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*Democratization Of  
The Process Of  
Studying The Contents  
Of The Subject Natural  
Science At 4th Grade*

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## ABSTRACT

The changes of the situation in science and technology caused necessary changes in the society, but also in the education. The same applies to the way they are implemented in the teaching, ie, the teachers' style of work. The subject of this research will be the democratization of the process of studying the contents of natural science as a subject in 4<sup>th</sup> grade. There will be separately considered traditional and democratic style of work on this subject. Nowadays student should not only know the number of scientific facts, but need to know how to get the necessary information and hoe to use them correctly. Therefore special attention will be paid to the impact of democratization on the activity of students, cooperation, their interests, developing skills, interacting etc. The purpose of this research is to check and determine the impact and cognitive values of some methods, techniques and procedures in the democratization of the educational process in the study of curriculum for the subject in natural science for 4<sup>th</sup> grade.

**Keywords:** teaching, democratic style, traditional style, natural science, students, teacher

## 1. INTRODUCTION

Within the overall socio-political transformation of our society, in terms of general democratization of social relations, economic transition and preparation for integration into European structures and flows, the democratization of education at all levels and for all participants has a key role. Therefore, it is necessary that all participants in the educational process to be encouraged to take on new roles in the democratization process and to be encouraged in the acquisition of knowledge, skills and abilities for critical application of functional knowledge in the educational system, its shape and essence.

The curriculum content of natural science subject for 4<sup>th</sup> grade has multiple functions. The first is learning the terms, meeting the needs and the interests of students and enabling better understanding of their own environment. Nowadays student should not only know the number of scientific facts, but need to know how to get the necessary information and hoe to use them correctly.

## 2. THEORETICAL APPROACH

### *Traditional and democratic style of work*

The question about the results of the educational process in recent times is a subject that preoccupies the society. The changes of the situation in science and technology caused necessary changes in the society, but also in the education. The same applies to the way they are implemented in the teaching, i.e. the teachers' style of work.

**Traditional style** of work has the following features:

- the preference of the material component of the teaching process- the acquisition of knowledge,
- strict differentiation in teaching- expressed with the present system,
- the processing of the contents of instruction units
- dominance of verbal sources of knowledge,
- using verbal methods in teaching,
- using acts by which knowledge is transferred to students,
- predominance of frontal form of teaching,
- reproductive character in checking the knowledge,
- the application of didactic principles, systematic, durability, visibility, etc.,
- determination of 45-minute duration of the lesson,
- the students sitting in desks connected by two or three,
- no opportunities for visual communication in teaching,
- quiet atmosphere when speaking teacher or student,
- no opportunity to express one's opinion,
- presence of authoritarian spirit. (Nikolovska, 2000)

The traditional style of work is based on memorizing and reproducing facts by pupils emphasized passivity and obedience and lack of creative thinking and resourcefulness in new situations. By the traditional style of work students are served certain sequences or packages of curriculum material in the form of teaching units, by highlighting what is important, what we need to remember what to pay attention to. This style of work abounds with facts, which for years among students develop fear of mistakes and failure. With this style of work students typically receive only two major information-that they should study and be disciplined.

**The democratic style** complements the frontal work through using other shapes, forms, methods, strategies. It also includes the transfer of knowledge and experiences shared through social contacts and actions in which learning takes place organized or spontaneous, and as a result it is appear relatively permanent changes in thinking, emotions and behavior. This style of work allows interactive teaching through which the students develop important skills, such as communication and information literacy, they achieve the highest quality as well as taking responsibility.

Important features of the democratic style of work in didactic-methodological sense are:

- the advantage of formal component of the teaching- versus the material one,
- dominance of the principle of integration in teaching in the overall educational work,
- tendency towards rounded sections and topics,
- overcoming the present system in teaching,

- annulment of the 45-minute schedule time,
- application of active methods in teaching,
- research approach in the work of students, based on their self-activity, orientation of the study to the real life in the immediate living and working environment,
- emphasizing the principles of interest, activity, spontaneity, applicability, integrity, individuality, autonomy, interaction, communication, etc.,
- insistence on maximum student subjectivity in educational work,
- fostering coordination and guiding role of the teacher and his stimulation,
- democratization of overall relations in the classroom, the school, its openness to the family and other factors in the environment,
- placing students in centers, corners or groups,
- the discipline means working with free communication between students and the rotation of the activities of the group, ie the centers. (Nikolovska, 2000)

Using the democratic style of work allows a different style of communication between students and between teachers and students. It encourages various issues, interests for different things, share ideas, personal initiative, relationships characterized by trust in the competence of the student, positive impact on learning, the active construction of knowledge and the development of awareness of self as a responsible student who is a part of a community.

### **3. METHODOLOGICAL APPROACH**

#### **3.1 SUBJECT OF THE RESEARCH**

The subject of this research will be the democratization of the process of studying the contents of natural science as a subject in 4<sup>th</sup> grade. That relates to:

- greater activity of students during class,
- greater cooperation between students during class,
- increased interest among students for activities realized in class,
- greater opportunity for the students to develop certain skills,
- greater opportunity for creating values (positions) by the students,
- greater opportunity for interactive relationship between students during class.

#### **3.2 PURPOSE OF THE RESEARCH**

The main purpose of this research is the democratization process of learning the subject content in natural science for 4<sup>th</sup> grade for drawing certain conclusions and guidelines, as possible basis for improving it.

### **3.3 METHODOLOGICAL GOAL**

Methodological goal of this research is to check and determine the impact and cognitive values of some methods, techniques and procedures in the democratization of the educational process in the study of curriculum for the subject in natural science for 4<sup>th</sup> grade.

### **3.4 JUSTIFICATION OF THE RESEARCH**

The real democratization of the educational system and general democratization of the society, could not be achieved if the process of education is reduced to a minimum number of offers for a limited number of consumers of educational services. This means that there should be a modern approach that provides incentives and social conditions, a wealth of educational offer in different institutions, not just within a single clue, as school. Only in this way we shall talk about „open universities“, „alternative schools“, „cultural centers“, „universities without walls“, „workers universities“ and so on. To achieve this we need a serious and professional approach, educational offerings, which deviate from the traditional, seriously and responsibly planned and programmed.

### **3.5 TYPE OF THE RESEARCH**

This research is operational (applied) research because it is realized in the area of teaching practice with an emphasis on the study of the curriculum for the subject in natural science for 4<sup>th</sup> grade and it relies on the knowledge of the practice. It also seeks to generate knowledge that will contribute to solving some general or particular problems in practice in teaching. Also, this research is qualitatively since aims to reveal the relationships between subjects in the classroom, or to obtain knowledge for the way they experience the phenomena and relationships around them. That's why it is necessary to work outside and in natural conditions without external input variables. The aim is to discover and understand the views and beliefs of teachers and students as individuals and the process of teaching that they directly shape.

### **3.6 MAIN AND SPECIFIC HYPOTHESES**

Democratization of the process of learning the lessons in natural science for 4<sup>th</sup> grade influence the improvement of learning outcomes of students in the same study.

1. The use of the democratic style of learning increases the activity of the students.
2. The use of the democratic style of learning increases the collaboration between students.
3. The use of the democratic style of learning increases the interest of students.
4. The use of the democratic style of learning offers the possibility of formation of values and attitudes of the students.
5. The use of the democratic style of learning offers greater opportunity for the students to develop skills.

6. The use of the democratic style of learning increases the possibility of an interactive relationship between students during class.

### 3.7 POPULATION OF THE RESEARCH

The population of this study consisted of students and teachers from 4<sup>th</sup> grade from eight schools of urban environment and two primary schools in rural environment. They were observed, and also interviewed as well as the teachers of these classes.

### 3.8 SAMPLE OF THE RESEARCH

The sample of this research is intentional, because it involves schools from the urban environments that have a minimum A and B classes and schools from the rural environment which have larger number of students in the class, which was clean (not combined).

For complete coverage of the problem of the research it was approached to combining the following methodology and methods: descriptive method in order to get closer to the respondents (teachers and students) and to be understood exactly what they think and how they behave in terms of given categories.

### 3.9 PROCEDURES IN THE RESEARCH

From procedures, there were used field notes that provided insights on events directly through listening and watching and conceptual notes that in turn enabled drawing conclusions from observation.

As instruments were used protocol for monitoring, intended for the students, for their observation during teaching hours of the subjects Natural science in 4<sup>th</sup> grade and questionnaire intended for students, that helped to be seen the opinions of students on previously given categories about the process of learning the lessons of this subject.

It was also applied a tool for noticing the knowledge of the students about the content that was studied, immediately after class.

It was also used a questionnaire, designed for teachers to see their opinions on certain previously given categories about the process of learning the lessons of the same subject.

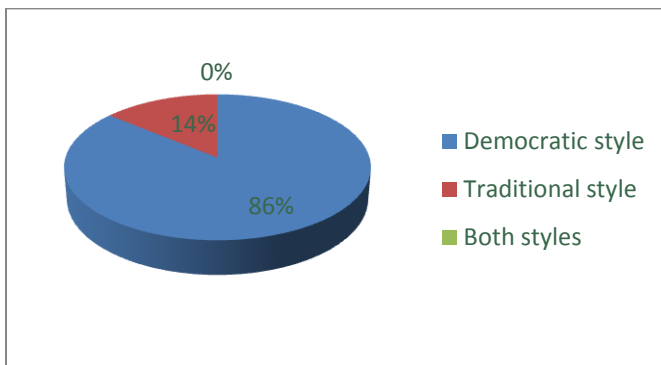
## 4. PROCESSING OF DATA

### 1. The application of the democratic style of learning curricula increased the students' activity

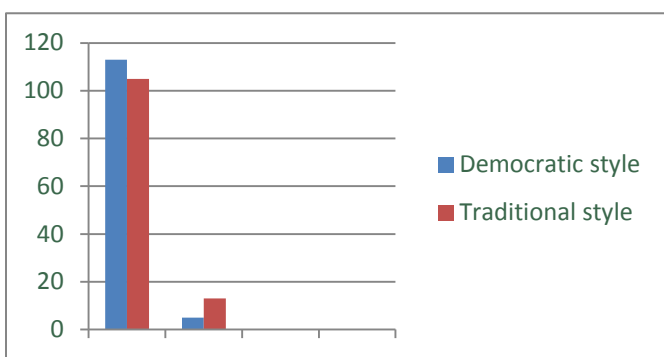
	Monitoring of the class	Democratic style	Traditional style
1	Self expression of the desire to actively participate in class by students. (Includes lifting hand, addition, discussions)	4,1	3,6

Table 1: Monitoring of the class

a) Greater students' activity



b) Did you have the opportunity to be active on this class?



	Yes	Partially	No
Democratic style	113	5	0
Traditional style	105	13	0

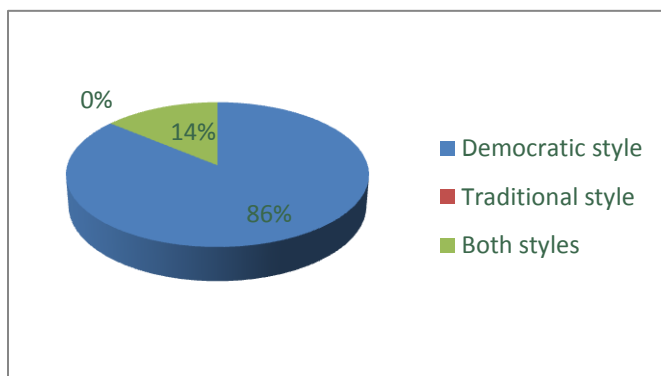
Figure 1. Responses of a) teachers and b) students

2. The application of the democratic style of learning increases the collaboration between students.

Monitoring of the class		Democratic style	Traditional style
2	Showing the need for cooperation from the students. (Includes sharing items, chat, experience, support and encouragement)	4,9	1,7

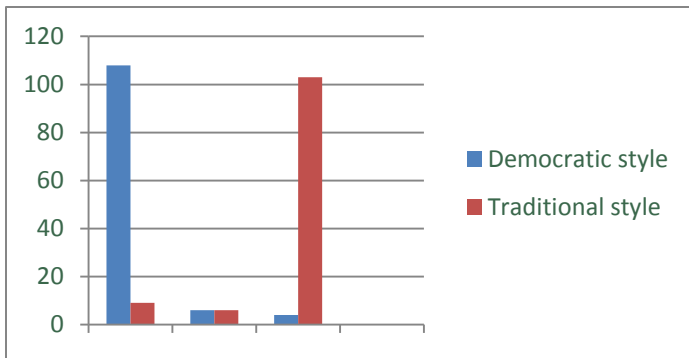
Table 2: Monitoring of the class

a) Greater cooperation between students





b) Did you have the opportunity to collaborate with other students in this class?



	Yes	Partially	No
Democratic style	108	6	4
Traditional style	9	6	103

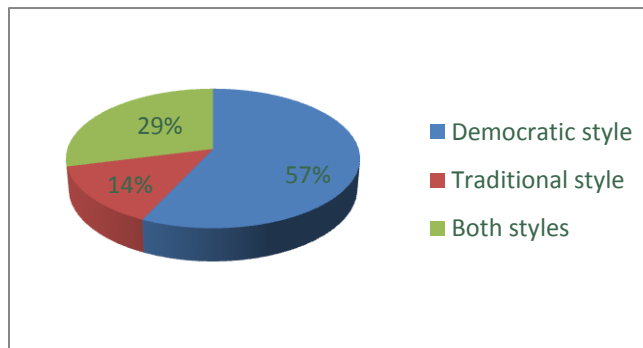
Figure 2. Respond to a) teachers and b) students

3. The application of the democratic style of learning curricula increases the interest among students.

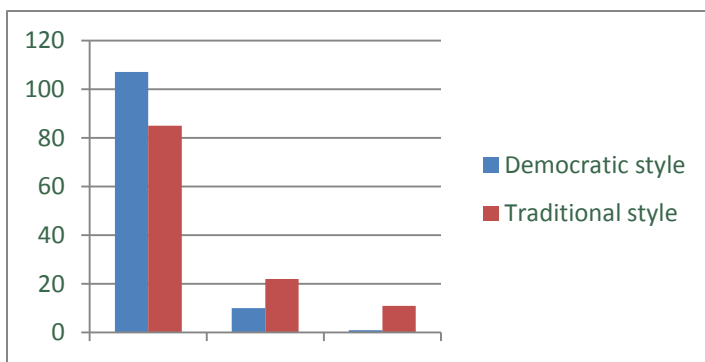
Monitoring of the class		Democratic style	Traditional style
3	Showing interest by students for activities realized in class. (Includes asking questions, lifting hands, discussing, questioning, answering)	4,7	3,6

Table 3: Monitoring of the class

a) Greater interest among students



b) Does this class was enough interesting for you?



	Yes	Partially	No
Democratic style	107	10	1
Traditional style	85	22	11

Figure 3. Respond to a) teachers and b) students

4. The application of the democratic style of learning curriculum offers greater opportunity for the students to develop skills

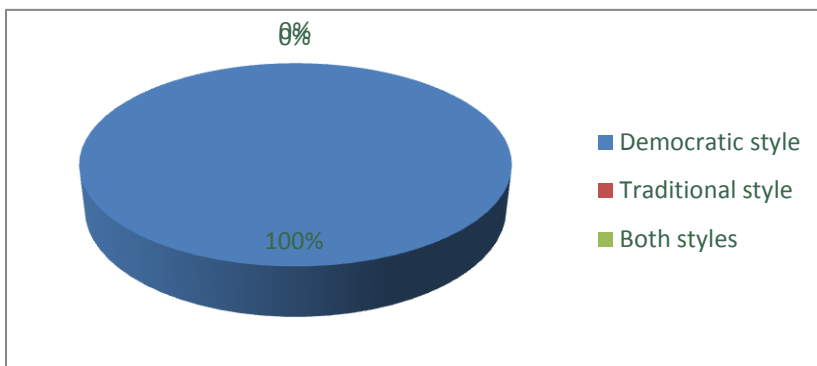


Figure 4: Teachers' answers

5. The application of the democratic style of learning offers formation of values and attitudes of the students.

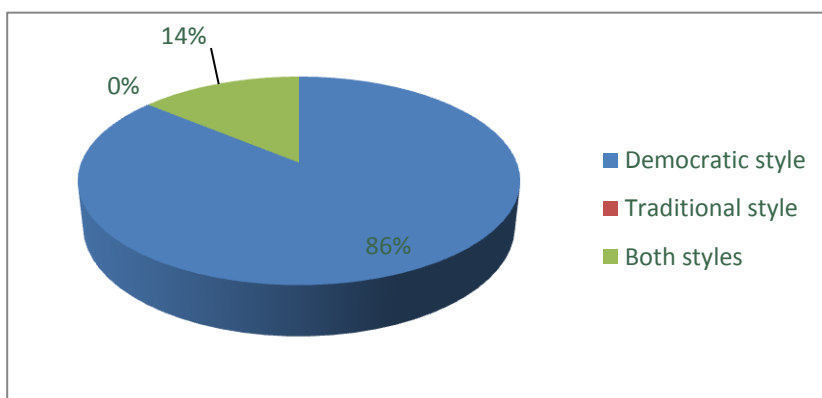


Figure 5: Teachers' answers

6. The application of the democratic style of learning increases the possibility of an interactive relationship between students during class

Monitoring of the class		Democratic style	Traditional style
6	Existence of the interactive relationship between students. (Includes mutual cooperation, assistance, respect, trust)	4,9	2

Table 5: Monitoring of the class

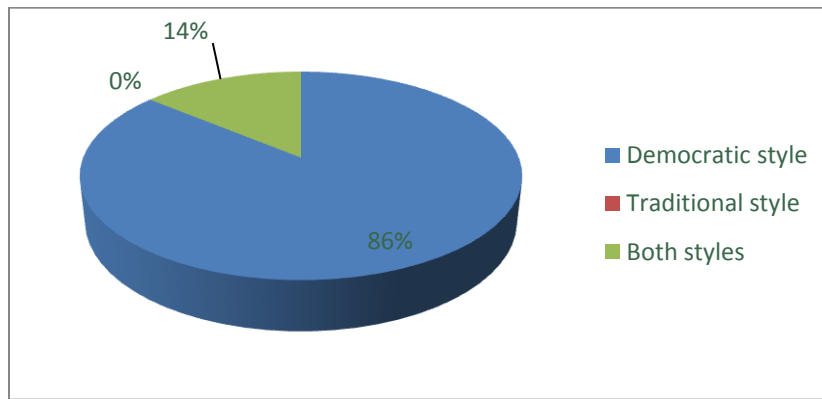


Figure 6: Teachers' answers

## 5. RESULTS AND CONCLUSIONS OF THE STUDY

By the research, by data processing and their commenting, we came to the following indicators and conclusions, that the use of the democratic style of learning:

- Increases the activity of the students.
- Increases the collaboration between students.
- Increases the interest of students.
- Offers the possibility of formation of values and attitudes of the students.
- Offers greater opportunity for the students to develop skills.
- Increases the possibility of an interactive relationship between students during class.

From the above we concluded that the use of the democratic style of work in the study of the contents of the subject Natural science at fourth grade gives better results than using the traditional style of teaching them. We believe that these findings will contribute to the development of teaching practice forward when it comes to the democratization of the process of learning the lessons of the subject Natural science at fourth grade. The principle of democracy could be realized if there is a rich didactic-methodical offer in stylish and material terms and other small but important things for the educational process. Teachers, who play a very important role in the overall process, should continue to excel in this direction in order to be able to enable present and future generations, a faster and easier way to solve problems of personal, professional, local and globally.

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