

Research abilities in Medical Education: Aims, design and outcome evaluation of a core course in “Biomedical Research and New Technologies” at University of Valladolid.

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That Medicine is sustained on research-generated knowledge seems an obvious statement. However, the figure of “*Physician+Researcher*” so well accredited in other countries, is still far from being fully recognized and institutionally promoted in the Spanish Healthcare System.

The course “Biomedical Research and New Technologies” is part of the required courses taken during the second year of Medical School at University of Valladolid. Its global aim is to provide Medical Graduates with a solid education in biomedical research, focusing on practical research abilities to be applied, first during their undergraduate years (either as Research Interns, many times associated to Physiology Departments, or in their “End-of-Degree Project”), and later during their ongoing education as Medical Interns.

The course covers general concepts in research, its methods, and evidence-based medicine. It also covers practical abilities in data mining, critical analysis and communication of research results, critical appraisal, use of reference managers, image analysis, and quantitative data analysis.

In addition to regular evaluations of students learning process, our Teaching Team is carrying out an “Innovation in Teaching Research Project” to assess the long-term impact of this course in Medical graduates. We designed a series of web-based screening tools to evaluate (i) the appreciation of research by students, (ii) their use of research-related tools, and (iii) their competence in research-related tasks. These three domains are explored before they take the course, during their 6th year of Medical School, and during the 1st year of Medical Internship.

We are collecting a longitudinal series (2015-2018), covering graduates from the previous academic program, not including formal education on research, and graduates from the new system. Our exploration of Medical Interns has started in the two Valladolid University Hospitals, but aims at exploring other Universities to compare the outcome of diverse academic programs.

The results obtained during the first two years of our longitudinal analysis depict a very interesting scenario. Students entering their second year of Medicine show quite a high interest in research, while those graduating from the previous academic program reveal important deficiencies, both conceptual and ability-related, revealing needs that were not covered in their education.

We can conclude that the effort to introduce courses of this type, where formal education on research is undertaken, is worthwhile and can help significantly to the generation of Medical Doctors with a solid research education, with the foreseen beneficial consequences for the quality and excellence of our Healthcare System.

Keywords: biomedical research, education outcome evaluation, training in research abilities

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