

MICROBES: THE GOOD, THE BAD AND THE UGLY, AS SOCIETY PERCEIVES THEM

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Science and technology heavily impact society. They have changed drastically our communication, work, food, clothes, and housing, i.e., the quality of life. The lack of a common language and rapid progress in many areas of research, have increased the public's concern and contributes to ambivalence about the role that science and technology play in everyday life ("Science in Society" in FP7). An understanding of science is a crucial part of a rounded education considering the pace of change in the world and the speed with which technology advances.

Knowledge, Values and Practices (the KVP model) validates peoples' conceptions and will be presented here within the educational system framework. The influences of scientists, the media, actors of the educational system and textbook authors on the school external didactic transposition (EDT) will be addressed. Particular emphasis will be given to pupils' conceptions of microorganisms and how textbooks address these issues. It is well documented that eliciting what children already know and understand scientific concepts is important for achieving effective and significant learning. Examples of children's conceptions about microorganisms before and after their first lessons on the subject will be shown. Children's anthropomorphic ideas are very present, attributing human qualities to, for example, whether microorganisms are well- or evil-intentioned, can be assessed by children's drawings and using terms such as 'good', 'bad' and 'ugly'. Textbooks reinforcing the 'bad' and 'ugly' views are often conveyed within the biomedical model of health. Therefore, the 'good' view of microorganisms (e.g., delicious mushrooms, cheese and yogurt producers, soil and wastewater bioremediation...) is missing in the external didactic transposition, which is the result of an absence of the non-medical scientists' influence in the education system. Finally, opportunities must be created for scientists, particularly in the non-biomedical field, to communicate with the education system and the general public, to emphasize the positive views of microorganisms.

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