

Advance organizer and interactive animation

Romero Tavares¹ and José Nazareno dos Santos^{2,3}
Departamento de Física/UFPB

Key words: advance organizer; interactive animation; modelling; constructivism; college physics

The human being builds models to understand the world around us, like a natural strategy to face the reality and to deal with the unknown. Science makes rationalizations that lead to model of working of his object of analysis. But in face of questions that surpass the actual knowledge, the religions construct models of reality from their dogmas.

A model may represent physical phenomena and an interactive animation makes true a ludic visualization of our understanding of the situation, opening the possibility of modification and repetition as the wish of the user. An interactive animation shows the temporal evolution of some event, and is an excellent way to expose complicated phenomena to students that have not a sophisticated abstraction capability. Through its wide and dynamic characters, it presents all relevant aspects of physical phenomena to be modelled, like drawing the time evolution of parameters and graphics, under the control of the users.

In this vision, interactive animation is capable to do the main function of advance organizer: to fill the lack between what the learner knows and what he should know before meaningful learning.

The aim of this work is investigate the effects of interactive animation to students' understanding of Oscillations, in a typical college physics course.

¹ www.fisica.ufpb.br/~romero

² JNS was supported by PROLICEN/PRG/UFPB

³ Actual address: nazareno@fisica.ufc.br