Training Tomorrow's Scientists

PP-015

MOOC TRAINING?: A WAY FOR CONTINUING EDUCATION OF FAMILY MEDICINE

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Background: Massive open online courses (MOOC) is a web-based application to transform the whole world into a school environment. In this way, the quality of education could be raised without discrimination. In 2018, 66 Family Practitioners and trainees attended the "Improving Global Health: Focusing on Quality and Safety" program simultaneously. The goal was to benefit from visual and written education tools from different countries and different age groups. The aim of this study is to evaluate the benefits and/or educational needs after this MOOC.

Materials and Methods: Sixty-six family medicine practitioner and trainees were the universe of the study. Due to the international participants; the survey was conducted in English online to the group.

Results: Twenty-seven participants have answered the survey. Most of them were female (70.4%), young family physician (92.5%) and haven't attended to any MOOC course before (63%). The age of the participants were min:31years max:49 years. They do want to attend the upcoming MOOC courses. Only 2 of them didn't have any opinion about the contribution of the MOOC courses to primary care services. They feel that group activity is much more beneficial because they wouldn't be faster, more interested in or motivational. One of the half structured qualitative survey answers was "although I would enjoy a face to face work, this course is the opportunity to include countries that today are in crisis and it would be impossible to face the cost of education under another modality".

Conclusions: Well defined and structured MOOC could be more beneficial with motivational group dynamics. This option qualifies the health and health education.

Key words: quality, education, online courses, family medicine, quantitative

PP-016

ANALYSIS OF A FREE-CHOICE ELECTIVE COURSE 'WHAT WILL HAPPEN WHEN YOU GRADUATE FROM MEDICAL SCHOOL?'

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Background: Manisa Celal Bayar University Faculty of Medicine Preclinical Elective Program was introduced in 2010 for broadening the learning of its undergraduate students. The medical elective course evaluated herein is named as 'what will happen when you graduate from medical school?'. The purpose of this study is to analyze medical student's ideas with a view of better understanding the factors that influence their choices and their needs.

Materials and Methods: In this preliminary study, 12 medical students' feedback forms who took the elective course in year 2017-2018 were evaluated retrospectively. The forms evaluated had demographic questions, a question about why this course was chosen, and 5 likert type questions.

Results: Five Male and seven female students, 6 first year and 6 second year students filled in the forms. All Participants indicated that the elective to include first and second year students in the same class made a contribution in interactivity. Participants described that they are happy to take the course from the professor giving it, the course day and hour is appropriate, and the course contributed to a great extend for medical education and afterwards.

Conclusions: Our investigation revealed that medical students tend to focus on usefulness of the topic and the professor giving it. Students have an interest in the subjects such as future of Medicine, communication, sign language and robotics etc. We believe free-choice elective courses are necessary, good for communication in small groups and topics with student interest need to be included in the programs.

Keywords: Medical students, Undergraduate, Elective program, Elective choices, Student motives

PP-017

GRADUATE EDUCATION AT KOÇ UNIVERSITY GRADUATE SCHOOL OF HEALTH SCIENCES (GSHS): AN EMPHASIS ON REPRODUCTIVE MEDICINE

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Background: As graduate education is considered, each discipline may need a different type of educational approach for the accomplishment of successful outcomes. The objective of this informative revision is to reveal a variety of approaches in education and training at Koç University GSHS, with a closer look on reproductive medicine programs. **Overview:** KU-GSHS has 12 programs, including the joint ones, and there are MSc and PhD programs related to area of reproductive sciences. MSc for reproductive biology was started in 2011 and PhD for reproductive medicine was implemented in the year 2016.

Management: For MSc program, candidates from biological sciences (biology, molecular biology and genetics, bioinformatics and genetics) and for PhD training students that have a prior education in a variety of biological sciences (medicine, MBGE, histology & embryology, etc) are selected. The programs accept students only for full-time positions, and tuition fee is covered by grants or the institute. The students are responsible for active involvement in development and maintenance of research projects. The didactic curriculum covers a wide range of specific topics (basics of reproduction and IVF). Students can also take all types of courses given at the institute. Hands on trainings include wet lab techniques (cell culture, molecular techniques, advanced microscopy) and specific techniques related to IVF area (gamete and embryo manipulation, micromanipulation, 3D cultures systems). Graduates are able to find post-doc positions in reproduction area. Specific hands on trainings, enable them to be accepted for clinical embryology programmes in institutes throughout the world.

Conclusion: Graduate education occasionally may involve a major "hands on training" approach, rather than didactic approaches.

PP-018

APPLYING TEAM-BASED LEARNING FOR THE INTEGRATION OF BASIC MEDICAL DISCIPLINES ON TOPC "THE CELL:" A PILOT EVALUATION

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Background: Team-based learning (TBL) is a structured method of small group learning that can be implemented for a variety of purposes. TBL has become widely applied in medical schools and its use is typically limited to certain courses or parts of courses. In our study, we applied the TBL for a different purpose: integrating and reviewing the main concepts about "the cell", learned within a basic medical course.

This presentation describes the experience on applying TBL at the end of the semester course, "Scientific Basis of Medicine", dealing mainly with the cell and cellular activities as a pilot study. The course was held for the first year students of the School of Medicine of Izmir University of Economics, during the 2017-2018 fall semester. This medical school admitted its first students in 2017. The new undergraduate medical programme, developed collaboratively by faculty from the different fields of basic and clinical medical sciences involves interactive lecturing and other student centred activities within an e-learning ecosystem as its main learning and teaching strategy. One of the student-centred activities is the TBL.

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To determine first learning experiences with team-based learning (TBL) at Izmir University of Economics, School of Medicine. Within this aim, the following objectives were formulated:

- 1) Apply TBL for integration and review of the concepts and principles related to the Cell
- 2) Assess the students' view of the TBL activity
- 3) Compare the effectiveness of Group readiness test versus Individual readiness test
- 4) Evaluate the whole activity and draw conclusions on how to make it more effective

Materials and Methods: This pilot study involved 35 (out of 38) students of the first-year medical school. The trainers were six faculty from the disciplines of Medical Biochemistry, Histology and Embryology, and Medical Biology, and the TBL topic mainly involved "the cell".

This activity was planned complying with the main strategies and methods of a TBL activity, with some modifications, involving whole group discussions and feedback. The applied activity comprised the following steps:

1. **Individual Readiness Test:** This test was taken by all students individually.
2. **Group Readiness Test (Working in Teams):** The class was assigned into 8 groups; the groups discussed the questions again, this time within the teams, and took the same test all together.
3. **Discussion of the answers with the trainers (Whole class):** The correct answers were discussed all together (Whole class)
4. **Application Exercise:** Vignettes (short clinical cases involving the information given during the whole course) were discussed within the 8 groups (teams).
5. **Discussion of the vignettes all together** (whole class, with the trainers)
6. **Feedback:** Oral and written feedback was received. The written feedback forms were structured with open ended questions. 22 Students out of 35 (63%) filled-in this questionnaire.

Results: According to the results of the questionnaire and the oral feedback, the students had a positive experience with TBL and found it valuable and worthwhile. Students enjoyed working in teams. The main issues appreciated were: Discussion within the teams, repeating what has been learned, filling out tables, reviewing, and brain storming. The suggestions of students to the question "What could be improved for the next time?": were as follows: "maybe we can choose our groups", "we need more time to answer the questions", "easier cases for the application exercise would be more helpful", "filled-in tests could be returned to us". Students found both the "individual" and "group readiness tests" useful, though there was more interest in the "group readiness tests". The application exercise was found to be useful by 90 % of students who answered. Comparing the results of the Group Readiness tests with the results of the individual readiness tests, it was found that there was, on the average, %80 increase in favour of the Groups Readiness tests.

Conclusion. TBL is an effective teaching strategy to simulate the reality of health professions where practitioners are required to work in a team. The results of this pilot study suggest that TBL has an enhancing effect on the students' learning outcome. Further investigations are needed to confirm these results. We suggest that TBL can be used to integrate/review the concepts/ information learned and enhance the learning process. TBL could be offered more frequently both in basic and in clinical courses of a medical curriculum.

PP-019

3D MODELING FOR REALISTIC TRAINING AND LEARNING

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Background: Three-dimensional reconstruction and modeling techniques based on computer vision have shown significant progress in recent years. The rapid development has created a new learning and teaching tool for medical education. Patient-specific models, which are derived from the imaging data set and are anatomically consistent with each other, are important for the development of knowledge and skills.

As 3D printing technology evolves and costs fall, there will be a choice of material and printer options for the weight of the original model and full color printing. Thus, models compatible with anatomical structure and tissue will be created.

3D modeling and importance

3D printing has emerged as an innovative way to help surgeons implement more complex procedures. Some anatomical variations and pathological changes in the clinical tables, where postoperative complications are common, make the problem more complex, challenging and patient specific. In addition, the disease process and the condition of the disease cause the disease to vary in different individuals. In this case, it is important that physicians are trained by techniques that remove the limitations of current training modalities. Recent studies have shown that 3D modeling is a powerful tool for pre-operative planning, proofing, and decision-making. 3D models have excellent potential for alternative interventions and surgical training on both normal and pathological anatomy.

Results: 3D printing is an attractive, powerful and versatile technology that has the potential to be accessible to those interested. Patient-specific models can improve performance and improve learning faster, while improving the knowledge, management and confidence of trainees, whatever their area of expertise. Physical interaction has proven to be the key to gaining the necessary motor skills for surgical intervention.

Key words: 3D printing technology, medical education, learning, surgical training

PP-020

CHALLENGES RELATED TO THE EDUCATIONAL MODELS APPLIED IN MOLECULAR MEDICINE EDUCATION IN DIFFERENT UNIVERSITIES

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Although Molecular Medicine existed since the beginning of Molecular Biology, i.e. the mid of the last century, it experienced a kind of a "revolutionary" development and elaboration in the last decade. Beside the pioneer university that teaches this discipline at undergraduate and graduate levels, the number of universities offering the course increases annually however there is a relative difference in curricula offered by each institution. One of the landmarks in this type of education in Europe is the ORPHEUS network of universities. Beginning was in the provision of biological knowledge related to medical education which ended later into an independent discipline of science.

This is a qualitative analysis work. Here, we will highlight and discuss the potential impact of the acquisition of the molecular medicine students from other institutions on the teaching experiences and quality of knowledge acquisition. Among these experiences are; the use of the 3D models to describe 2D biological and biochemical structures and pathways, learning of developmental biology, molecular diagnostics, genomics and personalized medicine curriculum development, lessons learned from the teaching of cytology in European institutions and the integration of the non-invasive molecular imaging into molecular medicine.

The lessons derived from these experiences can help us to further develop or enhance the capacities related to the teaching curricula taught currently in part to be more effective.

Keywords: molecular medicine; education; educational models