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The Social Knowledge - a Goal of the Social Sustainable Development

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Abstract

The social evidence-based education influences in a specific way, at the individual level, on the one hand the dynamic introspective related to the quality of cognitive acquisitions, and, on the other hand the degree of reflectivity of their future socio-individual constructs.

The current research aims to measure the importance of expectations concerning the prospect of the social sustainable development, in the context of *Education for and through Science*. The research included a heterogeneous group of high school students, being performed in the implementation stage of the “*PROFILES - Education through Science*” Continuous Professional Development Programme, by proposing a specific instrument for analyzing the *Motivational Learning Environment (MoLE)*.

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1. The specific context of sustainable development

In the report called *Our Common Future* elaborated by the *World Commission on Environment and Development* (known as *Brundtland Report*, 1987), sustainable development is defined as “*the development which combined the needs of the present without compromising the capacity of the future generations to satisfy its own needs*”.

The equilibrium established between different factors which define the concept, confers to the *development* paradigm, the attribute of *sustainable* development.

In fact, the *sustainable development* subsumes three dimensions: economic, social and environmental. The concept of *social development* refer to “*the orientation of a community/institution towards accomplishing of a desirable state, established as attainable objective by a process planned in time, result of a set of conjugate actions*” (Zamfir, 2007, p.175). In this operational frame, the indicators of sustainable development are also to be found also at the level of the social area level. The social component of sustainable development considers diverse social problems - poverty, unemployment, morbidity, social exclusion etc., with a major impact upon the future generations. The early social implication in the promotion of actions for controlling and preventing of the mentioned problems demands multi-sectoral and pluridisciplinary interventions, in order to support the sustainable social development process.

2. Education for sustainable development

On the 17-18th of March 2005, in Vilnius (Lithuania), with the occasion of a high level meeting of the European Education and Environment Ministers, the *UNECE Strategy (United Nations Economic Commission for Europe)* was adopted, regarding the education for sustainable development (*ESD*). In this document, it is stipulated the education as a fundamental right, as a *sine qua non* condition for sustainable development, and an essential instrument for a good administration and for taking pertinent decisions with the view to promote *democracy*. The *UNECE* member states are encouraged to integrate *ESD* in their own systems of formal education, in all the relevant disciplines, but also in the non-formal and informal education. Through *ESD*, people develop solid competencies regarding sustainable development, become more confident and act for a productive and healthy life, in accordance with the nature and their preoccupation for social values, gender equality and cultural diversity. The key themes of *ESD* - mentioned in *The UNECE Strategy for EDD* - include among others: peace, ethics, responsibility (in the local and global context), democracy and government, poverty control, citizenship duties, civic responsibility, justice, security, human rights, health, gender equality, cultural diversity, rural and urban development, economy, production and consumption models, management of natural resources, biological and nature diversity, environmental protection.

In Romania, secondary schools tried integrated *ESD* into their curricula (in some educational programmes), but in general, there are no so many mentions related to the quality of outcomes. In this direction, there are some critical questions which can be raised concerning mostly the possibility for the students to cope with the challenges of tomorrow in a way that guarantees the sustainability and their implication for playing a transformative role in the society (Martin, Jucker, & Martin, 2010), as some evidences shows (in some countries) changes in students' environmental attitudes, knowledge and in a few cases even behaviors (Rickinson, 2001).

3. Methodology

Trying to answer (near other issues) to the measure in which students are aware of the importance of the sustainable development for their future, in the frame of the Seventh Framework Programme “*PROFILES - Professional Reflection Oriented Focus on Inquiry-based Learning and Education through Science*” (<http://www.profiles-project.eu/>), it was conducted a research which tried to measure the secondary level students' expectances concerning the perspective of sustainable social development in educational contexts, especially introduced in Science lessons.

For the accomplishment of the proposed objective, there were established the following working hypothesis:

(I1) - if the students manifest an increased interest for the knowledge of facts and of social processes corresponding to the actual social reality, then they will acquire the necessary competencies in order to act in the spirit of the sustainable social development;

(I2) - the more increased is the level of pupils' satisfaction towards the subjects detached from the social reality and approached in class, the more increased is their interest towards key themes of sustainable development.

The research was a quantitative type one, made on a sample of 1048 students - structured and heterogeneous. The instrument used in the research was a specific questionnaire that analyzed the *Motivational Learning Environment (MoLE)*, proposed in the frame of the project (Bolte, 2006). In this respect, there were valorized the students' who were the beneficiaries of the training program *PROFILES - Education through Sciences*, dedicated to Science teachers (Physics, Chemistry, Biology). The accredited programme has the main objective to form / develop professional-didactic competencies regarding inquiry-based science education (*IBSE*), in order to valorize the potential and the students' individual experiences, the integrated approach of the themes afferent to Sciences field and the accomplishment of an educational demarche, in accordance with the principles of constructivist paradigm.

In this sense, it was considered as necessary the measurement of students' perception regarding the importance of the scientific knowledge for their personal life, of some themes that regard the problematic of sustainable development, by using a *Likert* type scale in six stages. The key themes of the sustainable social development evidenced in the research were: poverty, economy, professional training and social roles.

4. Results and discussion

In order to understand the economic aspects for themselves and in their personal life, at the sample level (figure 1), the perception about the importance of this dimension is distributed as follows: 20% are in total accord with the necessity of understanding the economic aspects and just 4% appreciate that this is not necessary. Most students positioned their answers at the level where the opinion degree is almost neutral. This aspect proves us the fact that the notion "economy" is recognized by them, the knowledge related to economical aspects representing a need for sustainable development, but (in this case) they do not know the mechanisms for its valorizing at social level and its effects on the sustainable development ("accord in a large degree" - 31%, and "accord in a certain measure" - 33%).

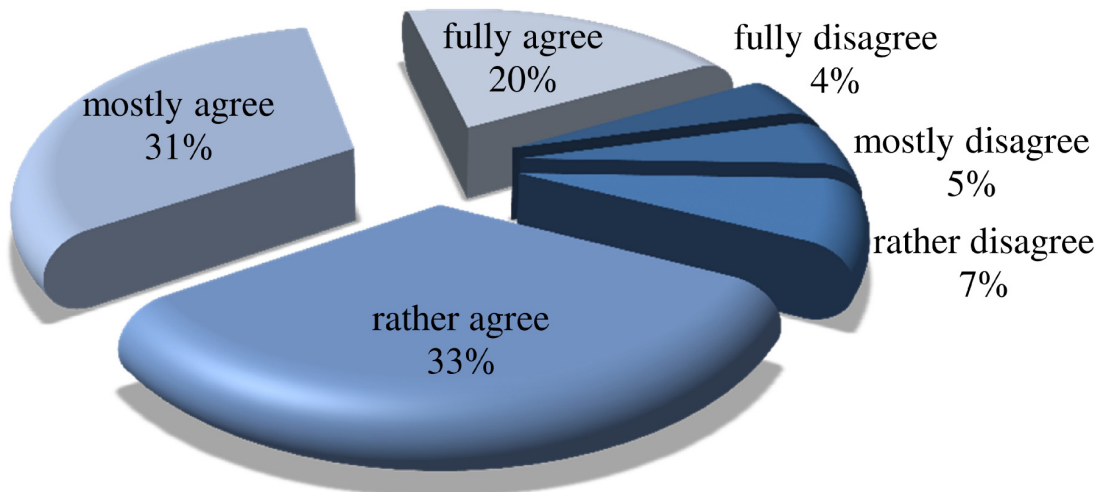


Fig. 1. Students' perception related to understanding the economic aspects for their personal life.

The studying of social problems and the understanding of the jointing means of the social politics for the purpose of preventing and controlling the poverty, represent another perspective of the sustainable development problematic approach. The students appreciate the fact that an early knowledge of the causes of poverty, in Romania (figure 2 - left), may influence the sustainable development process. In this sense, 29% are in total agreement, 29% agree in a large part and only 4% consider that this aspect is not necessary to be approached in the compulsory school period. Regarding the importance of knowing the causes of poverty in the world (figure 2 - right), there were identified similar percentages. Only 28% of the students considered that “in large part they agree” with the information in this direction, that confirms us the fact that students acknowledged the necessity of acquiring the relevant knowledge for this problem, for which its prevention constitutes a descriptive measure of sustainable development.

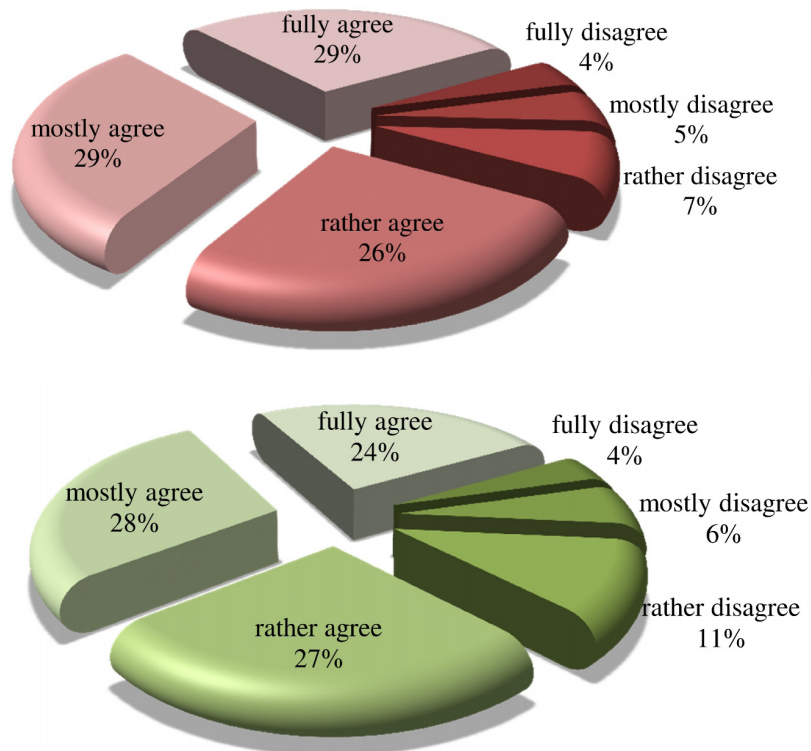


Fig. 2. Students' perception related to knowing the reasons for poverty in Romania (first) and in the world (second).

The obtained results and the related interpretations verify the research hypothesis *II* and offer a correlation with its theoretic frame.

In this research, we evidenced the role which school has in the information of pupils regarding the professional formation and development, in the context of sustainable development. In this sense, it was considered necessary, the measurement of their perception related to the importance of the exigencies of professional training, the description of possible future jobs and corresponding specialties (figures 3 and 4). Those elements represent the predictive descriptors of a dimension which correspond to a superior qualitative level in the subsequent professional development and, implicitly, in the sustainable social development. More, most of the students are “in total agreement” with the perspective regarding the professional qualification - 46% (figure 5), a fact which demonstrate an early acknowledgement of the importance of professional role and of the quality in work. The students' answers reflect the fact that an early knowledge of the occupational fields represents a descriptive measure of the responsibility regarding the integration in the labor market.

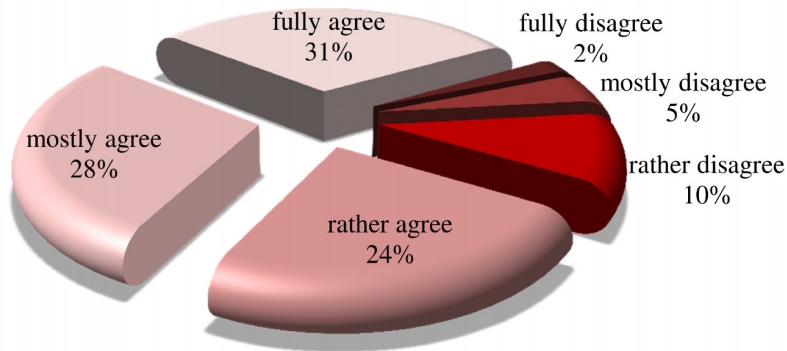


Fig. 3. Students' perception related to knowing what should be good in respect of different occupations that require formal training

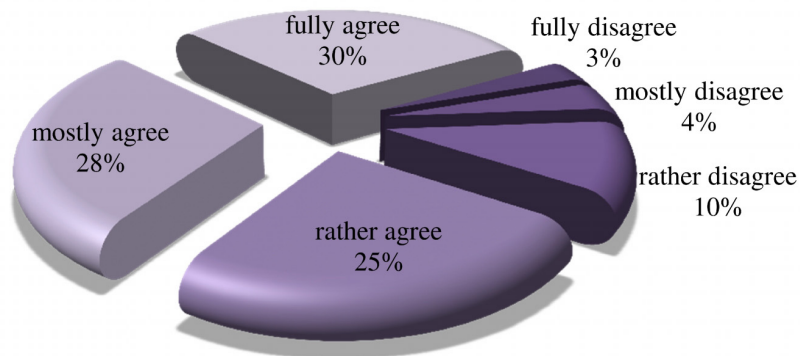


Fig. 4. Students' perception related to knowing the main tasks of different occupations that require formal training.

We appreciate that a detailed knowledge of the occupational profile of various professions represents the central element of the correct orientation in the professional career, a fact which might facilitate the successful accomplishment, in the future, of the chosen job. To this perspective corresponds a percentage of 31% of the respondents, who are “in total agreement”, and 28% who “agree in great measure” (as illustrated in figure 3). A relatively small percentage does not agree with this perspective - 2%.

The research was also oriented towards the aspects which are correlated with the perception regarding the importance of gender distribution inside professions, at the society level. The investigated sample offered the following answers distribution: 42% of the pupils were in total agreement with the fact that they must know the expectancies of the society from each person, “future adult” (man or woman), and only 2% rejected this perspective.

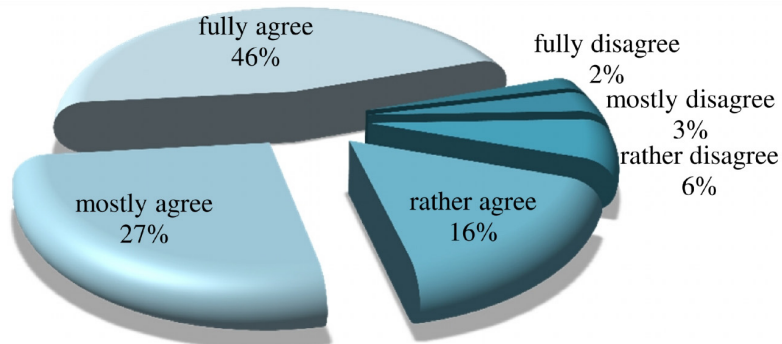


Fig. 5. Students' perception related to knowing what is expected from the trainees in different occupations requiring formal training.

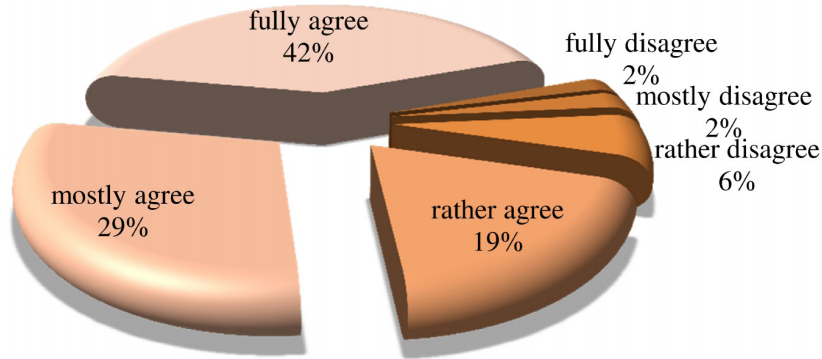


Fig. 6. Students' perception related to knowing which behavior is expecting from them as a "societal" person

Reporting to the explicative issues presented above, we consider that it is also confirmed the research hypothesis *I2*, according to which "the more increased is the level of pupils' satisfaction towards the subjects detached from the social reality and approached in class, the more increased is their interest towards the key themes of sustainable development" - a hypothesis which also is correlating with the theoretic frame of the presented research.

5. Conclusion

Education for sustainable development improves the capacity of individuals, groups, communities, organizations and countries to think and to act in the favor of sustainable development. It can generate a change in people's mentalities, potentiating their capacity to create a safer, healthier and more prosperous world, thus improving the quality of life.

Education for sustainable development implies a critical approach of the social problems, an increased degree of their acknowledging and the power to explore and develop new concepts, visions and instruments.

Based on the results of the presented research, it is evident that the education for sustainable development concepts led to important changes in students' attitudes, knowledge and behaviors related to the their future, but also to social contexts, like economy, poverty, professional training or social roles.

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