

## **Using the internet as a reliable educational environment to promote active-, student-centred and team-learning in biomedical sciences**

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The internet is becoming an increasingly powerful tool in biological and biomedical sciences. As knowledge increases, students are challenged to acquire the skills to retrieve useful, updated and reliable information from the web. This presents opportunities to launch educational activities focusing on Biochemistry that are student centred and interactive. By encouraging self-directed learning, internet-based activities promote student confidence and stimulate team working.

We will discuss two of such activities that are applied in our Medical School:

1-An instructional approach in which students learn hormone/vitamin mechanisms of action in gene regulation in various organ systems with the acquisition and practice of bioinformatics skills and data bases (PubMed, ISI Web of Science, Blast, OMIM, GeneBank) as parte of learning of the Endocrine system (1).

2-An activity in which students learn about the composition of the extracellular matrix, highlighting the relation between the structure/function of a particular extracellular matrix component with a characteristic feature of a disease related to that component. The students use internet resources (PubMed, Google, OMIM) to learn about the Biochemistry of the Muscle-Skeletal system.

These are two examples of educational activities positively evaluated by both faculty and students, who recurrently recognize the contribute of the interactive nature and of the relevance of team work for a successful outcome.

(1) Sousa JC, Costa MM, Palha JA. 2007c. Hormone-mediated gene regulation and bioinformatics: learning one from the other. PLoS One 2:e481.

(2) Sousa JC, Costa MJ, Palha JA. 2008. The impact of teaching the extracellular matrix with a student centred model. Poster presented at the Annual Meeting of the Association for Medical Education in Europe. Prague, Czech Republic.