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## CHARACTERISTIC FEATURES OF THE CURRICULUM FOR THE SUBJECT ENVIRONMENTAL STUDIES IN THE NINE-YEAR PRIMARY SCHOOL

### OBILJEŽJA KURIKULUMA ZA PREDMET STUDIJA OKOLIŠA U DEVETOGODIŠNJEM OSNOVNOŠKOLSKOM OBRAZOVANJU

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#### *Abstract*

The primary school reform in Slovenia (1998) led to some substantial changes among others also in the subject of Natural and Social Sciences. These happened at both the conceptual and the didactic level. The subject was renamed Natural and Social Sciences about Environmental Studies. By comparatively analyzing the syllabuses for Natural and Social Sciences and Environmental Studies, using the main elements of curriculum as the criteria, we found differences between them in many aspects like teaching aims, contents, teaching forms or interactions and in evaluation (assessment).

#### **1 Introduction**

The subject Environmental studies appeared in the programme of the nine-year primary school system in the Republic of Slovenia with the curricular reform at the end of the 20<sup>th</sup> century. It succeeded the subject Natural and social studies which was taught as an independent subject at primary school level from 1957. Before that similar contents were dealt with in the framework of the following subjects: Lessons in matter, Visual instruction, Demonstrative lessons, which were a substantial part of the subject mother tongue. The subject Environmental studies thus has its history which is (through the name, goals and contents) witness to the fact that it had a specific role in specific social-historical periods.

The forming of the subject Environmental studies was conditioned by the social changes in the Republic of Slovenia in the beginning of the 1990s, with the new conception of the primary school system, with the discovering of the flaws in the Slovene educational system, with the tendency toward greater comparability with similar subjects in other countries, especially in Europe, and last but not least with the insufficiencies observed in the

#### *Sažetak*

Sa promjenama osnovnog školstva u Republici Sloveniji (1998) veće promijene doživio je također i nastavni predmet Poznavanje prirode i društva. To se odražava kako na konceptualnom tako i na didaktičnom stupnju. Promijenilo mu se ime u Upoznavanje okoline. Kod komparativne analize nastavnih planova, za predmete Poznavanje prirode i društva i Upoznavanje okoline, upotrijebili smo temeljne elemente kurikuluma. Ustanovljeno je, da među predmetima nastaju razlike kod nastavnih ciljeva, sadržaja, načinu izvođenja i evaluaciji.

teaching of the subject Natural and social studies. These are: difficulties in defining the range and depth of the teaching content, lack of or insufficient vertical links in the curriculum, an excessively deductive approach to the treatment of teaching contents, realisation of mainly material tasks during lessons.

The drafting of the curriculum for Environmental studies was in the domain of professionals from each subject working on the basis of the instructions of the National Curricular Council. The report on the work of the Subject Curricular Committee (SCC) for the subject Environmental studies shows that the committee made a detailed analysis of the existing curriculum for the subject Natural and social studies and found that it was particularly the activities of the pupils defined in the old curriculum that served as a basis for the preparation of the new one. The contents and the activities of the pupils were compared also with other, foreign curricula. The following curricula and documents were considered: the English national curriculum, the Scottish curriculum for Environmental studies, the American project 2061, the American project High Scope, the Dutch curriculum for natural sciences,

the Norwegian curriculum for natural and social studies, the Italian methodical instructions for the national curriculum and English, French and Polish text-book literature.

The committee included those contents in the suggestion for the layout of the curriculum which occurred in several other foreign curricula as well as contents they found would ensure the basic goals of the curricular reform.

The Subject Curricular Committee for the subject Environmental studies included also school teachers and preschool teachers (less of these) into the national evaluation of the layouts for the curriculum. Initially, the evaluation took place with the help of sample study groups and later with the help of all study groups. The committee considered 80% of the comments made by school and pre-school teachers.

The curriculum for the subject Environmental studies was adopted by the Professional Council of RS at its 22<sup>nd</sup> meeting of 3 December 1998. In the school year 1999/2000 it was gradually introduced in 42 schools across the RS which chose to start with the nine-year primary school system.

The aim of the present paper is to demonstrate the differences in the new curriculum for the subject Environmental studies when compared to the old one for the subject Natural and social studies (1983). The research is limited to the curriculum for the first grade. The criteria for the comparison were formed on the basis of the basic elements of curricular planning.

## 2 Criteria for the analysis of the curricula

- planning strategy;
- the size of the curriculum defined in the study programme;
- teaching goals (place, level, form of transcript, range, how individual taxonomic stages are represented);
- contents (place and form of transcript, common contents, application, accessibility, distribution);
- manners of execution of the curriculum (activities of the pupils, didactic recommendations);
- evaluation

## 3 Results and comparative analyses

### 3.1. The strategy of curricular planning

The curriculum for the subject Environmental studies is goal-oriented in the educational sense. It also takes into account elements of developmental process planning. The aims of the lessons are defined in terms of operative and developmental goals. In

the curriculum of the subject Natural and social studies the basic strategy of planning is related to learning and content. The aims of the lessons are defined with the most general and guiding teaching goals (teaching aims) and above all with the teaching contents (subjects).

### 3.2 The number of lessons in the primary school programme

The number of lessons for the subject Environmental studies in the first grade of the nine-year primary school is the same as the number of lessons for the subject Natural and social sciences in the first grade of the eight-year primary school, that is 105 lessons per year or 3 lessons per week.

### 3.3 Teaching goals in the curricula

The curriculum for the subject Environmental studies defines the general goals of the subject, and the common goals of the contents of individual subjects (contents from the fields of sociology, history, biology, geography, physics and information and technology), which are further on concretized and defined for each grade separately. The operative goals are listed linearly. Relating to their execution, the following was said: "We realise them through the pupils' activities. The activities can achieve several goals simultaneously, even (the) goals of different contents. In the same manner it is possible to achieve one goal through various activities. The correlations are indicated in the didactic recommendations and inter-subject connections.

The connecting of the goals into unified didactic groups is left to the teachers due to the increasing tendency to accommodate the teachers with their need for autonomy.

The curriculum for the subject Natural and social studies merely defines the general teaching goals (aims) and tasks for all three grades together.

The general teaching goals defined for the subject Environmental studies are from the teleological (i.e. intentional) viewpoint much more anthropocentrically oriented. The learning process in Environmental studies classes should thus be primarily focused on the development of the child and through it on the development of the society. For the teaching goals of the subject Natural and social studies, on the other hand, it is characteristic that they are more socio-centrally oriented.

The general goals defined in the compared curricula originate from different social values. The basic values, from which the general goals of the curricular reform were derived and which were included also in the general goals for the subject Environmental studies, are: individuals and their

development; freedom and responsibility of the participants in the educational process, equal opportunities in education, tolerance and solidarity, national identity, knowledge /1/. The general goals of the subject Natural and social studies reflect the basic efforts of the society at the time.

It has been established that the curriculum for the subject Environmental studies includes all three levels of periodisation of the teaching goals, namely from the general and phasal to the concrete (operative) ones. The curriculum for the subject Natural and social studies merely includes general teaching goals (aims) and tasks, while there is no indication of periodisation into individual classes here, which hinders the planning and the defining of the realisation of the goals of the lessons.

The general goals of both curricula define all the areas of the child's personality. They define the cognitive general goals as well as the connative and psychomotor ones. In the general goals for the subject Environmental studies, stress is more on the development of a cognitive area, which is evident from the content and from how the teaching goals are defined alike. There is also greater emphasis on developing abilities and procedures in the natural sciences. The educational goals are not particularly in centre of attention (except for the goals for education in traffic and ecology). They are to be carried out together with the cognitive goals. The general learning goals of the subject Natural and social studies are explicitly defined, and this holds especially for the educational goals, which are in the majority (7), and for two cognitive and two psychomotor goals.

In the following the operative goals in the curriculum for Environmental studies will be analysed. There is an agreement with Blažič, relating to the naming of the goals themselves, namely that it would be better to rename "operative goals" into "group teaching goals", since operatively defined learning goals are characteristically more clearly defined, more precise and mainly with a single meaning.

The operative goals in the curriculum for the subject Environmental studies are primarily defined with expressions relating to processes, such as: pupils familiarize with, pupils recognize, pupils develop, pupils experience, pupils distinguish (Table 1). Goals defined in terms of processes point to the fact that the authors of the curriculum mainly took learning processes as the starting point. They were oriented towards the development of the child's abilities and skills rather than towards defining the results,

behavioural patterns resulting from the influence of the lessons. These goals can thus not be considered operative in Magers sense, where the focus would merely be on the planning and consequently on the monitoring of explicitly expressed changes in the pupils' behaviour. Unlike operative goals, which are more binding and defining, process goals enable greater creativity on the side of the pupils and the teachers. A developmental defining of the teaching goals also means that they are being carried out through a longer period of time (the first triad) and not only in the first grade. Or to quote Milekšič /2/: to define the goals in terms of processes means to teach the pupils to observe, compare, classify, arrange, measure, study, etc. The goal is to master the methods. The maximal effects of applying these methods are defined in the taxonomies of the teaching goals. The extent to which the pupils will actually master the defined taxonomies depends on their abilities, motivation, etc, or on individual differences, respectively. Goals defined in such a manner, however, can not be just a cognitive problem, because similar processes occur also in the aesthetic field. Therefore, if the goal of the first triad is (defined) to be the development and mastering of methods such as observation, comparison, classification, organising, measuring, research, application, creative use of evaluation, it becomes obvious that these processes are common to both the cognitive and the aesthetic field. And the effects of applying these methods are different in different dimensions of the child's cognition and expression.

Some of the goals in the curriculum are defined with clearly operative verbs like, for instance, they can introduce themselves and tell something about themselves..., they can describe their body..., they can classify objects., they can give a list of verbs..., they know how to pour liquids from one vessel to another... It is our opinion that with these verbs the authors of the curriculum wished to stress the goals the pupils should eventually achieve as they completed the first grade. It would thus be better if they included them in the catalogue of goals for the first grade.

We were also interested in the equal distribution of the teaching goals in the syllabus for Environmental studies. Bloom's classification of teaching goals was used as the criterion for the analysis.

**Table 1** Presentation of individual types of operative teaching goals in the defined content groups of topics and the their definition in the curriculum for the subject Environmental studies

CONTENTS	TYPES			TO.	DEFINITION		TO.
	COGNITIVE	CONNATIVE	PSYCHOMOTOR		FINAL	PROCESS	
Who am I	2	0	0	2	1	1	2
I and you, you and we	13	1	1	15	5	10	15
I and my school	3	1	0	4	3	1	4
We celebrate	1	1	0	2	0	2	2
<b>SOCIOLOGICAL CONTENTS</b>	<b>19</b>	<b>3</b>	<b>1</b>	<b>23</b>	<b>9</b>	<b>14</b>	<b>23</b>
My past	2	0	0	2	0	2	2
Once upon a time	1	0	0	1	0	1	1
<b>HISTORICAL</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>3</b>
As I look around	8	0	0	8	3	5	8
<b>GEOGR. AND TRAFFIC</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>3</b>	<b>5</b>	<b>8</b>
<b>CONTENTS IN SOCIAL ST.</b>	<b>30</b>	<b>3</b>	<b>1</b>	<b>34</b>	<b>12</b>	<b>22</b>	<b>34</b>
I and nature	10	0	1	11	1	10	11
I and health	4	0	0	4	1	3	4
<b>BIOL., ECOL. IN HEALTH CARE</b>	<b>21</b>	<b>1</b>	<b>4</b>	<b>26</b>	<b>6</b>	<b>20</b>	<b>26</b>
What I can do	21	1	4	26	6	20	26
<b>PHYSICS, TECH. AND TECHNOL.</b>	<b>21</b>	<b>1</b>	<b>4</b>	<b>26</b>	<b>6</b>	<b>20</b>	<b>26</b>
<b>NATURAL SC.</b>	<b>35</b>	<b>1</b>	<b>5</b>	<b>41</b>	<b>8</b>	<b>33</b>	<b>41</b>
<b>TOTAL</b>	<b>65</b>	<b>4</b>	<b>6</b>	<b>75</b>	<b>20</b>	<b>55</b>	<b>75</b>

The table shows the prevalence of cognitive goals. From among the 75 defined goals, as many as 65 were cognitive goals, only 6 were psychomotor and 4 connative ones. This, however, does not mean that lessons in Environmental studies should realise mainly cognitive teaching goals, since one should be aware of their complexity and multi-functionality. The teaching goals "should simultaneously engage all the basic layers of the young personality, the cognitive, the affective and the psychomotor ones, even though they are not specifically emphasised in the formulation of a particular goal. This needs to be mentioned since the teaching goals usually express merely the educational purposes, while character education is defined only in the general goals, which diminish and are lost the closer one gets to the concrete goals." /3/ The teaching goal defined in the curriculum for Environmental studies as the one in which the pupils "familiarise with the animate and inanimate aspects of nature" should thus be considered a cognitive teaching goal which involves

also the possibility of a connative and psychomotor influence on the pupil. In the act of going for a walk as a learning experience, for instance, the pupils through concrete phenomena explain, argue, seek new examples of links between the animate and the inanimate in nature, while they at the same time admire nature and enhance their interest in research. It is thus important that despite the fact that the teaching goals are fairly intertwined the teachers should be aware, both in planning and in verifying results, of which aspect needs most attention. For each of them requires specific manners of realisation and connecting in order for them to be connected and realised at the same time.

The table also demonstrates to what extent teaching goals in the field of social studies are represented compared to those of the natural studies. It was established that both fields have been fairly equally accounted for.

Another point of interest was the structure of the goals, especially the cognitive ones, which form the

majority of goals in the curriculum for Environmental studies. Bloom's taxonomy of teaching goals was thus employed. The analysis showed that most of the goals were at the level of knowledge (37), followed by the level of understanding/cognition (21), and by the level of application (5) while last are the levels of analysis and synthesis with one goal each. These findings should be considered with caution since the defining of the taxonomic levels was not performed on the basis of clearly and concretely defined teaching goals, but of a definition of the goal where verbs prevail, such as: (they) familiarise, (they) recognise, (they) know, (they) understand, etc. They are, therefore, not concrete enough to precisely define which mental processes are expected of the pupils.

### 3.4 Teaching contents in the compared curricula

The curriculum for Environmental studies for the first grade, outlined in the form of a table, suggests contents written down in the third column immediately following the columns: operative goals and examples of activities. They are listed in succession as subject contents integrating the subject Environmental studies. One might say that the teaching content was chosen in accordance with the exemplary principle, namely only the most representative contents are defined in the form of key words, basic notions (for example, man is a unique and unrepeatable living being, rules of social life (in the family, at school, in the cultural environment)).

In the curriculum for the subject Natural and social studies the content takes initial position. At first it functions as a wider teaching unit defined as to time in terms of the number of hours in lessons. The broader and more complex parts of the learning contents are interrelated through a common idea like, for example, LIFE AND WORK AT SCHOOL (36 hours/ lessons), LIFE AND WORK AT HOME (12 hours/lessons). The whole study unit is divided into individual study themes, which are in themselves narrower rounded of parts of the learning content arranged around some common idea like, for example, We became pupils, The family, Our home. The study themes are further divided into individual study units, the time of which is limited to one or two hours (or lessons) like, for example, The pupils in the classroom, Division of labour and relationships in the family, The rooms in a home, their function and use. When the teaching contents are formed in such a manner, significant didactic principles of closeness of living, clarity, gradualness, systematic approach and the consideration of the child's integral view of the world are taken into account.

It can be concluded that content takes different positions in both compared curricula, which is the result of different strategies in the planning of the curriculum. In the case of the planning of teaching goals of the curriculum the content "follows the goal and considers it the bearing/supporting component of the goal and the object of the activity, the didactic communication and the interaction between the subjects of the process" /4/. It is thus in the role of realising different teaching goals. The main emphasis is in the search for the most suitable content through which the set goals could be realised. The same holds for the list of contents which is in the curriculum for the subject Environmental studies indicated only as a suggestion. In the teaching-content curriculum the content has a prevailing role exceeding all other elements. In the foreground there is usually the question of how to teach, whereas the goals normally stay in the background.

It is particularly due to the role the teaching content has in the teaching-goal planning that the need for the formation of thematic groups of topics which are more teaching-content oriented ceases to exist. The didactic group of topics consists of a phase goal and the goals of the didactic units which structure the topic group. The goal of the topic group is derived from the general goals, whereby the teachers can make use of catalogues of goals. The goal of the didactic topic group is the basis for the formation of the operative goals of the didactic units. In this way the connection of goals, from the general ones, the transitional and the concrete ones, and vice versa is ensured.

Thematic planning merely enumerates the teaching topics in which the depth of the teaching content is not indicated as well as (are not) the standards according to which the students should be able to master a particular content. This is why the teachers chose it "their own way", the result of which was that it differed from school to school. "The enumeration of educational contents in the curriculum necessarily leads to an excessive amount of content and to positivism. Quantity becomes the sole selective criterion. Only with the definition of the structure, function, process and context of functional goals and educational contents does distribution according to difficulty become possible, namely a qualitative criterion of the choice of educational contents."

The linear defining of teaching contents and teaching goals in the national curriculum for the subject Environmental studies presents a deviation from the current planning of the subject Natural and social studies. The latter was integral in nature. The entire individual teaching unit was intended to enable a logical, temporal, psychological unity and

that of content. The unity of content and logic was usually ensured already by the curriculum. All that the teachers had to do was with the planning and execution of the teaching process to provide for the temporal unity, that is to define the length of the individual learning unit, and for the psychological unity, which means that the teacher functionally connected the individual parts of the dismembered study units in such a manner that the pupils experienced it as a unit complete in itself.

In concretising the national plan for the subject Environmental studies the teachers and their autonomy are entrusted to themselves on the basis of the teaching goals defined in terms of content to plan the didactic topic groups in such a manner so as to account for the logical, temporal, psychological unity and that of content, which is the condition for the formation of a child's integral view of the world.

It is our opinion that this will present a problem to the teachers, at least in the initial periods, which is evident also from their opinions and remarks to the suggestion of the curriculum for the subject Environmental studies. Demands occurred, even, that the execution of teaching goals be defined in terms of time, that the fenological principle should remain the basic principle in the planning of teaching goals and contents in animate nature, and also requirements that the didactic recommendations be specified more in detailed.

It happened even at present in the case of the subject Natural and social studies that many teachers did not understand well enough the complexity of the subject and they, for example, treated individual elements from biology as elements from biology, and elements from geography as elements from geography. Therefore, they did not consider them a constituent part of the teaching unity or theme. With the new curriculum for the subject Environmental studies the danger of such misinterpretation becomes even greater particularly due to the planning of the subject's teaching goals. The authors of the curriculum were probably aware of this danger, which is why the SCC for Environmental studies offered seminars educating teachers, where suggestions for the temporal distribution and connecting of teaching goals into didactic groups of topics were also presented.

The compared curricula have many contents in common, since both stem from the child's close environment. Both also have the same basic goal, namely that children should familiarise with the world in which they live.

A comparative analysis of the contents for the subject Environmental studies and Natural and social studies shows the following characteristics:

- The following common contents exist: school, family, holidays, orientation in time, the school environment, the close natural environment such as the garden, field, meadow,.. maintaining one's health, farm/domestic animals and pets, traffic, the weather, contents from technical education.
- Some contents in the curriculum for Environmental studies are new: the person as an individual, the rights and obligations of children, one's past, body features, movement, sending and receiving messages.
- The syllabus for Environmental studies contains less contents relating to character education.
- The syllabus for Environmental studies does not contain teaching contents named after the seasons. The seasons are not in the centre of attention, but they are recognisable. "The pupils should experience nature as constant change and not as leaps from season to season." /3/ (Vrščaj, 2000, p 14).
- Environmental studies employ the contents as a means of developing different skills and activities and through them the pupils' abilities. The same content can realise different goals. Which goals one will choose depends on the pupils as well as on the annual plan in which one determines the gradual development of individual skills, since it is impossible to acquire all at once.
- The range and depth of the treated teaching content in the subject Environmental studies are dictated by operative teaching goals and particularly by the suggested activities for pupils.
- The didactic principle of closeness of living still remains the basic starting point when it comes to the choice of teaching contents.

It is characteristic of both the contents of Environmental studies and the contents of Natural and social studies alike that they are strongly represented in their form of appearance. This makes them suitable for empirical analysis. They can be observed and perceived. The basic route to comprehension is thus empirical induction. It should, however, be noted that lessons do not remain merely at the level of perception, namely empirical perception is followed by in depth treatment which leads to the essence.

Purely rational contents are few. And even they demand of the pupils modest cause-effect connections, logical thinking. Both curricula, however, have many contents which, beside rational (re)cognition, also contain values. This is why it is important that the pupils are enabled and systematically encouraged an emotional experiential experience through which they would be able to entirely comprehend the mentioned contents.

Both curricula contain contents from the field of natural studies as well as the field of social studies. A comparison between the number of goals in the curriculum for Environmental studies and the number of lessons in the individual group of topics in the curriculum for Natural and social studies shows that both mentioned fields are more equally represented in the subject Environmental studies, while the subject Natural and social studies contains more contents from the field of social studies. There are particularly more sociological (ideological) contents stressing remembrance days and national holidays. In the field of natural sciences the differences show in the way the contents from biology and physics are represented, respectively. The former prevail in the curriculum for the subject Natural and social studies, while the latter prevail in the curriculum for the subject Environmental studies.

In the curriculum for Environmental studies, where the teaching content appears more in the function of realising the teaching goals, the teaching goals are merely suggested to the teacher. The starting point in the choice of teaching contents is the defined (operative) goals and standards of knowledge. In the curriculum for Natural and social studies the contents are only briefly defined, which means that the teachers adjust to the environment in which the school stands. They themselves have to decide which are the basic elements of a certain teaching topic, how to link them as basic principles and define the logical axis of the content, since the curriculum does not define the obligatory/compulsory, average, basic requirements regarding the teaching contents intended for all the pupils. The standards of knowledge are also not defined.

In the curriculum for Environmental studies the teaching contents are arranged in the form of a spiral, which means that from the first grade the teaching contents gradually widen at a minimal amount of repetition. There is only as much repetition needed to ensure a continuity and correlation with the increasingly demanding teaching contents.

In the curriculum for the subject Natural and social studies the concentric structure of the teaching contents prevails. The individual larger study units (the home, school, our town...) are structured on the basis of temporal and spatial centres, the circumference and depth of which differ according to grade. Such distribution anticipates a sound knowledge of the curricula also along the vertical in order to avoid disadvantages such as the repetition of the same topics from year to year, a waste of time, the disappearance of the essence of the teaching content resulting in the lack of motivation on the side of the pupils.

### 3.5 Ways of realising the curricula

As defined in curricular theory the operative teaching goals are an unavoidable condition for choosing the best didactic strategies in the teaching-goal approach to the forming of the curriculum. This has been taken into consideration also in the curriculum for the subject Environmental studies, where the defined accounts of the pupils' activities, the suggested teaching contents, the special didactic recommendations and the inter-subject connections are considered as ways to the realisation of the operative teaching goals.

In the curriculum for the subject Natural and social studies, the following elements serve as aid for the teachers in the realisation of the general goals, and especially the realisation of the teaching goals: the number of lessons (in hours) each individual group of topics is dealt with, the practical work of the pupils, explanations and instructions by the teachers.

A more detailed analysis involves those elements which are common to both curricula, that is the activities of the students and the recommendations and instructions for the pupils.

#### 3.5.1 The pupils' activities

The pupils' activities are in the curriculum for the subject Environmental studies defined as a suggestion. They include a variety of activities. The analysis of these activities was performed according to the classification set up by Bogнар.

The table shows that the prevailing pupils' activities are practical ones, followed by expressive activities and to a lesser extent the sensory and mental ones. The pupils would thus in the framework of the subject Environmental studies to a large extent through practical activities realise mainly cognitively set learning goals.

"We became aware of another leap in the planning of the subject Environmental studies, namely the leap from what pupils can do with their hands to what they can do in their mind. From manual skills on to expressing what had been done, and reflecting on how it was done." /5/

That physiological-motor and mental processes are closely connected has been argued by many psychologists. Piaget in his research, for example, set out to prove that the development of thinking is a process of internalising operations. The process of thinking is developed in such a way that in the course of the lessons as many situations as possible are created in which the pupils can operate with concrete objects, follow practical operations and internalise them. "When I say active, I mean two things, namely one is action with concrete objects,

**Table 2** Presentation of individual types of pupils' activities in the curriculum for Environmental studies

CONTENT	SENSORY					MENTAL	PRACTICAL	EXPRESSIONAL		
	OB	L	F	T	S			O	W	G
Who am I	1					2				
I and you, you and we						2		11		
I and my school		1				1	2			
We celebrate							1	2		
My past						2	5	2		
Once upon a time	2	1				2	2			1
I and nature	5					3	12	5		2
I and health	1						2	1		
As I look around	4						5	3		2
What I can do	4					4	18	7		
<b>TOTAL</b>	<b>17</b>	<b>2</b>				<b>16</b>	<b>45</b>	<b>31</b>		<b>5</b>

Legend:

OB - observation O - oral; L - listening W - written; F - feeling G - graphical; T - tasting; S - smelling

while the other is the need to develop a social collaboration, group effort at work. The child communicates with others and develops critical thought. And this is an essential factor in her intellectual development." /6/

The pupils' activities anticipated in the curriculum for the subject Natural and social studies were also analysed.

By defining the separately described practical work of the pupils, already the curriculum for the

**Table 3** Presentation of individual types of pupils' activities defined in the curriculum for Natural and social studies

STUDY UNIT	ACTIVITY TOPIC	SENSORY					EXPRESSIVE			PRACT.	MENTAL
		OB	L	F	T	S	O	W	G		
LIFE AND WORK AT SCHOOL (36)	We became pupils	1								9	1
	Pioneers and the pioneer organis.										
LIFE AND WORK AT HOME (12)	Relationships in the family						2				
	My home									4	
	Domestic and other animals in our home									5	
LIFE AND WORK IN OUR ENVIRONMENT (40)	Nature in autumn	3					1			5	1
	Nature in winter	2								4	
	Nature in spring	3					1			4	1
	Nature in Summer	2					1			4	
MY TOWN/VILLAGE (12)	Traffic in our town	1					1			7	
	School environs	2					1	1		5	
<b>TOTAL</b>		<b>14</b>					<b>7</b>	<b>1</b>		<b>42</b>	<b>3</b>

Legend:

OP - observation O - oral; L - listening W - written; F - feeling G - graphical; T - tasting; S - smelling

subject Natural and social studies emphasised the important role pupils played in the teaching process. The table shows that pupils are expected to do an abundance of practical work: cut, collect, put together, etc. The findings from the evaluation of 1983 reveal that these activities were only scarcely represented in lessons in Natural and social studies. If they were incorporated into the lessons they usually occurred in the final phase, more in the function of repetition and verifying the findings. The main focus of the lessons was on the content, on the introduction of concepts derived from observing objects and phenomena, and partly on the understanding of their correlations.

The basic difference between the curricula for Environmental studies and Natural and social studies thus is not in the way individual types of pupils' activities are represented, but rather in the definition of their basic roles. In the curriculum for Environmental studies, the pupils' activities are the starting point and the basis for the teaching process, while in the curriculum for Natural and social studies they are more in the function of repetition and revision.

### 3.5.2 Didactic recommendations

Comparing the didactic starting points in both curricula it is possible to observe the following:

- They are named differently (recommendation or instruction, respectively). The expression "recommend" means useful, good for somebody. Instructions define how something is done. If these explanations are transferred to the didactic starting points in the curricula, it can be established that didactic recommendations in the curriculum for the subject Environmental studies give the teacher the freedom of more autonomous conduct than the instructions in the curriculum for the subject Natural and social studies, where the responsibility for the realisation of the pedagogical part is transferred to the authorities prescribing the manner and content of work.
- They are written in different places. In the case of Environmental studies the recommendations immediately follow the general goals whereby they immediately answer the question of how the teachers are expected to achieve their goals. In the case of Natural and social studies the instructions are written at the end of the syllabus, which is in terms of space far from the definition of the general goals. It might be said that in the case of Environmental studies there is a closer connection between the general teaching goals and didactic recommendations (and with this a better guidance for the teachers) than in the curriculum for Natural and social studies.
- The didactic aspect is given greater emphasis in the curriculum for Environmental studies. The didactic recommendations better guide the teachers in(to) organising the lessons by suggesting the methods, procedures and teaching instruments. The instructions in the curriculum for Natural and social studies, on the other hand, are more content oriented. "If we are deciding in favour of teaching-goal planning, this presents an "explicit description of methods", since connections between certain methods exist which are legal and empirically verifiable (in many cases already verified) /7/.
- A different role of the pupil. The curriculum for Environmental studies places greater emphasis on the experiences and ideas of the children in planning the lessons. Special attention is paid to the pupils' activities within the teaching process, where they can develop their ideas and make new discoveries in the course of concrete activities. It is possible to say that the pupils, their experiences, their prior knowledge and their development are the starting point of the planning, realisation and evaluation of the teaching process.
- A different role of the teacher. The didactic recommendations of the curriculum for Environmental studies places special emphasis on the role of the teacher. The teacher is the source of knowledge and the centre of events. She leads the pupils and guides them towards various activities. "Unlike in the traditional school, the teachers' attention here is redirected from the programme to the pupils. The teachers monitor the development and progress of the pupils, and the curriculum merely presents a means to achieve the desired or anticipated goals" /8/ The didactic recommendations for Environmental studies place greater emphasis on research and experimenting by the pupils or on organizing lessons which would enable the development of such skills and abilities. The subject Natural and social studies, on the other hand, makes pupils' observation the starting point of the formation of presentations and notions/concepts.
- In the special-didactic recommendations for teaching Environmental studies, the presence of didactic games is greater than in the instructions of the curriculum for Natural and social studies. In the former the developmental needs of the pupils are more frequently taken into consideration than in the latter.
- The curriculum for the subject Environmental studies defines the inter-subject connections with other subjects separately (in a separate column)

more explicitly and with greater emphasis than the instructions of the curriculum for Natural and social studies. By this the effort to obtain holistic knowledge is indicated.

- The curriculum for Environmental studies is based on the constructivist and humanist theories of learning and teaching which both place the children and their development in the centre of attention. The didactic recommendations are also “structured” in this way. The curriculum for Natural and social studies has its bases in the associative theory of learning and teaching, where the stress is on the teaching content and its informative value. Therefore, the instructions, too, are defined more in terms of content. The realisation of the teaching content is in the foreground rather than the pupil.

### 3.6. Evaluation of curricula

An important element in the planning of the curriculum, as far as curricular theory is concerned is evaluation. The curriculum for Environmental studies anticipates that in the evaluation of it the teachers make use of the instructions for the descriptive monitoring and evaluating of the pupils’ achievements, equipped with a suggested catalogue of knowledge for the individual grades and with the basic standards of knowledge for the end of the first triad. All this is an appendix to the national curriculum (for primary schools).

The analysis of the suggested catalogue of knowledge in the first grade, where the minimal standards of knowledge are defined for each content group of topics, shows the following:

- Most of the verbs are in the indefinite form or in the third person singular present tense form, for example “to know” or (the pupil) “knows”. This is followed by the verb (he) “familiarises” (with), etc. As such they are not semantically verifiable enough, since they allow for different interpretations. Only few are written down in an operative form like, for example: *she can describe the body, she can take apart and put together*, especially under the group of topic: “Things I can do”.
- There are 40 defined goals. Most of them are cognitive goals, the taxonomic stage of which is difficult to define due to their lack of operativism.
- They do not offer enough help for the teachers to evaluate the minimal achievements of the pupils.

It is our opinion that standards of knowledge defined in such a manner do not perform their function. The catalogues of knowledge are more like a characteristic of the learning-content strategy of

planning. We think that a catalogue of the teaching goals for the subject Environmental studies, where not only the knowledge of the pupils would be concretised but also their abilities and personal characteristics, would be more useful to the teachers in their evaluation of the pupils’ achievements.

The curriculum for Natural and social studies does not include any standards which could be of use to the teacher as a criterion when establishing the realisation of the teaching contents. It is thus not possible to compare the curriculum for Environmental studies with that of Natural and social studies from the point of view of evaluation in this respect.

## 4 Conclusions

The curriculum for Environmental studies is designed very “openly”. Its most binding element is the teaching goals. Teaching goals defined at various levels mean being better defined in terms of range and depth of the teaching content, which was one of the problems referred to in the curriculum for Natural and social studies. However, in the planning and realisation of the curriculum it is especially important to include the aspect of process (the connection between the general and the concrete goals), the integration of goals from natural studies with those of social studies, accounting for their complexity and multi-functionality, accounting for individualization and differentiation,...

The set teaching goals are to be achieved mainly through an increased activity on the side of the pupils in the learning process. In accordance with the constructivist theory, the pupils are expected to build their knowledge on their own, the teacher only giving guidance. The emphasis would be on the practical activities of the pupils in accordance with their stage of development.

The role of the teaching content is changed. Its function becomes the realisation of the teaching goals and to a greater extent left to the choice of the teacher. The teachers, namely their autonomy is trusted to on the basis of teaching goals defined in terms of content plan the didactic groups of topic in such a manner that the logical, temporal and psychological unities are included as well as that of content, which is the condition for the structuring of the pupil’s integral view of the world.

The special-didactic recommendations, as already the name itself implies, differ from the instructions defined in the curriculum for the subject Natural and social studies. They present a novelty in the field of methodology and didactics and the modern approaches to teaching.

The standards of knowledge in the curriculum are the basis for evaluating the successfulness of

the lessons. It should, however, be noted that they can not be the sole criterion of successfulness, but should be supplemented by tools for monitoring the development and progress of the pupils also in other areas.

It is possible to conclude that the curriculum for Environmental studies is based on a modern concept, is realisable and requires well trained teachers. The first evaluation studies, however, will show how the curriculum will actually be realised in practice.

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