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Letter to the Editor

How Medical Students Attending Italian Schools of Medicine Maybe Introduced Into the Debate of the Expert Community? An Educational Perspective

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Dear Editor-in-Chief

Although in Italy any School of Medicine is prompted to introduce students into the highly structured system of scheduled courses and trainings with equipped tutorials (1), undergraduate medical students are quite never introduced into the scientific debate of the expert community, i.e. how to read and write a scientific paper (2), and therefore they are poorly educated to use the scientific literature for their job and progress training. Usually, only graduated students are invited to read specialistic literature, despite for some exception during the medical course, when skilled aged students, approaching to the degree, are recommended to read scientific reports for their thesis. However, these students are rarely trained to address a scientific manuscript, so often they are not used to manage a scientific paper for their specific purposes and to perform a useful synopsis of the main focuses or draw a bullet point of the major issues.

A first concern is the full and thorough comprehension of what a scientific debate is and how to expand it. Controversy and discussion in medical sciences are fundamental attempts to enhance the impact of science on professionals and common people. "Criticism" in science fulfils its fundamental target when it enables peer discussion to expand the debate on the addressed issue and contributes to a renewal in the state of art of the topic. Experts are exposed in this controversy, as it is of public domain, but they arrange their debate within a defined ring, which is fundamentally represented by their publications. Yet, particularly in Italy, discussion may create a journalistic rather than a scientific debate (3,4). Actually, some physician or clinician prefers to address the debate out of the community arena, such as press, wide diffused media, or more often personal websites or disciplinary courts, rather than simply reply to raised comments within peer reviewed journals. In this respect, some professors are reluctant to address a reply to raised comments in the journal and prefer to solicit Editors to prevent publication or even to forward a complaint simply for having been discussed.

Questions are formidable weapons to fight against a routinary and barren academic life and surely educated students should give their fundamental contribution. The research community is composed of manifold talents and is much more complex and dynamic than expected, as science changes very rapidly, collecting novelties that continuosly reappraise its state of art and expertise. In this sense, it involves the overall community, rather than single individuals.

In addition, students should be educated to the concept of an "expert in the field".

Experts should be represented by people actively working in a scientific and/or academic context on one or more interrelated fields who have extensively published on reference journals. Editors of

specialized scientific journals in the biomedical area may consider an author as an "expert in the field" on the basis of the bulk of reports shown on public databases such as Pubmed. Very rarely journals welcome Letters to the Editor or Commentaries or other Correspondence, as unsolicited contributions, if the corresponding author is not considered an expert, as space constraints hamper the possibility to publish a comment on the journal if the latter does not come from an authority in the field, particularly if the comment is reported by a single author.

The way how a debate should be addressed by members performing the discussion is a fundamental hallmark or a hot topic of the educational training performed with students. However, in Italy this may generate a certain misleading attitude and preference in addressing scientific argumentations with the disciplinary language of courts, rather than the fair policy of a democratic peers discussion. Debate may be endowed with terms such as "personal attacks", "offense", "defamation", particularly for high disputable topic, such as alternative medicine, or when the expert feels that he cannot arrange any good reply to raised comments, so reporting terms such as weak minded, narcissist, pathologic, too much autonomously conceived, and so on. Tutorials of students must teach attendants the proper and more polite way to address a scientific debate and how manage the latter within the scientific community.

If a need in educated students to the polite and democratic debate should appear of utmost importance, High Education Indexes (HEIs) should be revised by taking into account the contribution of a crowded and renewing parley in the scientific and research field, rather than "static" metrics such as amount of results, students, researchers, funds, awards and publications. HEIs are not fitted to evaluate properly any "intellectual fuel" for scientific novelties and technological patents. Any School of Medicine should create new algorythms to verify students' skills in a sort of proficiency test for scientific reading and writing, the ability to participate to the scientific debate, to address problem solving and reporting in a possible scientific communication and so forth (5). This dynamics should be tested for tutors and teaching members, i.e. how and how much they are able to create and manage a debate on a scientific ground with undergraduate attending students. HEIs needs to be reappraised, therefore, by "dynamics tools" provided to investigate the contribution of parleys and conference occasion to the excellence of the School of Medicine.

The proposal should deal with the invitation to experimental research language and scientific publication just in the first years of the academic degree, in order to educate students to medical research and its meaning for the commonest people. They should be fully involved in the renewal of the scientific debate within any School of Medicine and encouraged to attend as early as possible the practical activity performed within research laboratories and clinical units, a concern particularly felt in the Italian health system (6).

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