

**T1\_52 ANIMATE THE FORMAL TOOLS TO RECONCILE THE LOCAL OBSERVATION TO THE STUDY OF MOTION IN PHYSICS**

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The objectualization of abstract entities is often need to create a bridge to move from observation to interpretation of the phenomena. Starting from the objectualization of the concept of vector, its components and the principle of composition and decomposition of the motion, has developed a methodology that, through the use of Flash animations, allows learners to address the conceptual knots produced by the common sense knowledge that disagree with the scientific description. In the animation motion are reconstructing step-by-step by the pupils so they can focus their attention on the physic principle related to the particular motion, not on their mathematic formalizations. Animation so laying in an intermediate space between the modeling and the graphical representation of formal tools and so allows to build a bridge between the observations of local common sense and the global physics view. In this way the animation take the role of a tool needed to building formal thought. Starting from a research experimentation with perspective teachers, three example of Flash animation was developed concerning the uniform circular motion, the parabolic motion and the Archimedean spiral motion (related to the Coriolis acceleration).