

Educational and artistic fun teaching tools for science outreach, by Marina Locritani, Silvia Merlino, Sara Garvani, Francesca Di Laura.

The presented work is interesting and touches important and new aspects about teaching tools.

Few comments following:

a. the main touched areas are scientific dissemination and teaching. Are they different about targets and methods? Are artistic and visual elements differently intended and used in these two areas?

b. On my opinion the 'visual approach' is of basic importance, especially in teaching scientific matters.

As a first stimulus, emotion induces the desire of knowing, and, one of the most privileged sense reaching our inside is the view.

I think

1. the first act is the creation of right visual signs making concepts visually touchable,

2. the second act consists in making them artistically attractive,

1+2 results in 3, generating the 'emotion of learning'.

Of course, the target sensitivity is a limiting factor: a 6 year old child requires a different approach vs. a 20 years old high school student.

As an example, about the visual approach, Youtube is a source of many contributions. You can find many mathematical explanations; some are good in point 1, but scarce in point 2, and, viceversa. Some (actually, not many) are emotional in the sense of good 1+2=3 combination. Moving to text books, synonymous of more 'traditional teaching', it's harder to find a more efficient 1+2=3 combination.

About teaching techniques, it should be nice to move towards a kind of 'emotion of learning' approach.

On your perspection and experience, which are the limits to be overcome thinking about schools?