

Applying Advanced Graphic Technologies as a support in the teaching-learning process of drawing, design and visual arts.

Abstract:

The teaching-learning process of "drawing" are very conditioned by the graphical tools used. In the last few years, various new technologies and educational contexts (European Space Education, Education Online, ..) have appeared, which pose great challenges in the field of teaching "drawing". By mentioning the Advanced Graphics Technologies (TGAs) we are referring to those that may have impact on teaching. In the specific context of teaching drawing, design and visual arts there are some technologies within them with more potential due to their graphical capabilities. Among them are augmented reality, digital tablets or smartphones. Moreover, developments and increased accessibility of other technologies such as 3D modeling or multimedia eBooks, allow designing educational resources with some graphical capabilities unimaginable just a few years.

In this thesis work we have designed new teaching resources by using advanced graphics technology targeted at the teaching of drawing, design and visual arts. This material has been tested in different centers and educational levels (Compulsory Secondary Education (ESO), Bachelor, Vocational Training and University Degrees.) To evaluate aspects such as: improving skills, spatial skills, influence on the choice of studies, academic improvement, satisfaction with the methodology and technology used. Aspects suggested by the new European education has been also studied, as promoting learner autonomy, group work, mentoring, informal learning.

In general, the work of this thesis is structured in two parts. The first revolves around a 3D modeling workshop for the analysis and representation of forms and the second around the use of digital tablets in teaching drawing. These two dimensions of the thesis, are widely interrelated, since an important part of the technology applied to modeling workshop is based on digital tablets. The general methodology used for the development of educational content, design process follows a user-centric incremental in the sense that its contents are evaluated and validated through practical experiences with the end users, which in this case are teachers and students.

This thesis details the design of materials, experiences and conclusions made in the variables studied.