

Are there hard boundaries between teaching and learning biomedical informatics in the twenty-first century?

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Abstract

Introduction: An educational transformation of academic teaching is ongoing, with lecture-based approaches being replaced by problem-based or team-based learning, flipped classrooms, or active and collaborative learning. Blending on-line materials with in-person meetings is no longer seen unusual even for the most conservatory faculty members. Our team began combining different teaching and assessment methods a few years ago and the first two-year cycle with separate courses for biomedical informatics and biostatistics in the medical curriculum has just ended. A two-fold analysis was conducted: students' performance on the one hand and teachers' perception on the other. *Methods:* Students' assessment scores were scrutinized for different examination components (collaborative projects, practical skills testing, multiple-choice questionnaires) for both courses, one course at a time and in combination, trying to find whether a workable connection existed between the two. Apart from personal collegial feed-back received during the academic year, and peer review of the teaching and assessment approaches, anonymous questionnaires were used to further probe teachers' opinion. *Results:* Analysis included ~400 students, the examination scores proving a good coordination between courses' syllabi and assessments. In the 13 questionnaires from teachers (6 and 7 for biomedical informatics and biostatistics, respectively), the overall mark for the last year's teaching experience ranged between 7 and 10, with various sources of frustration (e.g. general medical curriculum, course syllabus, evaluation approaches). When asked about the level of intelligence, interest and motivation of the students they had worked with, most teachers described them as "average ability students" (10 out of 13 answers). Analysis also included queries about the methods actually employed in class and perception of different levels of support received in activity. *Conclusions:* While the teaching-learning edges are obviously blurred, changing academic education needs a bidirectional endeavor and a multi-stage undertaking to help teachers actually meet their disciples.

Keywords:

Education; Medical Information Science; Active Learning; Teaching Methods; Educational Techniques