

Nano-culture, Education, and Safety

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Abstract:

Nanotechnology is currently evolving as a leading area of transformation in the scientific and industrial sectors. The contemporary interest in nanotechnology surpasses its economic potential and the revolutionary promises of new goods and facilities, and encompasses its expected impacts on the society and the environment. In the near future, the expected shift in the styles of consumption, and the impacts of such consumption on various aspects of life, is expected to create new patterns of values leading to the evolution of a new cultural construction; nano-culture.

The implications of nanotechnology on society are expected to cover different dimensions such as environment and safety, security, privacy, and others. Protection against environmental pollution, and health safety concerns are among issues with top priority. The new classes of invisible and undetectable devices and the development of human-enhancing technologies are raising privacy and security concerns. The foreseen development in the diagnosis and treatment of illness is expected to extend the human lifespan and as such may require new legislations regarding retirement and insurance policies. Ethics of scientific research and protection of intellectual properties in a way that does not stifle innovation form also other important dimensions.

In a relevant context, the rapid advancement in nanotechnology is accelerating the demand for specific education and professional skills. Nanotechnology is a multidisciplinary field, the distinguishing characteristics of science and technological disciplines are disappearing. Cross-disciplinary approaches to education are thus required to produce human resources with targeted knowledge and skill. Many universities across the world, including those in developing countries, has started academic programs that lead to Bachelor, Master, and/or Doctorate degrees in Nanotechnology. In some developed countries, nanotechnology education is starting to take place even at high school level. Nanotech education must therefore penetrate the education curricula in Palestine. This is required in order to raise public awareness about nanotechnology, and help pave the ground for building the needed human and technical resources in this vital field.