



Let's make it better! Raising the awareness of the triad nutrition-health-food safety in school education.

## **REPORT ON O1-A1**

### **Analysis of Romanian Curricula related to nutrition, health and food safety at pre-primary, primary and secondary level**

The present paper was elaborated to present the results of project activity O1-A1 - critical analysis of the national curricula related to nutrition, health and food safety. These analysis was needed in order to design the most suitable training process for teachers in preschool, primary and secondary education regarding the relation between nutrition, eating habits and healthstatus.

#### **PART I – A short description of the research**

The research addressing mentioned above issue had the following objectives :

OR1. To map the curricular areas that contain specific content of health education;

OR2. To identify the content of education related to nutrition, health and food security for every educational level

OR3. To analyse the school's management intervention on Health Education curriculum implementation and development (SWOT analysis);

OR4. To identify the perceptions of teachers regarding factors that may influence design practices and application of the curriculum.

OR5. To identify best practice of teaching-learning-assessment used in health education classes in each educational level

The research was exploratory (up to this moment no research was made to identify the current state of implementation of curricula related to nutrition, health and food security at national level), including both qualitative and quantitative methods (qualitative analysis of documents, questionnaire, focus group).

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To address all the above mentioned objectives, several **steps** have been taken:

- **S1. Focus Group Interviews** with school's management representatives (to answer for O1, O3, O5)
- **S2. Content analysis of existing health education curriculum** targeting the topics related to nutrition, health and food safety (for O2)
- **S3. Questionnaire based survey** for teachers that are involved in implementation of health education from pre-school level to high school level (for O1, O4, O5)
- S4. Analysis, processing and interpretation of data obtained in the previous steps.

**The universe of research** consisted of actors involved in the health education implementation and curriculum development related to nutrition, health and food security from all three levels of pre-university education (pre-school, primary and secondary):

a) school's management group formed by directors of schools, representatives of the evaluation committee for the quality of the education institutions, representatives of methodological commission, representatives of the commission for class masters, representatives of teachers, representatives of students, representatives of parents.

b) teachers group formed by teachers for kindergartens, primary schools, secondary inferior schools (middle schools), secondary superior schools (high-schools) covering several disciplines (natural science, biology, chemistry, technology)

**The research sample** was established by the stratified sampling for teachers group and purposeful sampling for staff involved in school's management group. The research sample is representative, reported the total number of school units at national level (county covering) for preschool, primary and secondary education:

- 63 school units from different counties, 25 from rural areas (7 kindergartens, 18 schools covering primary and secondary education) and 38 from urban areas (13 kindergartens, and 25 schools covering primary and secondary education)

- 40 representatives of management, grouped in 4 groups (2 for urban areas and 2 for rural areas) for focus-group interviews;

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- 260 teachers, respective 60 preschool teachers, 60 primary school teachers, and 140 teachers for secondary education.

### Part II.

#### RESEARCH RESULTS

Before presenting research results, is offered a short description of romanian educational system and of the proces of developing The Health Education Program at national level, for a better understanding of the research results.

**A) The structure of the education system** in Romania includes 4 main levels for pre-university education (pre-school, primary school, inferior secondary education, superior secondary education) and 3 main levels for university education (Bachelor's degree, Master's program, Doctoral degree program). The young people not following a bachelor program can study in tertiary non-university level of education: post-secondary education (Scoli post-liceale).

**In preschool education** (not compulsory) are included children aged between 3 years and 6/7 years. There are 3 types of Pre-schools: *kindergarten* (opened from 7.a.m. to 13.a.m., not offering meals – children are having a breach about 10.a.m. to eat sandwiches/fruits/etc taken from home), *kindergarten with extended program* (from 6.a.m. to 6.p.m.) - were children have breakfast, lunch and a snack after sleeping in the afternoon - , and *kindergarten with weekly program*, similar to care centers. Pre-school education is divided into two levels: first level aims socialization of children aged 3 to 5 years and the second level aims preparing for school children aged between 5 and 6/7 years.

**General education** is compulsory for ten classes (I to X), age of onset of schooling is 6 years (or 7 years at the request of parents). The age of ending the compulsory education is 16/17 years. After ten classes, adolescents are following classes IX and X, that, from the 2003 are granted with graduation certificate. At the end of high-school, children can take the baccalaureate examination, in order to obtain the Baccalaureate Diploma that is the condition for entering in university education level.

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**Primary education** includes preparation class (or 0 class) and grades I to IV, usually with morning program. Age of completion of primary education is 10/11 years.

Lower secondary education or **middle school** includes grades V-VIII and generally operate as educational day form. It ends with supporting papers for classes VII and VIII. End of middle school is at 14/15 years of age, and consist in a general national exam –called Capacity Exam. Depending on the results of this exam, children can go to High School or Schools of arts and crafts

**Upper secondary education** includes high schools, lasting four years (grades IX-XII), having daily course, or evening classes and even distance learning. High school is divided into three branches: *theoretical*, having profiles sciences and humanities; *technology*, having profiles exploitation of natural resources, environmental protection, and services; *technical and vocational branch*, having profiles: artistic, sports and theological. High-school education concludes with a national baccalaureate exam.

### B) National Health Education Program

History of National Health Education Program was inaugurated in 2001, at the conference to launch the program. From the beginning, the Ministry of Education was supported in implementing this program of UNICEF, USAID and UNFPA, and NGOs. In 2002 was developed an implementation strategy for Health Education, were elaborated materials for teachers and began pilot-program in 15 counties and in Bucharest. During this period, the program has the technical and financial assistance from UNDP, UNFPA, JSI R & T, Vision 2000 and the World Bank. Between 2003 and 2004, there is an intense activity for curriculum development: there are printed curricula and informative guide-lines, are trained education inspectors and biology teachers. At the end of 2005, nearly 9.000 teachers in many schools in Romania conducted Health Education classes. In the same period have been several extracurricular activities including competitions (e.g. “AIDS – A challenge to solidarity”, “Children, Say NO to Violence in the family!”, National Symposium “A life without risks! My

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Let's make it better! Raising the awareness of the triad nutrition-health-food safety in school education. security and my health" etc.). Currently Health Education Program is conducted at the national level in many schools and colleges in Romania (~2/3 of school units).

National Programme "Health Education in Romanian schools" aims to:

1. promote the health and wellbeing of the student, namely: optimal functioning in terms of somatic, physiological, mental, emotional, social and spiritual; formation of a healthy lifestyle.
2. the student's personal development, namely: self-knowledge and building a positive image of himself; communication and interpersonal skills; stress management; personal career development.
3. prevention, namely: prevent accidents and health risk behaviors; prevent negative attitudes towards oneself and life.

*Health Education can be teach as an optional subject (full quote) and / or integrated into other disciplines, and as extracurricular activity.* The main goal of health education is to form a responsible attitude and behavior among students towards their own health and that of others.

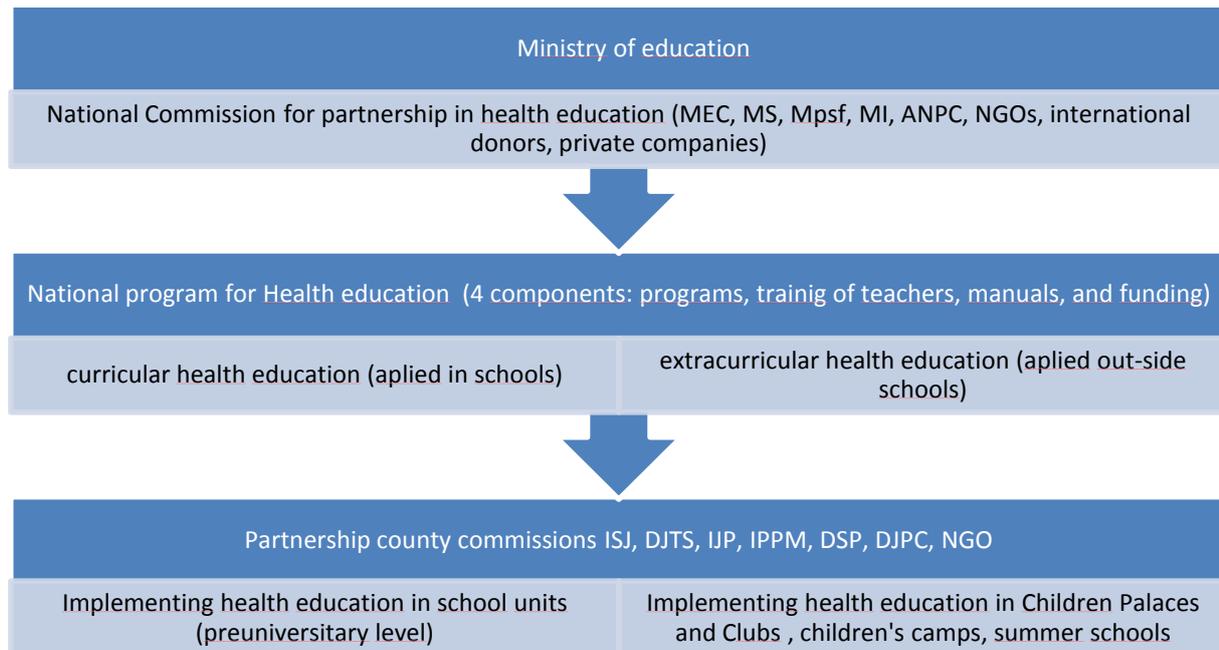
### ***The main topics of Health Education curriculum are:***

- Basic anatomy and physiology, growth and development stages of the organism.
- Personal hygiene (hands and nails, teeth, nose and mouth, hair, clothing).
- Physical activity and rest.
- Environmental health (housing, pollution etc.)
- Mental health (group membership, politeness and its rules, social roles, interpersonal relationships, stress, etc.).
- Health food (food classification, a balanced diet pyramid, consumer protection, etc.).
- Reproductive Health (cilul menstrual contraception, sexually transmitted infections).
- Bioethics.
- Consumption and toxic substance abuse – drugs, alcohol, tobacco and the consequences arising therefrom such as absenteeism and dropout, juvenile delinquency (behaviors).
- Accidents, violence, physical abuse (including rules of first aid), domestic violence.

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The National Health Education Program has different levels of implementation:



### C) Informations obtained from the three methods (analised and interpreted in relation to the objectives of the research)

#### 1) The Focus Group Interviews were focused on the following aspects:

1. What courses cover Health Education, and particularly the education related to nutrition, health and food safety; status of health education disciplines
2. What are the interventions/roles of the school principals for the facilitation and implementation of Health Education (procedural arrangements, accreditation process).
3. What are the strengths or weaknesses of their institution in this direction?
4. What factors could support the successful implementation of health education, and particularly the curriculum related to nutrition, health and food safety.

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5. What are their perceptions about teachers capacity and availability for education related to nutrition, health and food safety.
6. How can community (especially parents) or other stake-holders be involved in health education programs?
7. The share of/percentage/grade of representativeness of Health Education courses, in each level of study and what do they think about this problem?
8. What are their opinion about curriculum topics related to nutrition, health and food safety.

Based on the information obtained from the focus-groups, we were able to elaborate a **SWOT analysis of school management interventions regarding curriculum development for Health Education:**

### Strengths

- Increased interest of teachers for vocational training and career progression;
- Positive attitude towards change;
- Teachers availability for extra work;
- Supporting projects on curriculum development;
- Facilitating teachers access to resources (teaching materials and other means necessary for maintaining the quality of education);
- Compliance for methodology (manager's role is mainly monitoring of implementation procedures).

### Weaknesses

- No teaching staff with bachelor degree in Health Education;
- The optional status of "health education" course;
- Accreditation excessively bureaucratic (internal opinions/approvals, advice from inspectorate –totally, about 8 approvals);

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- Moderate teacher initiative on the teaching of Health Education;
- Few real skills of teachers on contents related to nutrition, health and food security, and for application of specific teaching methods;
- Low awareness of the need for education related to nutrition, health and food safety in students and parents.

### Opportunities

- Educational partnerships (school-family-community-stakeholders - included in the management plan)
- European and national policies (educational and non-educational) centered on need for healthy eating;
- Legislation and rules for the implementation of Health Education on every school level;
- Training programs;
- Curriculum design and implementation in a diversified and attractive manner, according to the students needs and interests (Health Education is a trans- and inter-disciplinary course)

### Threats

- Insufficient number of training programs related to nutrition, food safety and health for the teachers, particularly for the ones from pre-schools and primary schools;
- Low visibility of this optional at primary and secondary level;
- Superficial information of students and parents on the importance of the subject;
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## 2) Curricula of Health Education in Romania

Health Education is an trans- and inter-disciplinary discipline and can be taught as a singular course – optional (being a part of School Decision Curricula) – or as themes in other

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### ***2.1. Forms of education related to nutrition, health and food security for every educational level (OR 2)***

**In preschools** curriculum design is addressing on of the 6 main annual themes:

- Who is/are?
- How is/was and will be here on earth?
- With what and how we express what we feel?
- What and how I want to be?
- Who and how to plan/organize an activity?
- When, how and why it happens.

The subjects addressing education related to nutrition, health and food security are usually content of a week/ day project involving the first and the last theme, discussed once per month.

**In primary education**, topics of Food Education are taught in courses of Health Education and in another compulsory courses (like Environmental Science) through various discussions about the subject inside a topic specific for science curricular area.

**In secondary education level:** food education is made inside classes of Health Education and various discussions about the subject through another classes (like biology – specifically for 5th and 6 th grade, chemistry – specifically the 8th grade, technological education – only for 5th grade –, and master classes – in all grades)

### ***2.2. The share of this topic in different disciplines is:***

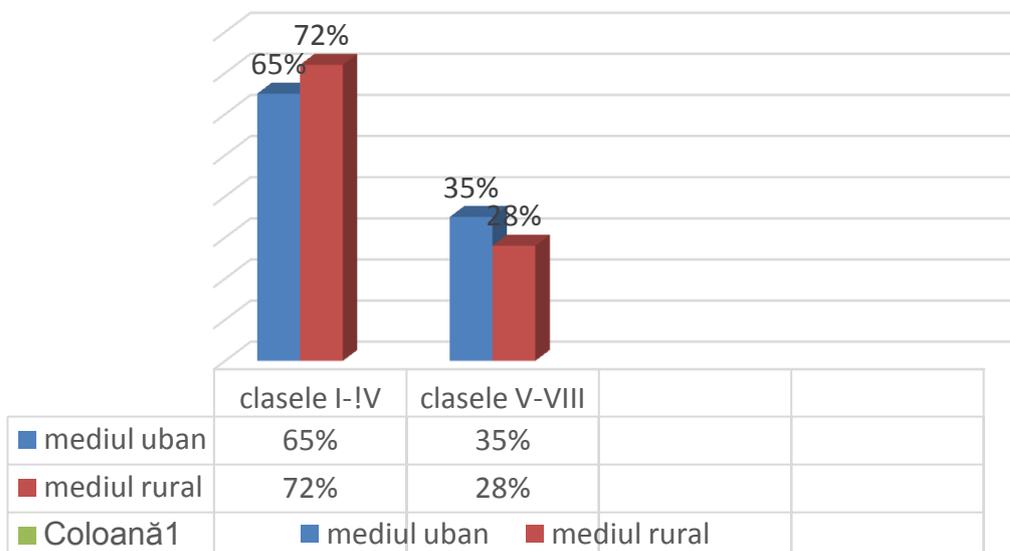
- Health Education (optional, from primary school to high-school) - 10%
- Environmental Sciences(grades 3 and 4) and Biology (grades 5 to 12)(both compulsory) - 4%

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- Tehnological education (compulsory from 5th to 8th grade) - 2%
- Chemistry (compulsory from grades 7 to 10 or 12—in science profile high schools) - 3%
- Master Class – between 1% and 3%, depending on class level, students interests and residential zone.

Shares of the content of education related to nutrition, health and food security for primary and secondary education:



*Share contents specific for health education by level of schooling*

### 2.3. Analysis of Health Education Curriculum

The curriculum of Health Education Discipline is developed in modular version.

Concept of modular organization of content belongs to L. D'Hainaut, whereby a teaching module must meet the following basic requirements:

"a. To present or to define a set of learning situations; b. To have a specific function specified target carefully and clearly defined objectives; c. To propose evidence to guide the studying and / or that you teaching and provide feedback; d. be able to integrate into learning itineraries and logic. "(MECTS, 2004, p.3)

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*Curriculum Health education includes the following modules:*

- Health education classes I / II;
- Health education classes III / IV;
- Health education classes V / VI;
- Health education classes VII / VIII;
- Health education classes IX / X;
- Health education classes XI / XII.

The modules are presented in accordance with the format and compulsory education programs for high school. They are developed in vertical and horizontal coherence, in relation to purchases of common core set for those classes. Proposed modules can be used: in the class, watching all the benchmarks or a selection/adaptation of them, through the nine content areas (inside those areas the teacher may establish sub-themes that are the most relevant for the target group); or can be used in two grades, through delimitation of benchmarks (or through selecting/adapting some of them), through multiplying learning activities and, if necessary, by completing of all topics under the 9 mandatory fields. Consequently, modular structure gives the following advantages: ensuring progression in acquisitions for the student that is following this optional over several years of study; the development of specific skills and behaviors in health education and the covering of all areas of the discipline content even if the students choose only one-time throughout the whole school years for this optional; students have the opportunity to discover the area and to integrate it into its cognitive and affective structures; articulation of formal, non-formal and informal learning.

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### 2.4. The scientific content of education related to nutrition, health and food security for every educational level (from Health Education Syllabus endorsed by Ministry of Education)

Primary (I-II) 1 h-4h	Types of food. The shelf life of food. Rules to keep them. The diversity of food - health condition (importance of vitamins, dietary iodine etc.)
Primary (III-IV) 1h-4h	Influence of plant and animal foods Effects of unilateral nutrition The consequences of excess sweets
Inferior Secondary (V-VI) 1h-3h	Food Pyramid. Label - food card Consumer rights Healthy Food Guide
Inferior Secondary (VII-VIII) 1h-2h	Organoleptic qualities of food: food share in the daily ration Iodized salt in the diet: effects of iodine deficiency Onset obesity by eating unhealthy Value for money in food choices Body image and eating behavior
Superior Secondary (IX-X) 1h-2h	Factors that disrupts metabolism (carbohydrate, protein, fat, mineral). Shortcomings Food additives and their influence on health Food Chain and risks of each link (fertilizers, pesticides, hormones growth, antibiotics in food) Food security
Superior Secondary (XI-XII) 1h-2h	The impact of food on health. Diet and cardiovascular disease (Atherosclerosis, hypertension) Deficiencies food (diets, bulimia, anorexia) Balance calorie intake with physical and intellectual activity Diet under special conditions (preparing competitions and examinations, extreme temperatures, pregnancy, breastfeeding etc.)

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### 3) Results of questionnaire based survey for teachers

#### 3.1. *Identified perceptions of teachers regarding factors that may influence design practices and application of the curriculum of education related to nutrition, health and food safety:*

- Lack or insufficient number of manuals, guidelines for teachers and students, brochures, audio tapes, videos, CDs etc.
- Insufficient training of teachers in order to achieve quality health education classes in schools and the low recognition rates by educational system
- There is no teacher specialised in health education, much less in education related to nutrition, health and food safety; teachers who do health education are teachers of different specialties: most of them biology, environmental sciences, physical education or chemistry )
- The optional status of Health Education Discipline
- Fewer hours allocated inside discipline (health education) to education related to nutrition, health and food safety, in secondary level of schooling, compared to preschool and primary school
- Low awareness of the need for education related to nutrition, health and food safety in students and parents

#### 3.2. *The state of teachers knowledge related to nutrition, health and food safety*

The kindergarden teachers knowledge related to nutrition, health and food safety allows them to cover all activities involving these topics.

Teachers for primary and secondary levels have a minimum level of information on the topics: basic composition of foods (carbohydrates, fats, proteins, vitamins, minerals, biologically active compound), the role of nutrients in the body functioning and maintenance of health; they have very little or no information on the following topics: biologically active compounds and their implications and promoting and maintaining wellness, risk consumption of chemicals in food (eg. heavy metals, pesticides, toxins, poisons industrial), biological risk factors in food (pathogenic and adulteration microorganisms, microbiological toxins), chemical and biological risks and their prevention, nutrition food labeling, and the concept of RDA (recommended daily allowance).

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### ***3.3. Best practice of teaching-learning-assessment for Health Education in each educational level (in teachers opinion)***

All strategies of teaching and learning are interactive ones

**For preschool level:** role play, didactic play, observation, experiential methods, assessment through practical tests

**For primary school level:** role play, experiential methods, project method (for learning and for assessment), practical tests, oral assessments

**For secondary school level:** brainstorming, problem solving, role play, case study, conversation, I know / I want to know / I have learned, debates, Philips 6.6., cube method, mosaic method; for assessment are considered best practice: practical tests, self-assessment, projects, portfolios, essays.

No matter children age, *the most preferred activities are experiential ones*, visiting various organizations implicated in promoting and maintaining a health condition and childrens clubs.

## **PART III - GENERAL CONCLUSIONS**

In Romania, Health Education begins from early education and continue through all levels of preuniversity education, but in a small measure regarding food education and its impact on personal and social health and life quality. There is a great need for training of the teachers, specifically those from primary and secondary education levels, for a better understanding of topics related to nutrition, health and food safety. On teaching strategies, was observed the preference for interactive, experiential methods, like “learning by doing” in every educational level. There for the teachers reclaimea great need for curriculum tools and teaching technologies (like manuals, guidelines for teachers and students, brochures, audio tapes, videos, CDs etc.) that would ensure a better correlation between the scientific content of the Health Education courses and teaching strategies.

Also, the process of implementation of education related to nutrition, health and food safety, both in curricular and extracurricular education, is excessively bureaucratic, takes to much time and

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