Implementation of Activities Based on the NTC System of Learning and Their Impact on the Students' Success in Turkey

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Abstract

The primary role of NTC (Nikola Tesla Center) is to use new discoveries in the field of neurology in classrooms and in everyday life. This learning program consists of various activities and games for children. This experimental research was carried out in one government primary school in Canakkale, Turkey. 27 students from the third grade (17 males and 10 females) were included, and in the pre and post-testing, they responded to 16 questions related to the knowledge they gained during the implementation of the experimental factor, as a part of the NTC learning system, related with knowledge of flags from 20 countries. The results showed that many of the students did not have enough knowledge about flags, capital cities and landmarks from other countries in the pre-testing. After the application of eight activities on the topic of flags created from the NTS program, we noticed more success in the responses of students in the post-test. Prior to the realization of the experiment, one basic and two auxiliary hypotheses were put forward. After the implementation of the research, it was concluded that the activities based on the NTS system of learning have an impact on the students' success.

Keywords: NTS system of learning, success testing, effective learning, logical thinking.

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Introduction

The most important period for brain development and cognitive abilities is up to the age of twelve, especially in the first few years of life. Hence, it is evident how the role and responsibility of parents are crucial for the child to realize his or her potential (Rajovic, 2016). The most precious time is before the child goes to school because the development of the brain is the most intense then. The significance of this period points to many studies that clearly explain that the time and efforts involved in raising a child at an early age have a much greater impact than when we do it later (Rajovic, 2009a).

The NTC system of learning (Nikola Tesla Center) and its author Rajovic (2009a), provide new information in this field, with a combination of knowledge in the field of pedagogy, neurophysiology, psychology, genetics, and special education, an effective program was created in order to stimulate children's intellectual abilities at early pre-school age (Dolezhalova, 2014). The program originates from Serbia, and the core of the program is based on clinical findings on the principles of the human brain, which leads to the fact that the preschool period plays an important role in determining the future styles of learning, memory, intelligence, attention and potential giftedness (Rajovic, Dautovic & Lucija, 2009). Such skills can also predetermine a child's future career. But the NTS system of learning is not just a method for identifying giftedness in children or stimulation of child's brain for later performances, but also it is responding to the needs of many children suffering from learning difficulties such as dysgraphia, dyslexia, etc. (International, organization of individuals with high IQs, MENSA, 2010).

The activities aim to stimulate and support the physical and cognitive development of children in the key period. Special emphasis is placed on learning abstract symbols, which are then leveled by classification and visualization through associative techniques (Rajovic, 2009a). According to Rajovic (2016), children's learning through play is of particular importance and it includes:

•Classification - the child classifies objects according to one characteristic, for example, separates white from the red balls;

•Serialization - the child lines objects according to their size (for example, a large ball, then medium and small);

•Analogy - For example, we ask the child about the similarities between the Irish and the Italian flag, which are not in Russian and French. The child analyzes those flags in thoughts by answering: "Green color".

•Association - helps in everyday life. The cortex for the association is an important part of the human brain and an entire network of synapses develops for this important region of the brain.

•Abstraction - recognition of symbols from abstract concepts (Rajovic, 2014a);

The program is realized in three phases:

Figure 1. Phases of NTC Program

PHASE I: Stimulation of the development of neural connections and pathways (additional stimulation of synapses) - exercises for motor skills, graphomotor skills and accommodation of the eye. This phase emphasizes the importance of the development of motor and graphomotor skills that help the physical and intellectual development of children. Through a series of activities, children find the best solutions to overcome obstacles and develop their coordination, as well as the sense of space. In today's school system, games such as rotation, jumping, and graphomotorics are unfairly neglected for the experiment of children and their overall development. Dr. Rajovic through the NTS system provides simple, efficient and above all useful graphomotor exercises that stimulate physical activity, according to the latest research and mental development of the child (Rajovic, 2012a).

PHASE II: Stimulation of the development of associative thinking: Level 1 - abstraction, visualization; Level 2 - abstract classification and serialization; Level 3 - association, music.

The second phase presents several levels, from recognizing abstract concepts to their connection and skillful handling through abstract classification, serialization, and association. Most children spontaneously recognize abstract symbols, but over time they lose interest because parents do not know how to bring them to a higher level, which is extremely stimulating for the development of thought processes. It is the NTC's learning system that finds transitions to more complex forms of abstract classifications and serializations, which is the basis for the development of mathematical/logical intelligence (Rajovic, 2009b).

PHASE III: Stimulating the development of functional thinking: a) Mysterious stories; b) Confusing questions, convergent thinking; c) Simulative questions, divergent thinking (Rajovic, 2012b). The development of functional thinking is imperative for keeping up with the educational system of the developed countries. NTC encourages the development of functional thinking with the help of confusing questions and stories that children are happy to find the right answer (Rajovic, 2012c).

Literature Review -Related Researches

Until now, two types of research have been undertaken on this subject, one in 2015 by authors Grozdanka Goykov, Ranko Rajovic & Stojanovic, and the other research was conducted in 2014 by

Lucy Dolezhalova. In the first research (Gojkov, Rajovic & Stoyanovich, 2015) the authors examined the NTC system of learning and divergent production. The subject and problem of their research are related to the observation of the ability to foster the development of critical thinking according to the NTC system of learning.

The survey included 23 respondents from the IV grade. Respondents were selected by their teachers and psychological assessment as gifted students. The researchers applied initial testing, then as an experimental factor, they implemented workshops for 10 days every day for 5 activities of 45 minutes. The content of the activities was exercises for creative thinking, creative imagination, inventiveness, and divergent productions. After 10 days, the researchers conducted final testing. In the obtained results, the average number of divergent responses in the final test related to the initial state of divergent production, determined by the T-test of the associated samples, is statistically significantly increased. As a conclusion, it explains the significant impact of the guidelines and guidelines on the divergent productivity of students represented in the NTC system, effects which are monitored in the research. The T-test assessed the impact of instructions and guidelines on students' divergent productivity. In the end, the researchers showed that the number of all correct answers to Test 2 was statistically significantly increased compared with Test 1.

The second research (Dolezhalova, 2014) is part of a master's thesis titled "The NTC System of Learning as Applied in an English Kindergarten". The research included a sample of 6 children at the age of 6 years who attended a kindergarten. In the same institution, she implemented activities of the NTC system of learning for 6 months. The researcher with the observation method highlighted the individual differences in children before and after the introduction of the activities. In her results, Dolezhalova (2014) noted a gradual improvement among all students, noting that they improved their knowledge, retained their attention for longer and by the end of the first phase they were able to learn up to 5 flags.

Methodology

In this part, information about research design, participants, instruments, procedure and analysis were presented.

Research Design

In this quantitative research, the method of experiment with single group was used. The independent variable is the impact of the implementation of some of the activities of the NTS system of learning. Pre-test-posttest single group pattern widely used and measurements are performed before and after the experiment in the group (Karasar, 2009). According to Karasar (2009), who states that there may be dependent and independent variables in each research trial: The argument is "cause" as the tried variable or stimulus variable; dependent variable is defined as "result". There are some

reasons for using the experimental method in researches. The main reason is to measure the effectiveness of elements such as a new learning method, a new program, a new class order, and if the results are positive, take advantage of this and make suggestions about it (Ekiz, 2009).

Participants

The sample was made up of 27 students (17 male and 10 female) from one Government Primary School in Çanakkale, Turkey. Criteria for selecting students were age and attendance in the same classroom, in order to enable easier implementation of activities, while students knew each other and were present in the same classroom. All the students were aged 9-10 years and attended the 3rd grade. The class selection was made according to the education program of 3rd grade which includes Life Science classes, which was appropriate subject for NTS system of learning. Also, it was very important for us to implement the research with teachers who were willing to participate. The research was conducted in the period from March to May 2019.

Procedure of the research

As an experimental factor, we implemented all activities related to knowledge of flags among the students from the third grade. In the procedure of the experimental model with one experimental group, we implemented the following phases (Angelovska-Galevska, 2003):

-Examination of the general knowledge about the flags that the students possess, with initial measurement or pre-test created by the researchers,

-Implementing the experimental factor- In this phase, we started with the implementation of the foreseen activities created by the methods of NTS system of learning related to learning the flags from different countries appropriate for the age of students,

-Final measurement- in this section we applied the same test to students again as a post-test in order to determine the knowledge of students immediately after the implemented activities,

-Comparing the results - the phase in which we compared the results obtained from the pre and post-testing in order to determine the differences in the responses of the same group of respondents,

-Conclusions - in this section, we analyzed the results obtained in order to confirm or reject our hypotheses.

This applied quantitative research is an evaluation at the same time because we tested the effectiveness of the NTS learning system as a program that can be included in the education system. The research problem is evaluative because we tried to analyze the effects of the implemented system of learning and confirm the assumption about the need for this program in the education programs for the third grade.

Our basic hypothesis was: The activities based on the NTS system of learning, have an impact on the success of the students.

Auxiliary hypotheses are:

- We assume that students will have previous knowledge about the flags of the countries, because they are gaining knowledge in the Life Sciences class, from the school program.

- We assume that after the implementation of the planned teaching activities, the knowledge of the students will increase, considering the previous experiences of 'learning trough fun' method of the NTC system of learning.

- It is assumed that the students' motivation using the NTC system will be enhanced compared to the ones with the traditional way of learning.

Experimental Factor

For this research, as an experimental factor, we created the activities using the methods of NTS system of learning. Adequate to the age, within 3 months, in the curriculum of the Life Science lessons, in the classes foreseen for teaching other countries, we have introduced all the learning activities of the flags. Also, two classes from the Music Education subject were provided for listening to the national anthems from the foreseen states, and one class from the Gym subject was provided for motor activities - games with flags. With 27 students from one grade, a total of 8 activities for 20 countries and flags selected earlier were applied. All activities concerned only the flags of Turkey, Azerbaijan, Greece, Bulgaria, Ukraine, Romania, Russia, Italy, Germany, France, Bosnia and Herzegovina, Croatia, Austria, Poland, Finland, Sweden, Norway, Macedonia, England, and Spain.

I. Activity - divided into two 40min. classes – Introduction with flags, commenting on their colors, shapes, symbols, stars, etc.

II. Activity – divided into two 40min classes- Interrogation of the national anthems from all 20 countries, commenting on their rhythm (which are fast and slow), commenting on the anthems that are emotional or exciting, expressing the feelings caused by a certain anthem in them,

III. Activity – divided into two 40min classes - Activities for connecting the name of the country with the flag and the capital city of the same, informing the students about famous dishes, traditional costumes, monuments, famous buildings, famous products, etc.

IV. Activity - one 40min class - Students who have already learned flags and countries are asked open functional thinking questions (e.g., which flags are made up of 3 colors? Which flags have vertical lines? In which flags one of the colors is white? In which flags can you see the symbol +? etc.)

V. Activity - one 40 min. class - Physical activity is prepared for the students in the schoolyard where the flags are re-represented (on a previously prepared path, maps with the twenty flags are

placed upside down.) The students on the draft order on the track (jumping on one foot, crawling, etc.) come to one of the cards and try to guess the country, after the correct answer it is necessary to say the capital of the country, as well as several features of the same).

VI. Activity – one 40 min class - in a large geographic map, students find the countries and place flags in their place.

VII. Activity - one 40 min class - on a large geographic map, students respond to previously asked questions (which countries are on the border with Turkey? Which countries are located south of Macedonia?, which countries are located north of Germany? Which countries are in the northwest of Italy, etc.? Once the students find the correct answer, the teacher asks questions and they reveal how to arrive from A to B point together (for example, which countries do we transit from en route to Germany from Turkey? etc).

VIII. Activity - one 40 min class - Students are given one keyword for one of the countries, and they show the location, the flag, the capital, etc. (e.g. Paris-France, vertical blue, white and red line, Eiffel Tower, French cheese, etc.)

After the realization of all activities, a post-test for the same group of respondents to compare the knowledge of the students before and after the implementation of the experimental factor was conducted.

Findings and Results

The students' answers were analyzed in three tables. At first, we presented the results obtained from the test where we assessed the general knowledge available to students before introducing the experimental factor (Table 1).

Table 1. Pre-test results

Questions	Pre-test answers										
	1		2		3		4 +		Total		
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Total
The flag of which countries has a moon?	13	6	2	1	-	-	-	-	15	7	22
The flag of which countries has star?	10	5	6	1	-	1	-	-	16	7	23
The flag of which countries has circle?	11	5	2	1	-	1	1	-	14	7	21
Which geometric shapes are used in the flags of countries?	5	2	3	2	-	-	-	-	8	4	12
Which countries have the symbol + in their flag?	10	3	-	2	1	-	-	-	11	5	16
In the flag of which countries has horizontal lines?	9	1	1	1	-	3	-	-	10	5	16
In the flag of which countries has vertical lines?	8	4	-	-	-	-	-	-	8	4	12
Which color is most used in flags?	9	4	1	1	1	2	-	2	11	9	20
Which color is least used in flags?	10	7	-	1	1				11	8	19
Which color is not used at all in the flags?	10	3	-	2	1	1	1	1	12	7	19
Write the capital cities of the countries whose flags	8	4	1	1	2	-	-	-	11	5	16

you know (in the form country-capital city).											
Which countries are on the border with Turkey?	8	1	2	-	-	-	-	2	10	3	13
Which countries are located on the east of Germany?	2	1	-	-	-	-	-	-	2	1	3
Through which countries are passing on the road from Turkey to Russia?	1	-	1	-	-	-	-	-	2	0	2
Write a known architectural structure from the country you know the flag (in the form: state-architectural structure).	3	3	1	-	-	-	-	-	4	3	7
Write something you know (traditional clothes, traditional food, traditional product, etc.) from the countries.	3	3	-	-	-	-	-	-	3	3	6

From the data in Table 1, we can notice that a large number of students offered only one correct answer or very often did not answer the questions at all. Analyzing student responses, we noticed that the correct answer is most often associated only with the Turkish flag, for example, The question "The flag of which countries has star?", out of the total of 17 male students, 10 answered with Turkey, out of the total of 10 female students, 5 answered with Turkey, 2 students gave more answers, while three students choose not to answer this question at all. Similarly, with the answers to the capitals of several countries, a total of 12 students wrote Turkey-Ankara, only 4 students could list 2 or more capital cities, while as many as 11 students did not answer this question. It is noteworthy that a large part of the students does not have knowledge of any architectural structure or national significance, a large number of students gave only one answer that was related to a monument or building that is located in Turkey or a familiar meal or product that is being prepared in Turkey. To the question "Through which countries are passing on the road from Turkey to Russia?" only two male students gave correct answer.

After the implementation of the experimental factor, all the foreseen activities related to flags, countries, capitals, anthems of the 20 countries, we proceeded to post-testing. The results obtained showed some improvement in student responses (Table 2)

Table 2. Post-test Results

Questions	Post-test answers										
	1		2		3		4 +		Total		
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Total
The flag of which countries has a moon?	2	2	12	8	2	-	1	-	17	10	27
The flag of which countries has star?	3	-	6	5	6	2	2	3	17	10	27
The flag of which countries has circle?	5	3	9	4	3	2	-	-	17	9	26
Which geometric shapes are used in the flags of countries?	3	2	6	-	1	4	3	1	13	7	20
Which countries have the symbol + in their flag?	2	3	5	2	2	1	4	3	13	9	22
In the flag of which countries has horizontal lines?	4	2	3	4	3	-	4	2	14	8	22
In the flag of which countries has vertical lines?	5	3	3	4	2	-	1	3	11	10	21
Which color is most used in flags?	7	1	2	3	2	2	3	4	14	10	24

Which color is least used in flags?	10	7	3	2	3	1	1	-	17	10	27
Which color is not used at all in the flags?	8	2	5	4	2	2	2	2	17	10	27
Write the capital cities of the countries whose flags you know (in the form country-capital city).	6	1	2	3	2	2	7	3	17	9	26
Which countries are on the border with Turkey?	3	4	4	3	2	1	1	-	10	8	18
Which countries are located on the east of Germany?	4	3	2	1	2	1	-	-	8	5	13
Through which countries are passing on the road from Turkey to Russia?	5	2	2	1	-	1	-	-	7	4	11
Write a known architectural structure from the country you know the flag (in the form: state-architectural structure).	6	2	2	3	3	2	2	1	13	8	21
Write something you know (traditional clothes, traditional food, traditional product, etc.) from the countries.	7	3	3	2	1	1	-	-	11	6	17

Analyzing student's responses in post-testing, we noticed improvement, not only by the number of correct answers but also by the quality of responses. Thus, a large part of the students in the question "The flag of which countries has a star?", besides only one answer - Turkey, they answered by listing more flags that were included in the activities, such as the flags of Azerbaijan and Bosnia and Herzegovina. Apart from these flags, some students added four and more answers including America, Australia, the European Union flag, etc. Since these flags were not represented in the responses on the pre-test, we can conclude that one part of the students expanded their knowledge by researching flags that were not covered at all in our activities. On the question that evaluates the knowledge of the capital cities, we also noted improvement, as many as 10 students (7 male, 3 female) offered 4 and more correct answers. It is similar to the answers to other questions. Remarkably, students have expanded their knowledge by emphasizing more architectural structures, traditional food, clothing, and products from different countries, writing more accurate answers.

Table 3. Comparison of the results of the pre and post test

Questions	Pre-test Total			Post-test Total		
	Male	Female	Total	Male	Female	Total
The flag of which countries has a moon?	15	7	22	17	10	27
The flag of which countries has star?	16	7	23	17	10	27
The flag of which countries has circle?	14	7	21	17	9	26
Which geometric shapes are used in the flags of countries?	8	4	12	13	7	20
Which countries have the symbol + in their flag?	11	5	16	13	9	22
In the flag of which countries has horizontal lines?	10	5	16	14	8	22
In the flag of which countries has vertical lines?	8	4	12	11	10	21
Which color is most used in flags?	11	9	20	14	10	24
Which color is least used in flags?	11	8	19	17	10	27
Which color is not used at all in the flags?	12	7	19	17	10	27
Write the capital cities of the countries whose flags you know (in the form country-capital city).	11	5	16	17	9	26
Which countries are on the border with Turkey?	10	3	13	10	8	18
Which countries are located on the east of Germany?	2	1	3	8	5	13

Through which countries are passing on the road from Turkey to Russia?	2	0	2	7	4	11
Write a known architectural structure from the country you know the flag (in the form: state-architectural structure).	4	3	7	13	8	21
Write something you know (traditional clothes, traditional food, traditional product, etc.) from the countries.	3	3	6	11	6	17

If we analyze the data from the total number of correct answers in the pre and post-test (Table 3), we can notice an increased number of correct responses in the post-test within all 16 questions. Thus, in the pre-test, only 12 (8 male and 4 female) students gave a correct answer to the question "Which geometric shapes are used in the flags of the countries?", while in the post-test their number increased to 20 (13 male and 7 female). We noted a big difference in the answers to the question "Which countries are located east of Germany?" there were only 3 students who gave the correct answer in the pre-test, and in the post-test, their number increased by 10, and 13 students correctly answered the question. The situation is similar with question number 14. In the pre-test, only 2 male students could write the country through which they travel on the road from Turkey to Russia, while in the post-test, as many as 11 (7 male, 4 female) students listed most of the countries which they should pass by traveling from one country to another. The greatest difference was noted in the students' answers to a question that is expected to point out some architectural structure from the countries whose flags they know. In the pre-test, only 7 students answered this question, pointing out some famous construction from Turkey, while in the post-test 21 students enumerated more architectural structures from several countries, expressing their admiration from the Eiffel Tower in Paris, the monument of Alexander the Great in Macedonia, Big Ben in London and others who had the opportunity to learn during the realization of the activities provided by the NTS system of learning.

Discussion

In the implementation of the experimental factor, we expected the students' knowledge to be enriched, but during the application of the pre-test, we did not expect such low knowledge at the students. In nearly all 16 questions, we received only one answer that was most often related to Turkey - the flag of Turkey, the colors and the shape of the Turkish flag, the capital city of Turkey, architectural structures, traditional dishes, and monuments as well. The number of students, whose answer included knowledge about another country, was very low.

During the realization of the activities, we noticed great interest among the students. All students actively participated to accurately name all the flags, to learn the capitals and neighboring countries of each country. They showed great interest during the classes which were shown pictures of famous buildings, monuments, traditional meals, and clothes, as well as famous products from all countries. The students repeatedly asked additional questions that were not foreseen in our activities, yet they were referring to the countries for which they gained knowledge (for example, which cars are produced in each country? Which football players come from these countries? etc.). Most of the

students liked the physical activity that was realized in the schoolyard, where through card games and physical orders they tried to respond accurately and to highlight more information for each of the countries that they had previously learned. In the end, it was noticeable that all students wanted to learn more about other countries, too. During the implementation of the last activities they repeatedly asked: What is the flag of Japan?, What is the capital there?, What does the flag of China look like? What is the flag of Brazil? etc.

The same questions that were very difficult for the students in the pre-test, became easier to answer in the post-test. Students, besides the description of knowledge about Turkey, were ready to highlight more information about other countries showing greater success during post-testing. In some of the answers, we noticed that students added countries that were not on the list of our planned activities, which meant that they further expanded their knowledge.

During the implementation of the activities, the teachers involved reacted very positively, too. They felt that it was a failure that learning about other countries was not included in the curriculum in Turkey, because it was obvious that the students from the third grade are ready to memorize this information and enrich their knowledge, which, on the other hand, according to the methods of the NTS system of learning, represents a way to develop the intellectual abilities of children.

If we compare the results from other researchers it can be observed that Dolezhalova (2014) also noted gradual improvement among all students she included in her research. They all improved their knowledge, retained their attention for longer and were more successful at the end of the research. Gojkov, Rajovic & Stoyanovich, (2015) also found a statistically significant increase between Test 1 and Test 2. Therefore, we can say that their results have similarity with the results we had from our research.

Conclusion

Dr. Ranko Rajovic, after two-year research, points out that it has been confirmed that the NTS learning system contributes to stimulating the human brain and development of individual intellectual abilities in children. The main contribution was found when it comes to identifying gifted children, where the method helps to highlight potential gifting quite early and thus provides immediate support to children (Rajovic, 2014b).

The results show that the main benefit of applying the NTS learning system is in (Rajovic, 2016):

•Raising the level of intellectual abilities among children participating in the program;

•Prevention of reduced concentration and attention later in school (dyslexia);

•Development of coordination of movements and motor skills;

•Development of rapid thinking and reasoning (functional knowledge);

•All children benefit from the program, and this is particularly useful for discovering gifted children and for encouraging the development of their talents;

•The number of neural connections is increased, and together with specific exercises, the capacity of the brain to process information is increased.

During the hypothesis set, we tried to predict the results from pre and post-testing. With the first auxiliary hypothesis, we started from the assumption that students have enough pre-knowledge about the flags of the countries. According to the results of the pre-test in which the most common answers were related only to Turkey, we think that the students did not have enough pre-knowledge for other countries so that we can confirm this hypothesis. Also, students were mostly offering only one answer, and for some of the questions, they didn't respond at all. Accordingly, our first auxiliary hypothesis is not confirmed. On the second auxiliary hypothesis, we assumed that after the implementation of the planned teaching activities, the knowledge of the students will increase to a considerable extent. The analysis of students' responses to the post-test shows that there is a growing number of students who have given at least one correct answer. On each of the 16 questions, we noticed more success in all 27 students included in this research. According to the obtained results, we can conclude that this hypothesis has been confirmed. In our third auxiliary hypothesis, we assumed that with the NTS system of learning the students would show higher motivation for work, rather than the traditional way of learning. During the implementation of activities, we realized that all the students were incredibly interested and motivated. They asked many questions and they wanted more activities since they saw all the lessons like playing fun games. All the students during these activities tried to take their turn to speak and answer questions. According to this conclusion, we can conclude that this hypothesis has been confirmed.

Thus, after analyzing the three auxiliary hypotheses, in our basic hypothesis, we assumed that the activities based on the foundations of the NTS system of learning have an impact on the success of the students, is considered validated. After examining the results and assessing the success in student responses, we believe that in each school it is necessary to implement the activities of the NTS program, appropriate for each age, to increase the number of students' general knowledge, and to develop the ability for logical thinking.

The NTC system of learning is a very useful educational program for improving the development of the child and with its unique way of learning gives importance to the development of the brain and the natural need of the child for movement, turning, jumping and learning (Rajović, 2011). The primary purpose of the NTS system of learning is the practical implementation of new discoveries in the field of neurology of classroom education and in everyday life (Rajović, 2016).

Suggestions

Within this research, we believe that the implementation of the activities of the NTS system of learning is of particular importance for the pupils in the primary schools since it enables them to acquire knowledge through playing, enriching and expanding the experiences and developing the intellectual abilities, above all. On the other hand, we have noticed that in the curricula in Turkey it is necessary to implement a number of topics that include acquiring knowledge for other countries.

In light of the findings of this research, we can suggest that this system of learning should be considered during the other lessons of primary schools at different levels and classes. For example, in traffic education, they can learn traffic lights with activities based on the NTC system of learning. Because the NTC system uses the concretizing the symbols making their learning and understanding easier for the school- aged children.

In most of the schools in Turkey, it was hard for us to get permission for working in different classes. Honestly, we really hope that our research is going to be used as an example for other researchers to make it on a larger sample in the near future.

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