

during the year of peer-education (2013/14), students' exam performance improved significantly by 2.60% ( $P < 0.05$ ) in the second semester when compared to first semester. Therefore results show that the students who underwent peer-teaching performed better in examinations than those who were taught through conventional teaching techniques.

**Conclusion:** Although many factors need to be taken into account when comparing teaching techniques, the introduction of peer-teaching coinciding with improved student performance is a finding that should not be overlooked.

The use of immunotherapy for the treatment of canine cancers following surgery

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**Introduction:** With approval from the Animal Welfare Council, this research aims to create vaccines directed at specific tumours using dogs' own tumour antigens, which are retrieved in the laboratory from the excised tumour. The hypothesis is that when these vaccines are administered in conjunction with another vaccine (the 7-in-1), they encourage the dogs' own immune system to mount an immune response against the tumour antigens given in the vaccine, and thus against the tumour itself.

**Methods:** The primary tumour is removed surgically and tumour tissue is taken from it as the source of tumour antigens. The tumour tissue is exposed to both microwaves and enzymatic digestion for antigen retrieval in the laboratory, and filtration sterilization is used to obtain the final vaccine. The vaccine is then administered to the dog with informed consent from the owner, and the dog is monitored for signs of progression of disease or recurrence.

**Results:** Results so far have not shown any serious side effects, and no recurrence of tumours has been reported as the dogs continue to be followed.

**Conclusion:** This study may provide in future, a relatively safe option for fighting tumours using a specific, personalized and relatively economical method to control tumour spread and recurrence.

**Disclosure:** This research is carried out with approval from the Animal Welfare Council.

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### Are medical students getting better at passing examinations in the basic medical sciences?

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**Introduction:** The aim of this study was to investigate the examination success rate of local and international students in the biomedical sciences.

**Methods:** The anonymized actual exam results of each study unit in the first and second years were obtained from SIMS for four academic years from 2010/11 to 2013/14. The average marks and number of failures per study unit were analysed by nationality.

**Results:** The average mark for all students in all study units between 2010/11 and 2013/14 was 61.6% (SD 8.1), with no significant difference between Years 1 and 2 over the study period. The average mark in the practical exam which covers only anatomy was significantly higher at 68.9% (SD 8.7). The average Year 2 practical mark was almost 6% lower than that of Year 1 reflecting the greater difficulty of the examinations. Students fared best in the respiratory and renal systems, and worst in head and neck and neuroanatomy. The proportion of students failing any exam halved between Year 1 and Year 2, reflecting the maturity of students. Local students fared significantly better than international students in most subjects as the mean number of local students failing any exam in any year was 16 versus 66 for international students.

**Conclusion:** The ability of medical students to successfully pass biomedical sciences examinations did not change significantly between 2010/11 and 2013/14. However, international students fared significantly worse, suggesting that language, cultural adjustment and psycho-social issues still need to be addressed.

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### Attitude of Medical Students Towards Game-Based Learning of Anatomy

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**Introduction:** Game-based learning has come to prominence as new tools are now available to aid students learn and memorize concepts for a variety of subjects. Games are known to add fun to the process of learning while promoting understanding and retention of the subject. The purpose of this study is to survey attitudes of medical students towards gamifying the learning and recall of anatomy.

**Methods:** An anonymous questionnaire was circulated online to all Year 1 medical students at the University of Malta in 2014/15.

**Results:** 35 students responded (18%), of whom 25 (71.4%) were female, and 25 (85.7%) were local. Just over half (52.4%) had ever used games while studying anatomy, but in the majority of cases, the games were simple flash cards (81.2%). Among the majority of respondents (83.3%) who agreed that games are beneficial to student learning, 76% preferred quiz style games to help them in their studies. The vast majority of Year 1 medical students surveyed felt that games could be useful for testing existing knowledge (97.6%) as well as for teaching new concepts (88.1%).

**Conclusion:** Anatomy is a visual science, which encourages the use of game-based learning. The use of serious games for learning and recall of anatomy is perceived as valuable by medical students at the University of Malta. Our next step is the local development and testing of a game to provide an effective learning solution in the context of the current educational environment.

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### Learning anatomy through "Peer Teaching" in medical school: a literature review

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**Introduction:** Medical schools in the twenty first century, have undergone drastic changes in their teaching methodologies worldwide, more specifically in the teaching of anatomy. The main goal of any educational institution is the transfer of knowledge from educator to student in an effective manner. This review attempts to bring together the different teaching methodologies used in medical schools in this new era. Medical institutions have a wide variety of different approaches in teaching anatomy. Tradition dictates that cadaveric dissection and prosected specimens are the gold standard in providing medical students a solid foundation upon which they can build their knowledge and understanding. However, some medical schools use other educational tools, such as anatomical models, computer programs and medical imaging. Moreover, the recent introduction of non-conventional teaching techniques such as problem based learning, encourage cognitive thinking, teamwork and professionalism. Peer teaching is an innovative way of education, and its success is thought to lie in cognitive congruence; having shared learning experiences and capabilities, cognitive congruence allows students to ask questions in confidence and make any clarifications, without fear of being judged. Other advantages include, enhanced teamwork and communication skills, for both the peer teacher and the students being taught.

**Conclusion:** When viewing the whole spectrum of teaching tools and learning techniques, there are none that appear to be more superior to others, but rather that they should be used in conjunction with one another, in order to enhance learning.