Keywords:** *pediatric nephrology, case-based learning, residency education*

**Authors:** *Wesseling, K.*

**Institution:** *University of California at Los Angeles*

**Summary:** In light of the recent recommendations from the American Academy of Pediatrics task force on the Future of Pediatric Education (FOPE) II which stress the changing, increasingly complex nature disease seen by primary care pediatricians, residency programs are under increasing pressure to prepare pediatric residents to pass the pediatric boards as well as prepare these residents to be excellent physicians in a very limited amount of time. The traditional curriculum for residents is based on experiential learning from the patients admitted to the hospital and seen in the clinic. This results in a non-uniform education—the amount of knowledge that a particular resident obtains may vary greatly from that of his classmates. Optimally, all residents would be exposed to a wide variety of cases and would learn to handle all of the common conditions and know when to refer the serious conditions that they encounter. In order to fit a structured curriculum into limited time, I have developed

a computerized, case-based curriculum. Learning objectives are based on the needs assessment of the FOPE II task force and the Pediatrics Review and Education Program (PREP) Content Specifications. Objectives include mastery and management of renal physiology, electrolyte and acid-base disorders, glomerulonephritis, common urologic problems, hypertension, growth failure, bone metabolism, tubular reabsorption defects, urinary tract infections, and systemic conditions affecting the kidney. Resident knowledge and clinical judgment in handling common renal problems will be assessed with a short examination before and after participating in the case-based curriculum.

## Dr

**Keywords:** *PBL, medical curriculum, dissection, anatomy, student perception*

**Authors:** *Samy Azer (1), Norm Eizenberg (2), Tammy Teoh Han Qi (3), Tan Hong Jin (3)*

**Institution:** *Faculty Education Unit, Faculty of Medicine, Dentistry and Health Sciences (1), Department of Anatomy and Cell Biology (2), University of Melbourne, Australia, Faculty of Medicine, University of Science (3), Malaysia*

**Summary:** Learning anatomy in an integrated problem-based course: do we need dissection? The introduction of a problem-based learning (PBL) course at the School of Medicine, the University of Melbourne has necessitated a reduction in the number of lectures and limited the use of dissection in learning anatomy. In the new curriculum, students learn anatomy of different body systems using PBL tutorials, pre-dissected specimens, dissection and lectures. Students also use resources such as computer-aided learning (CAL) programs and textbooks in their private studies. The aims of this study are: (i) to assess the views of medical students (graduate students and year 12-school leavers) enrolled in the undergraduate medical course, on the importance of dissection in learning about the anatomy of human body, (ii) to assess which educational tool helped them most in learning anatomy of the human body and whether dissection sessions have helped them in better understanding of anatomy. **Methods:** First (n = 218) and second year (n = 220) medical students enrolled in the undergraduate course agreed to complete a questionnaire. Data was analyzed using Mann-Whitney's U-test, Wilcoxon's signed-ranks or the calculation of the Chi-square value. First year students found dissection (44%), textbooks (23%), CAL (10%), self-directed learning (6%) and lectures (5%) of most value in learning anatomy, while second year students found textbooks (38%), dissection (18%), pre-dissected specimens (11%), self-directed learning (9%), lectures (7%) and CAL (7%). Neither group showed a significant preference for pre-dissected specimens, CAL programs or lectures over dissection. This study demonstrated that medical students' perception about the importance of dissection changed significantly as they progressed in the course. However, new innovations in teaching anatomy such as CAL programs have not replaced their views that dissection is important.

## A New Course for New Students in Obstetrics and Gynaecology at a London Medical School

**Keywords:** *Graduate Entry, Obstetrics and Gynaecology, New Curriculum*

**Authors:** *Hayes K, Penna L, Williams B, Arulkumaran S, McCrorie P.*

**Institution:** *St George's Hospital Medical School, Cranmer Terrace, London, SW17 0RE*

**Summary:** A New Course for New Students in Obstetrics and Gynaecology at a London Medical School Hayes K, Penna L, Williams B, Arulkumaran S, McCrorie P Department of Obstetrics and Gynaecology, St George's Hospital Medical School, London. **Background:** Why a new O + G course for graduate entry students? The Undergraduate (UG) and Graduate

Entry Programme (GEP) MBBS courses at St George's Hospital Medical School (SGHMS) have markedly different entry criteria, resulting in different student characteristics (Table 1). Different students, different learning, different course.

**Course Objectives**

1. Design curriculum for shortened 5-week clinical attachment.
2. Build on the previous 2 years PBL-derived, O+G-related learning objectives, reinforcing spiral learning.
3. Provide maximum clinical exposure to real patients.
4. Encourage community – oriented learning relevant to O+G patients.
5. Inform all staff of the course ethos.
6. Design assessment relevant to the new curriculum.
7. Provide support and media for student feedback and evaluation.

**Curriculum Delivery:**

Time-tabled core clinical activities alongside self-directed clinical Flexible Learning Opportunities (FLO). Weekly two-session student-led "real patient" Clinical PBL. Weekly themed interactive seminars including lectures, history / examination demonstrations, small group patient management, Teaching OSCE (TOSCE), expert fora. Themed Web-based Clinical PBL cases. Community placements with community midwifery and family planning services Clinical assessment, written case report, extended matching questions (EMQ), mini-case, OSCE – 35 / 35 passed. Confidential written evaluation – overwhelmingly positive. **Conclusion:** Starting a new course has provided a fantastic opportunity to maximise the learning of a new group of medical students in O+G in a shorter and more clinically relevant way. Initial assessment and evaluation indicates it has been successful for both staff and students and has not detracted from the concurrent undergraduate course.

## Investigation of educational needs of education officers in Isfahan University of Medical Sciences

**Keywords:** *need evaluation*

**Authors:** *Aminolroayaei Yamini, M. Yarmohammadian M. H., yousefi A.*

**Institution:** *faculty of nursing, Education office*

**Summary:** Introduction: The most important step in planning and holding educational programs is appropriate administration of needs investigation process. The present study has targeted at defining the educational needs of education officers in Isfahan University of Medical Sciences in three fields of technical, Perceptual and human skills in 2003.

**Methods:** this is descriptive survey study carried out on the head educational officers and the ones in the faculties of Isfahan University of Medical Sciences (47 Samples). The data were analyzed by descriptive analytic statistics in SPSS software.

**Results:** The analysis of the findings showed that the educational needs of education officers of Isfahan University of Medical sciences in the fields of technical, perceptual and human skills were over average level. Their most needs were as in fields of technical human skills and Perceptual respectively. Other findings of the research showed that there was no significant association between the course of study, work experience and organizational post of the education The education officers and their educational needs.

**Discussion:** Education officers need education in all three fields of technical perceptual and human Skills They feel their need more in technical field. Computer softwares as well as handling skills and technology were mentioned as the most important needs in technical field.

## Learning styles in nursing students and their trainers in mums in 2003

**Keywords:** *learning styles, cognitive style, divergent, convergent*

**Authors:** *Hassan Gholami, A.Derakhshan, S.Bajouri, J.Mdabber azizi, M.Dashti rahmatabad, S.M.hossaini.*

**Institution:** *Mashad University of Medical Sciences*

**Summary:** Introduction: Considering multifactorial nature of learning, adaptation of students' learning styles and their fields of study could be of great importance, particularly cases leading to prediction students' success in different fields of study. According a research was conducted to recognize learning styles in MSc students of Mashad Medical University based on David Kolb's learning theory and comparing them with learning styles of their instructors in 2003.

**Materials and Methods:** Tacking a Sample of 48 in size and a questionnaire with 12 multi-choice and some background questions as Kolb's four- step cycle tools including: 1- concrete experiences 2-reflective observation 3-abstract conceptualization 4-active experimentation. Learning styles are usually defined combining above learning methods as Convergent, divergent, assimilating and accommodator styles. Based on above definitions, and Kolb's tools, learning styles of each participant was obtained. Objective of research was to study correlation of students' learning styles and their instructors'.

**Results:** There was an overall weak correlation between student's learning styles and their instructors' but the correlation between instructors'. In %43 of students, there was a fit between their learning styles and their instructors'. Distribution of students' learning styles was %17 divergent, %34 convergent, %37 assimilating and %12 accommodator. Dominant learning style in students of obstetrics was assimilating with %37 and in nursing students convergent but we found no significant difference.

**Conclusion:** Results revealed that majority of researched people trend convergent and assimilating. It is suggested a variety of teaching methods be taken in education to make appropriate opportunities for learning.

## Outcome- Based Education

**Keywords:** *Outcome- Education*

**Authors:** *Jahanbin, I.*

**Institution:** *College of nursing&Midwifery*

**Summary:** Title: Outcome-Based Education. Author: Iran Jahanbin Address: Shiraz University of Medical Sciences Over the past four decades there have been several precursors to this move to outcome-based education. These include competence-based education, criterion-referenced learning and mastery learnings which focus on competences or criterion levels of performance that are achieved by carefully sequenced teaching. Outcome-based education has come to be characterized by the development of clearly defined and published learning outcomes That must be achieved before the end of the course, the design of a curriculum, learning strategies and learning opportunities to ensure the achievement of the learning outcome, an assessment process matched to the learning outcomes and the assessment of individual students to ensure that they achieve the outcomes, and provision of remediation and enrichment for students as appropriate. Criticism of outcome-based education has related to concerns that it places limitations and imposes a rigid model on curriculum developers and teachers; that it limits creativity; that it inappropriately addresses the attitudinal domain; and that it imposes excessive demands on teachers in terms of specification of outcomes, assessment and record keeping. Many disagree with these criticisms. It has been argued that learning outcomes are likely to have a significant impact on education. Outcome-based education as an education approach is still in its infancy in medi-

cal training. Clarification of the learning outcomes in medical education helps teachers, wherever they are, to decide what they should teach and assess, and students what they are expected to learn.

## Investigation of students learning styles at fasa medical school

**Keywords:** *learning style, inventory, medical education*

**Authors:** *najafipour, sohrab., khoshnami, maryam., najafipour, sedigheh*

**Institution:** *fasa medical school*

**Summary:** Investigation of students learning styles at fasa medical school Learning styles research has given educators new directions for making changes in their activities. Students have different leaning styles that reflected in preferences in the way they perceive and process information. Understanding learning style differences is thus an important step in designing balanced instruction that is effective for all students. Student leaning styles can be assessed by specifically designed inventories. This study was performed to determine if students possess a dominant learning style according to the DVC learning style survey for college and whether this style is related to mean point grades of students in academic courses. Eighty three students (52 women, 31 men) from fasa medical school participated in this study. No subject had previously taken the learning styles. The purpose of this inventory is to categorize respondent as visual/nonverbal, visual/verbal, tactile/kinesthetic, and auditory/verbal based on their answers to 32-item questionnaire. Learning style type results and mean point grades of academic course have been collected for each subject. We used statistical method to determine if differences existed in distribution of learning style type, and if differences were related to mean point grades of students. We found visual/verbal learning style as a dominant type and visual/nonverbal, tactile/kinesthetic, and auditory/verbal followed respectively. There wasn't any relationship between the learning styles distribution and mean point grades of student. It is important to build an adaptable learning environment that present the material in a variety of methods than try to determine each learner personal style.

## The convergence of technology in the medical radiation sciences: curriculum innovation to support cross-disciplinary training of medical radiation science professionals (radiation therapy, radiologica

**Keywords:** *cross-disciplinary training*

**Authors:** *Di Prospero, L., Harnett, N., Cherryman, F., Palmer, C., Catton, P.*

**Institution:** *Medical Radiation Sciences Program, University of Toronto, Department of Radiation Oncology and The Michener Institute for Applied Health Sciences*

**Summary:** The Medical Radiation Sciences (MRS) Program, a collaborative four-year professional undergraduate program within the University of Toronto, Department of Radiation Oncology and the Michener Institute for Applied Health Sciences, graduates professionals to meet evolving societal healthcare needs. 390 students are enrolled annually in one of three related but distinct streams: radiation therapy, radiological technology, and nuclear medicine. Until recently there has been no attempt in Canada to integrate the training of these three disciplines, despite potential benefits to the graduates, the profession and society. For example, the student acquires a spectrum of marketable skills; professionally, an overlapping scope of practice becomes increasingly important to deliver optimum care as diagnostic and treatment techniques converge; and under-served communities could address staffing shortages more readily,

improving health care delivery. The MRS Program has implemented a specialized elective or Selectives Program which will provide expertise in specialized fields of practice such as MRI, PACS, Ultrasound, Health Education, Specialized Radiation. Therapy Methods, and Computer-Assisted Image Analysis. Two categories of selectives have been designed: didactic and practical. Significant flexibility is afforded the students who can construct a curriculum that responds to their own particular interests, and that qualifies or partially qualifies for specialty certification. The MRS Program has addressed a number of challenges in the design and implementation of this multidisciplinary curricular innovation and will share the strategies utilized to encourage stakeholders to buy in to the vision of cross-training our graduates.

### **What do our students really do? Use of diaries to quantify time spent in curricular activities**

**Keywords:** *Learning measurement*

**Authors:** *Wilkinson, T.; Bushnell, J.; Wells, E.*

**Institution:** *Christchurch School of Medicine & Health Sciences*

**Summary:** Diaries of actual learning activities can fill a gap in evaluation methods but have not been used in this way within a medical context. A diary was developed, piloted and then administered to fourth and fifth year medical students, in two ways: by even sampling where students completed a diary on three randomly selected days of the academic year and by context where students completed a diary for seven consecutive days within designated clinical attachments. Concurrent validity for the curriculum was explored by making comparisons with what is known about the curriculum, assessments and timetables. Concurrent validity for students was explored by making comparisons with questionnaire data and assessment results. Response rate was 83-86%. This evaluation method is able to show correlations between time spent in study and motivation, and between time spent studying with others and extroversion. Students with deeper learning strategies spent more time with patients and assignment work. There were varied correlations between study activity and assessment results. Learning activities varied as expected with timing of assessments and with weekly timetables. For information about a student, 14 days per student is needed to obtain generalisable information. The variation between days is greater than the variation between students so for information about a curriculum many students are needed to complete diaries but each student need only provide information about a few days. This novel evaluation method is feasible and can provide reliable and valid information about study activities. Reasons for good compliance will be discussed

### **An Emergency Medicine Elective Course Offered To Pre-Clinical Medical Students Is An Effective Adjunct Teaching Method Improving Competence In The Ability To Understand And Integrate Basic Science In**

**Keywords:** *integration*

**Authors:** *Stearns, D.; Binder, W.; Thomas, S.H.; Farrell, S.E.*

**Institution:** *Massachusetts general hospital Harvard medical school*

**Summary:** Objective: To determine if bedside teaching of basic science principles and their application in the explanation of case presentations during an Emergency Medicine elective course is an effective teaching method improving pre-clinical medical student competence with understanding and integrating such concepts into clinical medicine practice.

**Methods:** A cohort of 28 pre-clinical medical students enrolled in an elective course that focused on bedside teaching of scientific

principles, how they explain patients' symptoms, physical findings and their application to varieties of case presentations seen in a busy inner-city Emergency Department. At course conclusion, students answered a case-based essay-type written evaluation, format and subject matter similar to final examinations used in their pre-clinical courses. A 19-student control group with an identical level of training uninvolved in the elective also completed the evaluation. Evaluation responses were scored separately by each of two faculty blinded to the cohorts. These faculty were not involved in teaching the elective course. Results: There were 28 Post-course and 19 Control assessments. The Median and Interquartile Range (IQR) Control total score was 34 (30.3-38.5). The Median IQR Post-course total score was 48 (42 - 53.3). Control and Post-course score differences were statistically significant. Kruskal-Wallis chi-squared value, with ties adjustment, was 16.8 with 1 degree of freedom, to yield  $p = 0.0001$ .

**Conclusion:** Bedside teaching of basic science principles and their application to explanation of case presentations during an elective course serves as an effective teaching method improving pre-clinical medical student competence with understanding and integrating such concepts into clinical medicine practice.

### **The Use of Bloom's Taxonomic Hierarchy of Educational Objectives as the Basis for Designing and Refining Pre-clinical Coursework**

**Keywords:** *instructional design, course design*

**Authors:** *Papa, F.*

**Institution:** *UNTHSC*

**Summary:** Bloom's taxonomy describes the evolution of intellectual capabilities in terms of a six-step hierarchy. Step 1: acquisition of information (surface learning). Step 2, comprehension via transformation of acquired information into a personalized and potentially useful knowledge base (deep learning). Step 3, application of personalized knowledge base to new situations. Step 4, analysis designed to identify the more and less relevant/useful aspects of one's knowledge base. Step 5, synthesis of a refined knowledge base following additional experience and further analysis. Step 6, evaluation of current the 'state of knowledge' designed to detect fallacies, insufficiencies and define new directions for learning and research. There is little evidence to suggest that Bloom's taxonomy serves as guiding principles in the design of medical school course work. Over the past four years the authors have designed pre-clinical coursework consistent with Bloom's first three educational objectives. In a previously presented pilot investigation, principal components analyses was used to construct three composite variables representing students' attitudes towards the utility of the information acquisition (surface learning) sessions, comprehension (deep learning), and knowledge base application segments of the course. Multiple regression analysis revealed that together, the three instructional approaches accounted for 40% of the variance in the dependent variable (evolving sense of clinical competence). Of the three instructional approaches/objectives, knowledge base application opportunities appeared to have the greatest impact in terms of the students evolving sense of clinical competence. This presentation describes ongoing efforts to use Bloom's taxonomy as the basis for redesigning additional pre-clinical courses.

## Which medical students like problem-based learning?

**Keywords:** *Problem-based learning; personality; learning style*

**Authors:** *Ewan Bigsby [1]; Chris McManus [2]; P Sedgwick [1]; P McCrorie [1]*

**Institution:** *[1] St. George's Hospital Medical School, London SW17 0RE, UK [2] University College London, London WC1E 6BT, U*

**Summary:** Problem-based learning (PBL) has become increasingly popular in medical schools, including in the United Kingdom, where it has been included in some of the new accelerated graduate-entry courses. Although the theory and practice of PBL have been much discussed, and meta-analysis shows it to be as effective as traditional curricula, we could find no studies asking what characterises students who do or do not like the method. Here we describe the relationship between personality, learning styles, and satisfaction with PBL in 99 students at a London medical school. Satisfaction with PBL was assessed with a 26-item questionnaire that asked about the utility and enjoyment of the components of PBL. Factor analysis identified two clearly distinguishable factors labelled Personal Learning, which assessed whether students felt PBL helped them personally in clarifying and remembering new information, and Contribution to Case Discussion, which assessed whether students found the PBL process enjoyable and useful, and found it helpful to make suggestions about the case. Personality was assessed using a 15-item questionnaire assessing the 'Big Five' personality factors (extraversion, neuroticism, openness, agreeableness and conscientiousness), and Learning Styles (Surface, Deep and Strategic) were assessed with an 18-item version of Biggs' Study Process Questionnaire. Students who learned well in PBL had a deeper learning style, whereas students who liked contributing to the group process were less neurotic, more agreeable, and had a deeper learning style and a less strategic learning style. We believe these results have implications for schools using PBL.

## Have tutors and residents got similar communication skills?

**Keywords:** *communication skills; residents; tutors; patient centered care*

**Authors:** *Herranz S., Luchetti G., Casanovas A., Nogueras A.*

**Institution:** *Institut Universitari Parc Taulí(UAB)*

**Summary:** Introduction: Improving doctor's communication skills is a matter of priority for its influence on the quality of health care. Role modelling and the informal curriculum are known to influence the training period.

**Objective:** To detect communication skill differences between tutors and residents at our hospital.

**Material and Methods:**

**Location:** Sabadell (Spain) Hospital reference for 380,000 inhabitants, situated 30 Km from Barcelona.

**Personnel:** medical post grade programme for 18 specialities with 32 tutors, 34 R1 and 32 R2

**Material:** 1) questionnaire relating to identification, speciality, years of experience and demographic data. 2) A validated videotape with poor model communication skills in a simulated encounter between a doctor in the emergency service, dealing with a complaint from a patient's relative. As far as communication skills are concerned, there are many arguments on the video which can be improved.

**Procedure:** Viewers, who saw the video, scoring the doctor's communication skills on a scale from 0 – 10. Statistical analysis: SPSS, Mann Whitney, Spearman.

**Results:** Attendance: R1 28 (82,4%); R2 29 (90,6%); Tutors 24 (77,4%). By speciality: core specialities (CS) 23, medical (MS) 24;

surgical (SS)19; central services (CeS) 15 Sex: female 49 ( 20 R1, 21 R2, 8 T) Score (SD) of the "poor" video by residents and by tutors (  $p=,024$  Fig 1); by CS 5,04 (1,50); MS 5,60 (1,53); SS 5,79 (1,47); CeS 6,33 (0,97).  $p=,110$

**Conclusions:** Tutors communication skills were worse than the resident's. Planning training activities to improve resident's communication skills should include tutors too.

## How do internal medicine residents learn to be competent?

**Keywords:** *communication skills; patient centered care; informal curriculum*

**Authors:** *Nogueras A., Casanovas A., Gil M., Jordana R., Monteagudo M., Oristrell J., De Nadal J.*

**Institution:** *Institut Universitari Parc Taulí(UAB)*

**Summary:** Introduction Role modelling and an informal curriculum have a big influence on learning residents. Knowing the awareness of our resident's feelings, about their learning process, may help us not only to improve our post grade internal medicine programme, but also our hospital care system.

**Objective:** To explore the resident's minds about the key issues that they learn

**Material and Methods:** Location: Sabadell (Spain) Hospital reference for 380,000 inhabitants, situated 30 Km from Barcelona. Personnel: 15 residents (3 per year) from our hospital post grade internal medicine programme

**Material:** semi-structured interview in 2003. One question was "tell us about what you have learnt to do over the past year" (positive learning) followed by " and now, tell us about what you have learnt not to do" (negative learning).

**Procedure:** literal transcription; every item of the answer was attributed to one of the seven key competencies of the Can MEDS 2000 Project by one of us; the first four competencies mentioned in each answer were scored from 1 to 4, depending on its ordinal position, i.e. 1st, 2nd, 3rd, etc.

**Results:** Attendance 100%Expertise is mainly the first key of competency mentioned, followed by manager and collaborator. Communication and professionalism are mentioned as competencies learnt in a "not to do" way. Scholars and specially advocates are mentioned, but very poorly.

**Conclusions:** Communication skills and patient-centered care, need to increase their formal and informal curriculum presence in our hospital.

## Motivations in CME programmes

**Keywords:** *motivation, CME, professional*

**Authors:** *Assadullahi, P.*

**Institution.** *Ahwaz Medical Sciences University, Iran*

**Summary:** Motivations in CME programs Author: Assadullahi, P. Address: EDC Dept. Ahwaz University of Medical Sciences, Ahwaz, Iran Continuance Medical Education (CME), founded to increase the performance quality of professionals has been a matter of concern in the past decades. Increasing the CME programs efficacy necessitates a deep recognition of motives affecting the participants interest. Seeking the motivating factors, this survey was carried out. In this descriptive study a questionnaire of two sections; former the "opinions" of participants and latter, the "motives" were questioned. Testing, the validity and reliability of the questionnair by content validity and test-retest, it was routinely used in CME courses. The data of 400 , randomly selected questionnaires, were analyzed. The participants have been requested to score five motives, upon the priorities, from 1 to 10 credits. The five items were as follows: a) renewing the knowledge, b) interchanging professional experiences with other colleagues, c) solving the professional problems d) gaining desired official credits and e) others. The achieved creditst were: a) 3.37, b) 2.31, c) 2.51 and d) 3.2. The most impor-

tant motives were “renewing the knowledge” and “gaining credits”. In Laboratory Sciences group, highest credits were given to “renewing the information” with a very significant difference. In findings, the highest credit on “renewing the information” was compatible with the ideal goals, but the motive of “gaining credits” represents a kind of obligation in participating the CME courses. Therefore, concerning the liable people eagerness to CME programs, the application of new instructional methods is suggested.

### Learning styles of med. students in Qazvin

**Keywords:** *medical education, Kolb learning style*

**Authors:** *Hoseini, M. Azizi, F. Khanzadeh, A.*

**Institution:** *Qazvin university of medical sciences*

**Summary:** several factors may influence teaching learning process. one of them is learning style. the aim of this survey was determination of learning style of med. students in relation to academic marks in Qazvin, Iran. This survey has carried out in Qazvin among 2001-2002 year. Questionnaire (including demographic question and Kolb LSI) was used to gather data. 229 persons participated by completing questionnaire. Results indicated that most of the students were as assimilator and converger. assimilators and convergers had better scores than divergers and accomodators in basic sciences and clinical period but it was not significant. Also they had better performance on pre-internship final examination. Other findings will present in original paper. findings suggests that most med. students tend to apply assimilating and converging learning styles. teachers must consider learning styles differences in classes and clinical settings to enhance students learning and performance.

### Implementing Modernising Medical Careers: the Mersey experience

**Keywords:** *Postgraduate Medical Education; CPD*

**Authors:** *Gillies R., Graham D., Lamont G., Hart D., Ryland I., O'Brien M., Brown J.*

**Institution:** *Mersey Deanery, Liverpool, UK*

**Summary:** 'Modernising Medical Careers' (DoH, 2003) was published in response to 'Unfinished Business: proposals for the reform of the Senior House officer Grade' (DoH, 2002). By August 2005, a Foundation Programme must be implemented throughout the NHS. In response to the recommendations outlined in 'Modernising Medical Careers' the Mersey Deanery established a strategy group. The group proposed a holistic approach incorporating all Trusts within Mersey Deanery boundaries in a pan-Deanery prototype programme to commence August 2004. Implementation of this unique initiative relies heavily on the collaboration between the Mersey Deanery, the Cheshire and Merseyside Strategic Health Authority, and NHS Trusts. Introduction of these reforms has wide ranging implications for all training posts within medicine exacerbated further by the implementation of the European Working Time Directive (August, 2004). An Associate Postgraduate Dean was appointed MMC Lead to coordinate the implementation of the prototype programme. In order to deliver this innovative programme within an extremely tight timeframe three working groups were established:

- to define the curriculum;
- to liaise with NHS Trusts;
- to develop speciality streams.

The evolving nature of this prototype programme requires that all parties are kept fully informed. Therefore, open meetings were held across the Mersey Deanery to advise PRHOs and medical undergraduates of forthcoming changes in training. The Mersey Deanery website also provided constantly updated information offering a bulletin board for discussion. The guiding principle of this initiative is that medical education and service provision are at the forefront of patient care in the modern NHS.

### Modernising Medical Careers in the UK: The Northern Deanery Learning Portfolio

**Keywords:** *Learning Portfolio, Curriculum,*

*Foundation Programme*

**Authors:** *Hrisos, S; Illing, JC; van Zwanenberg TD; Livingston, M; Bregazzi, R; McAvoy, P;*

**Institution:** *University of Newcastle upon Tyne*

**Summary:** Background: Modernising Medical Careers represents a fundamental change in the way junior doctors are to be trained in the UK from August 2005. Following graduation, doctors will undertake a 2 year Foundation Programme (FP) designed to provide broader specialty sampling in the context of a generic curriculum. A portfolio, collated by the doctor as evidence of their progress, may form part of a summative assessment at the end of the programme. Prior to national implementation, the Northern Deanery is currently piloting prototype FP programmes and a learning portfolio designed to facilitate access to the curriculum through the promotion of reflective practice and self-directed learning.

**Aims**

- to identify to what extent the curriculum was accessed by junior doctors

- to explore experience of portfolio use: perspectives from junior doctors, educational supervisors and clinical assessors

**Study Design:** Postal survey using a self-completion questionnaire devised for the study.

**Year 1**

(Phase 1) Questionnaire development: items will be derived from themes emerging following interviews with sub-samples randomly selected from each of the 3 target groups.

(Phase 2) Survey: 1st year junior doctors given the learning portfolio in August 2003, their educational supervisors and clinical assessors.

**Year 2**

Survey: 1st year junior doctors given the learning portfolio in August 2004, their educational supervisors and clinical assessors plus doctors in their 2nd year of training.

**Discussion:** The overall study findings will ultimately inform FP programme development. This poster reports the outcome of Phase 1: the study questionnaire, and suggestions for research expansion during Phase 2.

### Communicative skills in nursing studies within the problem-based learning methodology (PBL)

**Keywords:** *Communicative, skills, nursing studies*

**Authors:** *Llompant, P.; Fornos, J.; Muñoz, D.; Bono, C.; Vers, O.; Falder, I.*

**Institution:** *EUI Vall d'Hebron*

**Summary:** Introduction: During the academic year 2002/2003 the Escuela Universitaria de Enfermería (University Nursing College) Vall d'Hebron, Barcelona, Spain, introduced a change in its teaching methodology Problem-Based Learning (PBL). With this methodology the teaching paradigm changed from that of TEACHING LEARNING to LEARNING TO LEARN. Complementary skills were added to the tutorial programme as part of a teaching strategy in order to improve professional competence.

**Objective:** To develop communicative skills in the students.

**Methodology:** Ninety first-year students started the programme during the academic year 2002/2003. Groups were made up of 12/13 students. The duration was of 66 hours per group in 22 sessions. In the following academic year, 2003/2004, the second-year students participated. The duration was of 20 hours in 10 sessions. In 2004/2005 the third-year students will participate with a total of 15 hours. The groups are guided by preceptors whose function is to help the reflexive learning process through their

own knowledge and experience. The skills acquired by the students are evaluated both quantitatively and qualitatively by the preceptors on a form which is given to the students. The students fill in the form and hand it back, thus producing feed-back.

Results: Quantitative evaluation: in communicative skills 92.3% of the students obtained either excellent or very good marks; 6.6% obtained pass marks; 1.1% failed. Qualitative evaluation: the feed-back received from the patients showed a high level of satisfaction with the objectives obtained.

Conclusions: We believe that the introduction of the programme has signified an improvement in the communicative skills of the students, and will be of use in nursing care and related skills. The final evaluation of the programme will be carried out once the programme has been introduced into the three courses (first, second, and third year).

### **The elaboration of a biographical-narrative interview guide as a method for the gathering of information to analyse the values in the Family and Community Medicine Residence**

**Keywords:** *biographical-narrative interview, values, Family and Community Medicine Residence, qualitative investigation*

**Authors:** *Sánchez Marín, FJ. Sánchez Sánchez, F. Molina Durán, F. Martínez Ros, MT. Cifuentes Verdú, MA. Canovas Valverde, J.*

**Institution:** *Grupo Aprendiendo Juntos. Unidad Docente de Medicina Familiar y Comunitaria. Gerencia Atención Primaria Murcia. SMS.España*

Summary: Title The elaboration of a biographical-narrative interview guide as a method for the gathering of information to analyse the values in the Family and Community Medicine Residence. Introduction This qualitative investigation highlights the need to develop genuine methods that are adapted to the context, aims, objectives and nature of the study. One essential requirement is that this is a consequence of a thoughtful, systematic, multiprofessional and collaborative process which ensures that the method to be used is the most adequate.

OBJECTIVE To construct a biographical-narrative interview guide which systematizes and structures values in teaching in the Family and Community medicine residence in the Health Centre.

Subjects and methods Technique: Brainstorming

Participants: a tutor doctor, a teaching nurse, a pedagogue, two health technicians and the director of the Teaching Unit.

Procedure: group work sessions video-recorded with a moderator.

·A structuring of the guide in life's stages and substages.

·An arrangement of these in the aspects and subsaspects to be explored.

·A written record by the secretary of the contributions discussed in the group.

·Viewing of the recorded material by the pedagogue.

·Return and discussion of the document by the group.

·Elaboration of the interview guide.

Result Obtaining a biographical-narrative interview guide for the tutorial process in family doctor postgraduate formation:

·based on multiprofessional, collaboration, joint reflection and shared learning.

·structured in vital cycles and values: trust, dialogue, respect and responsibility.

### **Pedagogical challenges of a revised medical program by competencies**

**Keywords:** *revised medical program, competencies, pedagogical challenges*

**Authors:** *Bélanger, N., Glenn, J., Côté, L., Beauchemin, J-P., Laberge, L., Leblanc, F.*

**Institution:** *Université Laval*

Summary: A major revision of the undergraduate medical program at Laval University was undertaken in the fall of 2003. Presently, over 50% of the curriculum is organized by systems, and the basic sciences are presented individually. A diversity of learning methods is used. A series of courses, « Initiation to clinical practice », present in each semester of the two preclerkship years, provides the students an opportunity to integrate various learning contents. The revised program will be oriented toward a progressive acquisition of five competencies: clinical expertise, communication, collaboration, autonomous learning and professionalism. For each competency, a definition has been proposed and the objectives fixed for the end of the preclerkship and the clerkship periods. We have chosen to maintain diverse pedagogical methods in accordance with andragogic and cognitive psychology principles and values. The acronym PUIGE (Prevalence, Urgency, Intervention, Gravity, Educational example) has been used to assure that pertinent choices of course content are made. The structure chosen for the organization of the program content of the two preclerkship years represents a major pedagogical challenge. The desired product: a program with a coherence in the configuration of the course contents which permits the students to integrate the basic and clinical science components, to progressively develop the five competencies and to attain the levels desired for advancing to their clerkship training. This poster presents the definitions of our five competencies and our proposed organization for the course contents. We wish it to be a catalyst for a pedagogical exchange.

### **Education Research Partnership: an innovative collaboration crossing traditional boundaries**

**Keywords:** *medical education research collaboration; partnership*

**Authors:** *O'Brien, M; Brown, J; Ryland, I; Graham, D; Garden, A; Chapman, T; Watmough, S.*

**Institution:** *Centre for Health Research & Evaluation Edge Hill College, Ormskirk, Lancashire UK; Mersey Deanery, Liverpool UK; University of Liverpool Medical School, Liverpool, UK.*

Summary: Medical education encompasses both undergraduate and postgraduate levels, yet medical education research has tended to be conducted by either medical schools or Postgraduate Medical Deaneries in isolation. Recent changes in the delivery of medical education call for evaluative research which bridges the traditional gap between undergraduate and postgraduate studies. The Liverpool MBChB underwent extensive revision in 1996 with the development of a Problem Based Learning (PBL) programme. Evaluation of various aspects of the programme has been undertaken jointly by the Mersey Deanery and the University of Liverpool. Mersey Deanery medical education researchers based at the Centre for Health Research and Evaluation (CHRE) at Edge Hill College are funded to support and develop postgraduate medical and multi-professional educational research. To further the collaboration a tripartite partnership - Mersey Deanery, the CHRE and the University of Liverpool Medical School - was established with the aim of formalising the existing research links. The aims of the partnership are to:

·Identify research and evaluation strategies for postgraduate medical education

- Develop the interface between undergraduate and postgraduate medical education
- Rationalise and co-ordinate the medical education research and evaluation activity of the three groups
- Initiate dissemination of research and evaluation findings and subsequent policy development
- Seek further opportunities for collaborative research

This collaboration aims to provide a seamless transition in medical education research from undergraduate through to postgraduate level and beyond. As far as we are aware, this type of research collaboration is unique.

### **The game is afoot – using a medical knowledge-based interactive murder mystery in medical education**

**Keywords:** *Medical gaming, Medical Students, Continuing Medical Education, Simulation, Curricular Innovations*

**Authors:** *Waddell, A.E.; Gladman, A.S.; Abbey, S.E.; Hodges, B.; Silver, I.*

**Institution:** *Centre for Research in Education, University Health Network, Faculty of Medicine, University of Toronto*

**Summary:** There is a long history of educational gaming in both public health education and nursing education. In medical education, the closest educational model to gaming is the problem-based learning (PBL) approach in which students explore a group of topics by reading around a case. At our institution, PBL cases typically take the form of a short story based on weekly teaching themes. Educators are constantly looking for innovative formats that will facilitate learning and reinforce knowledge while remaining interesting to the participant. Games have long been used in an educational context in order to reinforce information while maintaining the student's interest. We have developed an educational, interactive murder mystery in which participants must use their clinical knowledge and problem solving to solve the crime. This model has been used with undergraduate medical students and with medical practitioners as a continuing medical education event. We will review our experience with the murder mystery framework including: the approach to designing an educational murder mystery, assessment of these events and feedback from three previous murder mystery events. The educational evidence for the efficacy of games in teaching will be briefly reviewed. Participants will also have an opportunity to reflect on how they might apply this teaching technique to educational program planning.

### **Factors associated with the marks obtained by students on a postgraduate course in public health**

**Keywords:** *Marks, post-graduate course, public health*

**Authors:** *Revuelta Muñoz, E.; Farreny Blasi, M; Godoy Garcia*

**Institution:** *Institut Català de la Salut*

**Summary:** Introduction. The "Diploma en Sanidad" is a postgraduate course in public health addressed to people of different ages and professions. The objective was to analyze the relationship between the marks obtained by students and their respective demographic and professional characteristics. Methods. The participants were 70 students from a postgraduate course in Public Health held at the University of Lleida in the academic years 2001-2002-2003. This course was scheduled in 8 modules: "Introduction to Public Health", "Statistics", "Transmitted Diseases", "Protocols in Chronic Diseases", "Health Protection" (HP), "Epidemiology", "EpiInfo", and "Research Methodology". The independent variables of study were: student profession, gender and age. The dependent variable was the mark obtained by of the students in each module. Information was collected from official examination acts and from the list of course

participant. Each variable was studied with respect to the mean and its standard error. The relationship between the independent variables was assessed by the ANOVA test to a p value of <0.05.

**Results.** The mean student mark ranged between 6.44 (ETM=0.16) for Statistics and 8.20 (ETM=0.13) for HP, with a significant difference ( $p < 0.001$ ). There were no significant differences among marks with respect to professional group ( $p = 0.14$ ), sex ( $p = 0.55$ ) or age ( $p = 0.59$ ).

**Conclusions.** There was no relationship between student profile and marks. However, there were some differences between the qualifications obtained for each subject, which could be linked to the subjects themselves, to the teachers of each subject and to the level of exam difficulty. We should standardize exams in order to reduce the variability marks between different modules.

### **Increasing "soft" and practical skills in German Medical Students - a new longitudinal course**

**Keywords:** *Increasing*

**Authors:** *Genzel-Boroviczény, O.; Borasio, G-D.; Frick, E.; Roenneberg, T.; Seiderer, J.; Siebeck, M.; Kaeab, S.; Muehlstaedt, M.; Christ, F.*

**Institution:** *Ludwig-Maximilians University*

**Summary:** Graduates of German medical schools have good theoretical knowledge but lack practical skills. In addition, more emphasis on "soft" skills, particularly communication has been advocated in the training of doctors. In response to these requests, the University of Munich has instituted a Longitudinal Course spanning 9 semesters. It starts in the 2 preclinical years with one afternoon each week and advances to an entire day per week during the clinical years. In the first 2 years, the course is centered on communications skills, structured history taking and physical exam, with a standardized presentation of the findings. In the first clinical semester, history taking and physical exam skills are intensified, psychosomatic - and evidence based medicine are introduced. In the second and third year, emphasis is on palliative and on ambulatory care. The University of Munich is the first German university to introduce a compulsory 2-semester palliative care course for medical students, which has already won the University Award of the International Association of Hospice and Palliative Care in 2003. The ambulatory medicine course uniquely combines specialty clinics at the university hospitals with regular visits to general practitioner's offices. The individual student remains attached to the same general practitioner for the entire 2 years. The aim of the course is to teach the students to develop differential diagnoses within a short time frame utilizing diagnostically and economically reasonable means suitable for ambulatory care and to outline a therapeutic plan.

### **A Medical Education Program for Medical Students**

**Keywords:** *curricular reform, medical students, medical education*

**Authors:** *Baschnegger, H.; Peters, A. S.; Christ, F.; Aretz, H. T.*

**Institution:** *Ludwig Maximilians University. Harvard Medical International*

**Summary:** AIM: Ludwig Maximilians University (LMU) and Harvard Medical International (HMI) formed an Alliance for Medical Education in 1996. To increase the momentum of the curricular reform at LMU they created a special program for students, Introduction to American Medicine and Medical Education. Methods: Each year 10 of LMU's best final year students are enrolled at Harvard for 6 months. In addition to clinical electives the special program is held one afternoon per week as well as during two entire weeks. It covers learning theory, tutor training;

case writing; lecturing and bedside teaching skills; feedback; student and program evaluation; course design; academic leadership; patient-doctor communication; palliative care and evidence based medicine.

Results: After graduation, 44 of 65 former program participants stayed at LMU. They have participated in core course planning groups, as case writers, tutors and instructors. Moreover, the class of 2001 developed a course to teach and reinforce skills in interviewing and examining patients. The class of 2002 designed a course for ambulatory care. In 2003 the students came up with a reform of the final year of medical school. All three concepts have been implemented at LMU.

Conclusion: Due to a change in German law all universities had to reform their curricula by fall 2003. LMU started this process ahead of time with the help of HMI and its own final year students. We found it extremely helpful to train final year students in medical education. Their expertise, enthusiasm, and manpower helped to design and implement LMU's new curriculum.

## Problem-based learning in epidemiology and statistics undergraduate education

**Keywords:** *problem-based learning, blackboard, case-based learning*

**Authors:** *Van Achter, S.*

**Institution:** *VUB*

Summary: EPISTAT is a student-centred and competency-based way of approaching Epidemiology and Statistics undergraduate education and assessment. Problem-based and Case-based education is combined with classical ex-cathedra sessions and exercise sessions to create a powerful learning environment. Students are asked to work in small groups on 1 case, which is 1 research design. Within this case, students are confronted with real-life problems to guide them through the case. 1 dedicated tutor per group of students gives additional support. In the end they will have finished a 'mini-research' on 1 topic. Last year's topic was 'Is laughing healthy?'. Every part of EPISTAT has a specific function. Ex cathedra sessions are used to give students basic information about Epidemiology and Statistics. It is our intention that students will use this basic knowledge, working on the case and the problems. Exercise sessions are used to explicitly train specific skills not treated in the small group sessions. This integrated approach served our main goal, which is to train students to be critical towards research papers and articles using Epidemiology and Statistics competencies.

## Workshop of Biotechnology, A model for improving the curriculum of medical course: A beginning for training physician-scientists

**Keywords:** *medical students' curriculum*

**Authors:** *Ghasemi, M., Vaezi, A.*

**Institution:** *Medical University of Isfahan*

Summary: Acquainting medical students with biotechnology through workshops and also physician-scientist-training programs began many years before in developed countries. Medical students' participating in scientific activities, having both basic and clinical views and solving patients' problems by the use of laboratorial techniques are some of the advantages of such programs. A biotechnology workshop was held with 15 medical students at Isfahan University of Medical Sciences in the summer 2003, for 7 days. All these students passed biology and were members of Talented Students Office. It was planned for five hours a day. Theoretical class and laboratorial work. At the end, students answered 86 questions in Likert's scale about 6 main subjects: knowing anything about biotechnology before, it's plans and contents, it's results, the relation between medicine and biotechnology, their own professional future and satisfaction of

workshop; And also one week later 5 students expressed their ideas about the workshop through qualitative analysis and interviews. The workshop seemed quite satisfactory. Although they knew the main subjects before, it was an opportunity for them to get acquainted with applied subjects of biotechnology. Holding other workshops about basic sciences was one of their requests and they believed that they could participate in science progression in future. Acquainting medical students with basic sciences, especially biotechnology can interest students and also prepare creative physicians who can recognize the relation between basic sciences and clinical findings, moreover, scientists who can take clinical ideas to basic sciences' departments; therefore planning comprehensive educational programs for medical students is necessary.

### In the Name of God

**Title:** *Workshop of Biotechnology, A model for improving the curriculum of medical course: A beginning for training physician-scientists.*

**Authors:** *Ghasemi M., Vaezi A.*

**Introduction:** Enrichment of medical students' curriculum has been studied from many different viewpoints. Acquainting medical students with biotechnology through summer workshops and also physician-scientist-training programs began many years before and have continued till now in developed countries. Medical students' participating in scientific activities, using clinical views in laboratory, having both basic and clinical views and solving patients' problems by the use of laboratorial techniques are some of the advantages of such programs.

**Methods:** A biotechnology workshop was held with 15 medical students at Isfahan University of Medical Sciences in the summer 2003, for 7 days. All these students passed biology and were members of Talented Students Office. It was planned for five hours a day. One-hour theoretical class and four hours laboratorial work. At the end, students answered 86 questions in Likert's scale about 6 main subjects: knowing anything about biotechnology before this workshop, it's plans and contents, it's results and effects, the relation between medicine and biotechnology and its future, their own professional future and satisfaction of workshop. Four teachers and students confirmed face validity of the questionnaire, and also one week later 5 students expressed their ideas about the workshop through qualitative analysis and interviews.

**Results:** The workshop seemed quite satisfactory. Although they knew the main subjects before, this workshop was an opportunity for them to get acquainted with practicable and applied subjects of biotechnology. They recognized the present and future of the links between medicine and biotechnology. They thought that knowing about biotechnology subjects was necessary for medical students, especially for talented ones. They also thought that it would be better to have a laboratorial course about biotechnology in medical schools' curriculum. Although they like to continue their studies in clinical medicine more, but they believed that, their interest in biotechnology and research in this field and also their motives for studying were increased after this workshop. Holding other workshops about basic sciences was one of their requests and after the workshop they believed that they could participate in science progression in future.

**Conclusion:** acquainting medical students with basic sciences, especially biotechnology through practical workshops can motivate and interest students and also prepare creative physicians who can recognize the relation between basic sciences and clinical findings, moreover, scientists who can take clinical ideas to basic sciences' departments. Physician-scientists can be leaders of researches and education in future. Anyway, job opportunities are suggesting to students with especial and wide scientific and professional skills in future, therefore planning comprehensive and perfect educational programs for medical students of Universities seems to be necessary.

## Evaluation of a Biochemistry program for multiprofessional teaching in several Allied Health Sciences courses: evaluation by two cohorts of students towards curriculum improvement

**Keywords:** *Allied Health education; Biochemistry; Clinical Analysis and Public Health, Pharmacy, Cardiopneumology, Neurophysiology, Nuclear Medicine and Radiology.*

**Authors:** *Prudêncio, C. and Fonte, R.*

**Institution:** *Escola Superior de Tecnologia da Saúde do Porto*

Summary: The discipline of Biochemistry is included in the first-year curriculum of six courses of Allied Health Sciences: Clinical Analysis and Public Health (CA PH), Pharmacy (PH), Cardiopneumology (CA), Neurophysiology (NE), Nuclear Medicine (NM) and Radiology (RD). The educational approach is based on multiprofessional shared teaching, on classical lectures of basic biochemistry and practical sessions where the CA PH and PH students learn laboratory skills. A questionnaire was designed to evaluate the opinion of first-year students enrolled in the program concerning the main aspects of the discipline in two consecutive years, 2001/02 and 2002/03 in order to introduce educational improvements in this multiprofessional teaching. Students were asked about the level of their approval concerning the organization of the discipline, the role of the teaching staff and their pedagogical quality, the professional relevance of the program, the time/knowledge fit and the educational media. The aim was to identify problems and to introduce changes that might improve both the program and the performance of the teaching staff. The evaluation of the discipline in each of the two

years was positive for the majority of the parameters analyzed, improving in the second year using an action-research method. The students with different professional profiles revealed different opinions both on the pedagogical quality and the relevance for their professions. Nevertheless, no differences in the evaluation of the program positive/negative aspects were found among professional profiles. The open questions on the evaluation of the program indicate, as being the main positive aspects: the relevance of contents, teacher's quality, educational media and, as the main negative aspects: excess of contents, need for more practical sessions and reduced teaching time. The results emphasize the importance of action-research in assessing and improving a developing program in a basic discipline of the curriculum of allied health sciences courses.

### **European Credit Transfer System (ECTS) in the Faculty of Medicine of the University of Barcelona**

**Keywords:** *European Credit Transfer System,*

**Authors:** *Vallès, A.; Cardellach, F; Estrach, T; Torras, A; Fernández de Sevilla, M.; Salvador, R.; Algans, E.; Miró M.; Salvador, F.; Canals, M.; Vendrell, A.; Pujol, A.; García, A. Moya, V.*

**Institution:** *Facultat de Medicina. Universitat de Barcelona*

**Summary:** Objective: To describe the current teaching load in our Faculty of Medicine in terms of ECTS, through an analysis of the hours that our students spend on every subject during the second half of 2002-2003. Material and Method: We selected 10 students who recorded the time (hours) used to guarantee the attendance to scheduled classes (theoretical and practical) as well as that needed for non attending workload (non-solved problems, homework, book-notes, search of bibliography, etc). The number of invested hours in each subject was grouped in: attending lectures, practical classes, mandatory reading books, individual and grouping mandatory requests, information pick up and individual learning. For each subject we describe the number of ECTS (25 work-hours for the student) and compare them to the current number of official credits (10 class hours given by the professor). We collected information from fundamental subjects (1st to 6th years). Results: 1) In the 75% of our present subjects, ECTS do not exceed to those current assigned. 2) Our teaching activity in each semester does not exceed to european guidelines, but its distribution is irregularly distributed among the different years. 3) In the 5th year we found a strong coincidence between our current credits and ECTS, although the distribution between semesters is not balanced.

### **The quality of pharmacology teaching is an strategic objective in medical education**

**Keywords:** *pharmacology education quality assessment*

**Authors:** *Ramirez-Gonzalez, M.D.*

**Institution:** *Universidad Nacional Autónoma de México*

**Summary:** The quality of pharmacology teaching is an strategic objective in medical education. María Dolores Ramírez-González. Departamento de Farmacología, Facultad de Medicina, U.N.A.M. (mdrg@servidor.unam.mx) This work contains an analysis on the institution mechanisms related to assure the learning and the quality of the learning of pharmacology as the foundation of pharmacotherapy. The main findings of a 15 years retrospective study indicate that: 1) the assessment of pharmacology learning is limited to the use of written exams integrated with multiple choice questions mostly aimed at addressing the short lasting rote memory; 2) The teaching load relies on one or more professors who are not directly responsible of the evaluation of learning; 3) The internal regulations of the institution may contribute

to grade inflation in as much as they contribute to increase grades by mechanisms not related to learning; and 4) The medical curricula is strongly academic but makes no emphasis on the achievement of essential skills such as drug prescription, a fundamental issue for a competent design of drug related treatments. A proposal for the assessment of quality and quality control of the education process based on the total quality control method is presented with six basic steps for reengineering of the education process. The importance of this approach relates to the fulfilment of standards of quality and the world wide criteria for certification and accreditation of medical schools and their graduates, as well as with the professional performance of physicians when prescribing drugs to patients.

### **Comparative analysis of pharmacology teaching in four medical schools of two mexican institutions**

**Keywords:** *pharmacology teaching medical curricula*

**Authors:** *Ramirez-Gonzalez, M.D.; Valdéz-Hernández G.; Jayme-Ascencio V.; and Rubio-Poo C.*

**Institution:** *Universidad Nacional Autónoma de México*

**Summary:** Comparative analysis of pharmacology teaching in four medical schools of two mexican institutions. María Dolores Ramírez-González, María Guadalupe Valdéz-Hernández, Victoria Jaime-Ascencio and Consuelo Rubio-Poo. In the last three decades there was an accelerated increase in the number of Mexican medical schools with the obvious consequence of the use of different curricular designs. Pharmacology as a basic science for pharmacotherapy is taught in every school but the pedagogy model as well as the didactic strategies are significantly different. In this work we analysed what and how pharmacology teaching occurs in the three medical schools affiliated to the National Autonomous University of Mexico (UNAM) and in one medical school of the Metropolitan Autonomous University (UAM). One important difference detected relates to the overall view of medical training being more oriented towards preventive medicine and community service at UAM using an integrated and integrative modular design: teaching of pharmacology and therapeutics occurs along the last four years of medical school. At UNAM, pharmacology teaching is oriented by therapeutic indication following epidemiology trends. Two of the three medical schools have a modular design through the last five years of medical studies whereas in one school there are two courses with a discipline-oriented syllabus for second (general pharmacology) and third year (therapeutics). We conclude with a proposal of medical curricula to include teaching of basic and clinical pharmacology throughout the entire process of medical education considering that drug prescription is one essential skill practising physicians must perform in their daily practice.

### **The curricular change in nursing studies at the Escuela Universitaria de Enfermería Vall d'Hebron (EUE)**

**Keywords:** *the strategies, for the implantation of Problem-Based Learning (PBL).*

**Authors:** *Blanco, R. Juanola, M Dolores.*

*Llompert, M Pilar. Fornos, Josefina. Zapico, Florentina*

**Institution:** *Escuela Universitaria Vall d'Hebron*

**Summary:** Objectives: To describe the strategies for the implantation of Problem-Based Learning (PBL).

**Methods:** In the academic year 2001-2002 a pilot experience was carried out with PBL methodology. We worked with 3 situations during 9 sessions of 3 hours. Knowledge, skills and attitudes were evaluated. The results showed a high level of satisfaction for both students and teachers. The teaching staff implemented PBL methodology in the first-year studies in the academic year

2002-3; in the second-year studies in 2003-4; and in the third-year studies in 2004-5. A general assent of nursing competency was drawn up. Objectives of the learning process were also established, emphasizing the principles and concepts with which the first-year students should work with in an integrated form through 22 situations which reflect the most relevant health concerns in our community. As a back-up to PBL additional skills were programmed: information management and critical reading, communication and clinical techniques (30 weeks), plus 5 weeks of clinical practice in health centres. The programme took into account the students personal work time.

**Structural changes:** Tutors: Tutors were trained in order to facilitate the students self-learning process. Classrooms: Classrooms were modified and adapted to groups of 8-10 students. Laboratory Classroom: Free access for self-learning. Library: General amplification, including connections to electronic journals. Information Technology: A classroom with 22 computers connected to internet.

**Results:** Satisfaction was evaluated through a survey of 67 students. Results were: 9% excellent; 59.7% good; 25.3% acceptable; 6% unsatisfactory.

**Conclusions:** We have evidence that this change in teaching methodology implies an improvement in the formation of future nurses.

### Developing Interprofessional Teamwork and Facilitating Change

**Keywords:** *Interprofessional learning; Continuing professional development; teamwork; change*

**Authors:** Kane, G.

**Institution:** *University of Toronto*

**Summary:** Background: The delivery of radiation treatment for cancer requires the complementary skill sets of several different health professionals, including radiation therapists, physicists and oncologists. Recent technological innovations have had an impact on their learning needs, but also on the organization, function and dynamics of team members.

**Method:** These changes were explored in a qualitative study of a large multiprofessional radiation medicine program over a period of dramatic change. Descriptive data was collected in a series of focus groups and interviews, and analyzed using Grounded Theory methodology.

**Results:** Shifts in the relationships between the team members were noted. Forces for change were identified as 1) the technical nature of the innovations, 2) the professionalization of the technologists and 3) a deliberate change of organizational culture and hierarchy. Inter-professional learning activities that focused on problem solving and decision-making around issues directly related to patient care were identified as a means of change. Weekly quality improvement rounds had traditionally emphasized the physician perspective, but the innovations moved the focus to the technical issues, increased the involvement of radiation therapists and physicists, and helped team members learn about each other's roles, and appreciate the constraints and pressures that each profession faced. The rounds also provided an opportunity for reflection and examination of practice. Analysis of the longitudinal data yielded a four-step learning process, in which teams could critically reconstruct practice.

**Conclusions:** Team dynamics shifted as a result of several factors, and this change was facilitated by team activities that promoted inter-professional learning.

### Competency in Women's Health and the Medical School Curriculum

**Keywords:** *women's health care competencies; medical education, undergraduate*

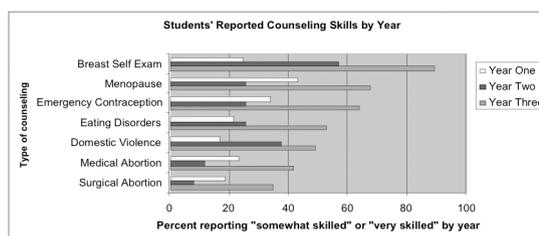
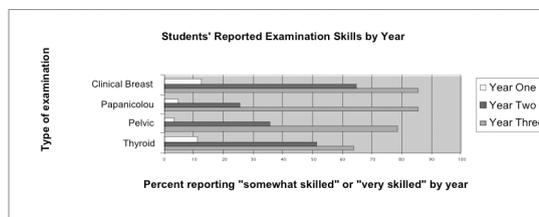
**Authors:** Ogawa, D. and Baillie, S.

**Institution:** *UCLA School of Medicine*

**Summary:** Background and Objectives: Recent studies have looked at the number of medical schools that include women's health in the curriculum. This study examined the effectiveness of one curriculum that includes women's health in training medical students with core competencies in women's health care.

**Methods:** Data were collected from students at the completion of their first, second and third year at one U.S. medical school and evaluated their knowledge, attitude and skills.

**Results:** A minority of students at the end of the third year felt skilled at being able to counsel patients on surgical abortion (34.6%), medical abortion (41.8%) and domestic violence (49.1%). A large majority of students felt skilled at performing clinical breast exams (85.5%) and speculum exams (85.5%). There was a statistically significant correlation between reported skill level and the number of patients seen with a given health issue, the number of times faculty observed them perform an examination or counsel a patient, and the number of times they received feedback on their performance for each skill set. More than half of the students who rated their competency "somewhat skilled" in pelvic exam (61.1%), Pap smear (59.2%) and thyroid exam (67.9%) reported that they had practiced at least six times. At the end of the third year 68% reported confidence in women's health, 60% reported adequate coverage of women's health in the curriculum and third-year students answered 77.2% of the knowledge questions about women's health correctly. One hundred and seventy one surveys (32.88% response rate) were collected.



### Comparison of medical educational standards in different countries

**Keywords:** *standards, outcomes, objectives, international medical education*

**Authors:** Mrouga, M.; Bulakh, I.

**Institution:** *Testing Board*

**Summary:** Globalization processes and increased mobility of people around the globe provide additional challenges to training of medical doctors. Many educational entities all over the world define outcome standards, competency statements, final objectives and so on to describe the doctor as a product of undergraduate medical program. Considering the similarity of ultimate goals of these documents, they might be expected to be similar or

very close to each other. However, this is not the case. The study presents comparison of State Standards for Medical Education (Ukraine), University of Dundee Outcomes (UK), IIME Global Minimum Essential Requirements in Medical Education (international project), AAMC Medical Schools Objectives (USA) and Catalogue of Learning Objectives (Switzerland). The study included analysis of structures and comparison of content.

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Harden, R.M., Crosby, J.R., Davis, M.H. & Friedman, M. (1999b) AMEE Education Guide No. 14 Part 5: From competency to meta-competency; a model for the specification of learning outcomes, *Medical Teacher*, 21(6), pp. 546-552.

### **Helping Faculty Facilitate Team-based Learning**

**Keywords:** *Self-authorship, small groups, active learning, self-assessment*

**Authors:** *White CB, O'Neal C, Kumagai AK, Lash RW*

**Institution:** *University of Michigan Medical School, Ann Arbor, MI 48109 USA*

**Summary:** Purpose This workshop is to help participants understand emerging educational and psychological theory related to cooperative team-based student learning. This approach is designed to help students achieve self-authorship (Kegan, Magolda) and to help educators develop skills as facilitators of team-based, self-directed learning, rather than as leaders of small group discussions.

**Methods:** Workshop participants will learn principles for guiding learning, assessing performance, and developing self-authorship in student-led small groups. Using team-based learning techniques, participants will work through a series of exercises and receive pertinent information and resources.

**Results:** Highlights of successful small groups include:

- clear learning outcomes and expectations
- non-competitive interactions in a safe learning environment
- tasks suitable to learning outcomes
- individual and group accountability

**Conclusions:** One of the explicit goals of the educational program at the University of Michigan is to prepare students for a professional life in which they will make complex and often independent decisions that will affect individuals' lives. To this end, training is aimed at cognitive and interpersonal development that emphasizes "self-authorship," i.e., the development of one's own values and the maturation of thinkers capable of understanding (recalling a wide range of facts and concepts), analyzing (distinguishing facts from inferences, evaluating the relevancy of data), and synthesizing (organizing and integrating data from different sources) information. This approach involves treating students as adult learners, encouraging use of the students' own experiences in the learning process through reflection and discussion, collaborative learning by students and faculty, and student responsibility for learning, teaching and self-assessment.

### **Design and Implementation of Communication Skills Programs: Resolving Issues and Problems**

**Keywords:** *communication programs, design, implementation, resistance*

**Authors:** *Suzanne M Kurtz; Cindy L Adams; Lara Cooke*

**Institution:** *Faculties of Medicine and Education. University of Calgary, Department of Population Medicine, Ontario Veterinary College. Department of Clinical Neurosciences, University of Calgary*

**Summary:** Design and implementation of communication skills programs: resolving issues and problems Kurtz, SM1, Adams, CL2, Cooke, L3. 1Faculties of Education and Medicine, University of Calgary, Alberta, Canada; 2Department of Population Medicine, Ontario Veterinary College, Guelph, Ontario, Canada; 3Department of Clinical Neurosciences, University of Calgary, Alberta, Canada. This workshop will be a forum for those designing or beginning to implement communication skills programs at undergraduate or postgraduate levels of training. We invite participants to think ahead and bring with them selected issues and problems from their own experience to which the workshop participants and leadership will respond collectively. This workshop is intended to be highly interactive. Issues will be defined and prioritized in the first third of the workshop. Working from the group's knowledge and experience, the rest of the time will be spent discussing alternative ideas and suggestions for resolving the dilemmas participants have identified. The leadership of this conference have vastly different experiences in setting up communication skills programs, including a communication specialist who has championed the design and implementation of such program in medicine for the past 28 years, a social epidemiologist who has set up the first veterinary communication skills training program in veterinary medicine (communication skills training is not readily accepted in veterinary medicine), and a 5th year neurology resident who has designed and implemented a communication skills program for residents over the past year. Anticipated topics include: how to begin a program, getting administration and faculty "buy in", responding to doubters and resistance, faculty development, working with simulated patients (simulated clients, in veterinary education), funding, assessment and evaluation, content and frameworks for such programs and maintenance.