

# HUMANISATION OF NATURAL SCIENCE EDUCATION AS A PROBLEM

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The present humankind has to solve a number of serious problems. Under the threat of the ecology catastrophe, concern for physical and spiritual health care is felt. All our relations with nature turn out to be problematic. *The establishment of a harmonious correlation between nature and society* becomes an important task. We cannot exclusively rely on knowledge and mind in any activity as these are not overall dimensions. Enforcement of humanism, democracy and being a good citizen - these are common everyday issues in our schools today. The goal of the education reform is to make a school the place for creating a personality and not only the place to pump with knowledge.

We also understand having no opportunities to become the lords of nature. According to Nazarenko, ecology problems can be solved taking advantages of science and technology achievements. However, the dynamics of the process should become individual and public, high virtuous and ecologic culture (Nazarenko, 1993). Therefore, the humanization and socialization of natural science education is a relevant pedagogic problem.

The author thinks that natural science education is notably supported by the heritage of an ethnic culture which can be applied:

- trying to engage pupils in relating an expository subject to real life using different interpretations (customs, archaic village routine and works);
- giving a sense to objects and phenomena at spiritual value-based level (mythology, Baltic religion, folklore);
- as a means to see phenomena and objects (birds call imitation, traditional medicine, ethno cosmology, weather forecast);
- for natural science education (annual holidays, songs, games, dances, roundelays).
- Humanization brings science closer to the humanistic criteria (Zakgeim, 1991). The author points out that the systems created by human being often backfire on themselves. Some authors (Rudenko, 1991, Kuznetsova, 1989, Zakgeim, 1991) perceive humanization as the “humanizing” of training aids. The educologists of this trend mainly see two ways to solve the problem:
- “humanizing” of training courses (chemistry, physics, biology), i.e. the popularization of scientific ideas and theories, highlighting of historic evolution, etc.
- renovation of training aids (text books, supplementary didactic material, etc.)

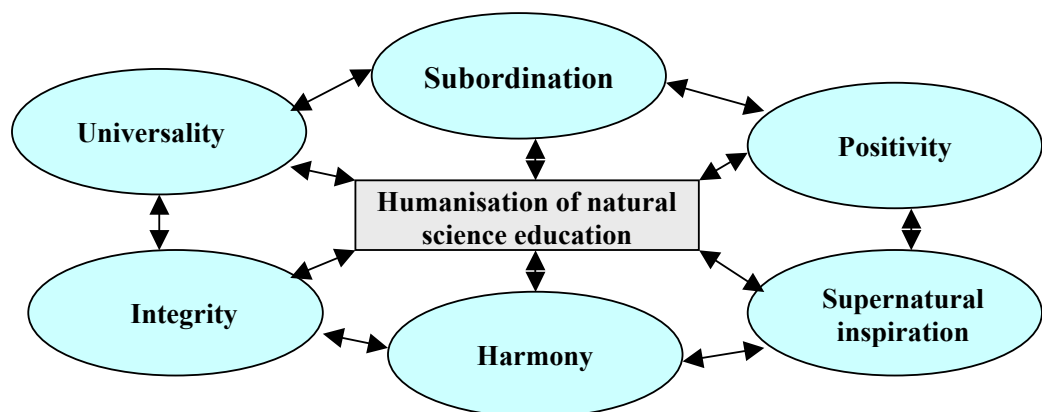
Other authors (Uktveris, 1997, Vaitkevičius, 1998, Šapokienė, 1995) find humanization as the perception of a harmonious interaction between human being and nature. According to Uktveris, “contemporary school is not ready to perceive and inspire the senselessness of consumerism, i.e. to lead a consumer way of life to the abyss that uncloses to humankind (Uktveris, 1997). Therefore, contemporary humanistic philosophy and other humanistic theories focus on the humankind difficulties highlighting global crisis scale and format (Aramavičiūtė, 1996). Natural science education performs a leading role in the process of an individuality creation. Yet ancient thinkers called a man “zoopolitikon” (Aristotle). However, sciences including natural science education are specific. The essential thing is a question of what sort of philosophy will be the basis for natural science education (natural science education is a subject of social

knowledge; thus it is a subject of social sciences /educology/. Yet human being set up “over nature” using *extrinsic* (sensual) and *intrinsic* (reflex) methods (20<sup>th</sup> century natural science positivism) and even has become the lord of it. Meeting his biological requirements human being started reformation of nature itself disregarding for possible consequences. Humankind has survived a negative influence of various theories (racism, Nazism, Marxism, social Darwinism, etc.). A well known Lithuanian thinker Paškus stated that “Marx paid attention to the lack of bread, Froid – to the lack of sex and Frankl – to the lack of sense. A westerner has already been full of bread and libido but the questions of purport of life still worry. The signs of spiritual hunger seems to appear brighter and brighter (Paškus, 1992). The utopian ideas to create a “sterile” Gnostic instrument on the basis of natural science and biologic reductionism prevailed in the 20<sup>th</sup> century. G. Merkys maintains that an idea of constructive compatibility of various cognitive strategies is postulated in contemporary social research methodology (Merkys, 1997). Therefore, modern philosophical movements such as phenomelism, pantheism, etc. understand human being as a systemic unity of the body, psyche (*mind, emotions, volition*) and spirit (*trust, hope, love*). In this unity context is only possible natural science humanization.

Thus, considering the problems of phenomenological – hermeneutic natural science education (*the aspects of hypotheses generation, interpretation attempts, holistic approach towards an individual and society*) becomes righteous.

**Pre-eminently the humanization of natural science education means the raise of values in the educational process**

Yet human being perceives aesthetical, ethical or other values only when exceptionally subtly minded. The perception of nature as a value is primarily delimited the material interests. Aesthetical values are versatile and serve everyone. Perceiving and cherishing ethical values and moreover, following them is a more difficult task. A human educational process is a marvellous one as it is able to point out the subtle features of human mind and soul. From this standpoint, natural sciences teaching at school are very auspicious. In this case, the humanization of natural science education can be understood as an undivided action of the basic education principles in the training process. The humanization of natural science education (as indicated in the matrix) is only effective when implementing the systemic expression of these principles in the educational process.



**Figure 1: The matrix of the humanization of natural science education (Lamauskas, 2003).**

Hence, the major task of school to create respective conditions for every pupil to develop their intellectual spiritual world, to help and constantly promote mastery under the individual program giving more freedom to pupils to act and learn, not suppressing but encouraging their originality (Vaitkevičius, 1988). Another important aspect of the humanization of the educational process is that we need to pay close attention to responsibility sustaining and ability to predict possible negative outcomes (in nature and society).

Thus, contemporary school cannot be the only educational institution that trains the young generation for life – it has to be life itself. The child should not have felt being under an obligation and trying to escape from it.

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