



Establishing a New Paradigm for Teaching Mathematics at Engineering Schools

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Abstract

The teaching of mathematics in engineering schools has irreversibly changed in the last 20 years due to two significant events: the eruption of unrestrained use of new technologies (ICT) in teaching and the establishment of the European Higher Education Area (EHEA) as the common teaching framework.

The authors of this article, with extensive experience in the field of educational innovation, will present, in the first part of the article the European projects in which they have participated (dMath Project [1], EVLM Project [2], WBMLS Project [3], etc.) and some of the new areas of teaching cooperation under development (WEPS Project [4]). Later we will describe some of the teaching experiences, adapted to the "Bologna process" that we have carried out in our respective universities [5] and [6].

The establishment of the new teaching paradigm has to solve some problems that, to a greater or lesser extent, have been appearing in recent years. This article mentions some of them, suggesting some possible solutions that imply, inexcusably, increasing teacher transnational cooperation. [7]

With the creation of the EHEA, educational researchers began to speak to both sides of the Atlantic on whether or not a Ibero Higher Education (EIES) allowing further close cooperation between the different university systems. A part of this article will be devoted to the analysis of these aspects: documents, agreements, regulations and other elements that provide evidence about these changes.[8]

It further analyzes, with particular critical sense, the implementation of the Bologna process and the pendulum aspect that might have implied in certain groups. For many teachers, the information don't provide using the network does not exist, and therefore these teachers must provide all materials electronically without stopping to think that in the teaching of basic subjects the student's quiet study and the traditional teaching of the teacher are sometimes irreplaceable in the learning process.

References

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