Examining Primary School Curriculum from the Perspective of Classroom Education: The Case of 2015-2018*

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#### Abstract

The purpose of the study was determined as the comparison of the 2015 and 2018 primary school programs in terms of program elements. In this study, the subject area, number of functions, content and evaluation dimensions of the Primary School Science, Life Science, Turkish and Mathematics programmes were published by the Ministry of National Education in 2015 and 2018, and the differences between both programs were tried to be determined. Document analysis method, one of the eligible research methods, was utilised in the research, and descriptive statistics and content analysis approach were used. The research's data source was the Science, Life Sciences and Mathematics course teaching and 2019 Turkish teaching programs implemented in 2015 and 2018 from Ministry of National Education's sources. In the research, the program was examined in order to create descriptive statistics, and percentage calculations and acquisition and course rates were compared. Along with these comparisons, the ratios of acquisition, subject areas and number of units in subject areas and units were analyzed. The unit order of the science program has been changed, the subject area of engineering and entrepreneurship applications have been added to the 4 th grade science program, the number of skills in the life studies program has been increased, the 3 learning areas in the Turkish program have been increased to 4 learning areas and the number of themes has been increased. Besides, it was seen that there was not any change in the learning areas of the program, but changes were made in the naming. Moreover, it was discovered that the number of acquisitions in science, life studies and mathematics programs were reduced, while the number of acquisitions in Turkish program was increased. As a result, it was deduced that the content of the curricula was lightened, the general objectives in the new curricula were made simpler and more understandable, and they were integrated with the content of the curricula.


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## 1. INTRODUCTION

People have made efforts in all areas of their lives for a better future. For this, they have made and implemented some innovations. In education, many innovations have been tried from past to present and the best has been tried to be achieved. It can be enounced that with the changing understanding of education today, it is aimed to learn the information in a shorter time, to make the learned information permanent and to enable the students to comprehend the information more easily. Therefore, it is supposed that this change that creates innovation in education and its application on students will lead the world we live in to a better future. For this, a well-prepared training program is needed in order to carry out the education and training process effectively. Even if a well-prepared training program is implemented, the learner cannot be expected to be successful if the application conditions are not suitable or if the application conditions are effective, but there is not a well-prepared program. Therefore, the fact that the education and training programs implemented in schools are functional helps to carry out the education in a systematic way (Özenç, 2018: 39).

Curriculum development process starts with needs analysis, goals are determined according to the data obtained in consequence of needs analysis, then the content, the teaching process, and the evaluation process are planned in the final stage. In consequence of the evaluation, if there are incomplete or unworkable situations, a rearrangement is made. It is the process of designing, implementing, evaluating and rearranging education programs in relation with the data obtained as a result of the assessment (Erden, 1998). Öncül (2000), developing the program, determining the general and specific aims of teaching, choosing the appropriate program material, determining the teaching methods and evaluation tools, creating a formal program outline for each course; he defined them as the steps of testing and finalizing, constantly examining and evaluating the adopted

[^0]program, and improving it. In addition to these items, when developing a program, it is necessary to determine which elements the program will consist of. Program development studies affect all the objectives, content, learning-teaching process and evaluation elements of educational programs. Determining the objectives, organizing the content, methods-techniques to be applied, and assessment-evaluation processes constitute the basis of the program development stages (Saylor, Alexander, \& Lewis, 1981).

With the Education Union Law legislated in 1924 with the declaration of the Republic in Türkiye, all educational institutions rallied under the Ministry of National Education and the curriculum updating studies that began with the help of the provincial management of National Education, maintained the Ministry of National Education's central organization (Demirel, 2012). While researchers declared that one of the most effective ways to develop a good program is to examine past programs, they argued that a road map can be determined from the past to the future in this way (Lester, 2013; Schoenfeld, 2004; Özmantar, 2017).

Program changes were made many times in Türkiye after the Law on the Teaching Union in 1924. During the history of the Republic, it was developed as a draft in 1924, 1936, 1926, 1948, 1968, 1983, 1998, 1990, 2005, 2015 (Ergün, Özmantar, Bay \& Ağaç, 2015; Özmantar \& Öztürk, 2017) and was lastly developed as a draft in 2017 and was updated in 2018. There is a primary education program implemented in 2019 (ilhan Beyaztaş, Kaptı \& Senemoğlu, 2013). Among these programs, the 2015 program is seen as the first and only program in which primary education is organized as a 4 -year term (Baş, 2017). Later, this program lost its scientific validity and was expanded and changed in 2018. It is very important to prepare and implement educational programs in line with the interests and needs of children, taking into account the developmental characteristics of children during the development of primary education programs. Because the period in which the change, development and learning in an individual's life is experienced the fastest includes primary education years (Duman, 2004: 86). Therefore, basic education is the institution that has a notable impact on the personality development and upbringing of children (Atik \& Aykaç, 2017: 587). Educational programs also become functional with the effective reflection of the program of the different courses within. Considering the primary school level, it is seen that many courses such as Turkish, Mathematics, Life Sciences and Science are included in the development of children. The achievement of the students in these courses, which are also called basic courses, can significantly affect the learning level and success of other courses. Therefore, the more effective the curricula of these courses are, the more functional and applicable the curricula can be.

Many studies on curriculum comparisons can be found in the literature (Altınok \& Tunç, 2013; Atik \& Aykaç, 2017; Ayrancı \& Mutlu, 2017; Baş, 2017; Bașar \& Demiral, 2020). However, we see that these comparisons are generally made on a course basis. In this study, a comparison of primary school programs covering more than one course and with a basic point of view was made. Therefore, it can be explained that this study is different from other curricula comparisons. In the study, the primary school mathematics, Turkish, life studies and science programs, put into action in 2015 and 2018, were compared in terms of achievement, content, teaching-learning process and assessment and evaluation.

In this study, the years 2015 and 2018; Science, Life Sciences, Turkish and Mathematics course curricula the number of units, number of functions, subject areas, content, educational status and evaluation dimensions according to the factors of the program are discussed comparatively. Within this context, the aim of the research was stated as the comparison of the 2015 and 2018 primary school programs according to the factors of the program. The study is valuable and significant in terms of determining the difference between the programs made in 2015 and 2018, explaining the necessity of program changes at national and international level, learning the basic definitions of education and the time of the program changes made in our country from past to present. In addition, program development requires continuity. Continuous developments and advances greatly affect the program development process. For this reason, this study is significant because it examines the 2018 program, which is the last program implemented in Türkiye, and the 2015 program, which was implemented previously. The subproblems are answered in the research:

1. Between the Science Program became valid in 2015 and the Science Program became valid in 2018; what are the differences in terms of subject areas, number of functions, content and evaluation dimensions?
2. Between the Life Studies Program became valid in 2015 and the Life Studies Program became valid in 2018; what are the differences in terms of subject areas, number of functions, content and evaluation dimensions?
3. Between the Turkish Course Program became valid in 2015 and the Turkish Course Program became valid in 2018; what are the differences in terms of subject areas, number of functions, content and evaluation dimensions?
4. Between the Mathematics Program implemented in 2015 and the Mathematics Program implemented in 2018; what are the differences from the point of subject areas, number of functions, content and evaluation dimensions?

In this research, within the scope of Science, Turkish, Mathematics and Life Studies program, Bloom's teaching evaluation based on the factors of the program was based and therefore, subject areas, number of functions, content and evaluation dimensions were evaluated comparatively. Within this context, when we examine the studies in the literature, no study was found in which the four basic courses of the 2015 program and the 2018 program were compared together. Within this context, taking into consideration that this study will make contribution to the literature and practitioners (teachers) and will shed light on future studies.

## 2. METHODOLOGY

In this section of the research, information about the research design, study group, data analysis, data collection tool, validity and reliability were given.

### 2.1. The Design of the Research

Document review method was used research method. According to Patton (2014), document analysis includes the analysis of written materials containing information about the events and phenomena that are aimed to be investigated, and they are the sources of information that should be used effectively in qualitative research. In this type of research, as in this research, the researcher can get the data he/she needs without the requirement for observation or interview (Yıldırım \& Şimşek, 2021). In this context, a study has been carried out, findings have been created and results have been reached.

### 2.2. Study Material

The universe of the research consists of Primary School Curriculums published by the Ministry of National Education. The sample of the research consists of the Primary School Curriculum, which was implemented in 2015 and started to be implemented in 2018, which is still being implemented. The 2017 Program was not included in the research, as there was no difference in the extent of the research between the program implemented in 2017 and the program published in 2018. In this study, the criterion selection method, one of the goals directed selection methods, was used. In research, observation units can be composed of people, objects, situations or events with certain qualities. In this case, the units (events, objects, etc.) that meet the criteria determined for the sample are taken into the sample (Büyüköztürk, Kılıç-Çakmak, Akgün, Karadeniz \& Demirel, 2016). According to the principles of this selection method, 2015 and 2018 programs were chosen because they have significant changes compared to the primary school programs that have been applied before. In addition, another criterion is that the programs are programs that have been implemented recently and are still in practice.

### 2.3. Data Source and Data Collection

In the research, the Science, Life Science, Turkish and Mathematics program exercised by the Ministry of National Education in 2015 and the Science, Life Science, Turkish and Mathematics program implemented in 2018 were used (MoNE, 2015; MoNE, 2018). In this context, given on the website of the Ministry of National Education / Board of Education and Discipline (http://ttkb.meb.gov.tr); Science Course (3rd and 4th grades) Program (2015), Life Studies Course (1, 2nd and 3rd grades) Program (2015), Turkish Course (1, 2nd, 3rd and 4th grades) Program (2015), Science (3rd and 4th grades) Program (2018), Mathematics (1st, 2nd, 3rd and 4th grades) program (2015), Turkish Course (1, 2, 3 and 4th grades) Program (2019), Mathematics Course (1, 2, 3 and 4th grades) Program (2018) Life Sciences (1st, 2nd and 3rd grades) Program (2018), were examined.

### 2.4. Analysis of Data

In the study, content analysis approach was used in the analysis of the collected data. The main purpose of the content analysis technique used in the study; to reach the concepts and relationships that can explain the collected data. The data summarized by the descriptive analysis are subjected to a deeper processing in the content analysis and the unnoticed concepts and themes are discovered as a result of this analysis (Yıldırım \& Şimşek, 2008). In the research, curricula were examined to create descriptive statistics, and percentage calculations and acquisition and course rates were compared. Along with these comparisons, the ratios of acquisition, subject areas and number of units in subject areas and units were analyzed.

Since the primary school Science, Life Sciences, Mathematics and Turkish program was determined as the criterion, the program was only considered with the primary school dimension when examining the 2015 and 2018 programs. Linked to research questions, the data accumulative in the research were compared in terms of program, subject areas, number of functions, content, learning-teaching process and assessment dimensions. The codes for the subject areas, number of achievements, content, learning-teaching process and evaluation steps from the curriculum were determined and the codes created within the scope of this research are given in Table 1.

Table 1.
Part of Generated Code List

| Categories | Subject Areas |  | Number of Functions |  | Contents |  | Learning-Teaching Process |  | Evaluation |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Sub- <br> DimensionsProcess |  |  |  |  |  |  |  |  |  |  |
| ® 0 0 0 0 E 0 0 0 | Removed topics <br> Added topics | Removed topics <br> Added topics | Removed functions <br> Added functions | Removed functions <br> Added functions | Subject area relationship <br> Addedremoved topics | Subject area relationship <br> Addedremoved topics | Strategymethods and techniques used | Strategymethods and techniques used Strategies that differ from the 2015 <br> Program | Resultoriented assessments <br> Types of assessment | Result and productoriented evaluations <br> Types of assessment |

In Table 1, categories were determined and the differences between the 2015 program and the 2018 program were tried to be reached with the determined codes. One of the ways to increase reliability in qualitative research is to involve another researcher in the analysis of data and confirm the results (LeCompte \& Goetz, 1982). This coding was done independently by two researchers; Consensus and disagreement situations were created by the researchers. The formula developed by Miles and Huberman $(1994,64)$ was used to compare these codings: Reliability = Consensus / (Agreement + Disagreement) X 100

The results obtained according to the calculations are given in Table 2. In Table 2, the reliability calculations are over $70 \%$ for all categories. Based on this result, it can be stated that the coding is reliable (Miles \& Huberman, 1994).

Table 2.
Consistency Among Researchers

| Categories | C $^{*}$ | D $^{*}$ | Average C. |
| :--- | :--- | :--- | :--- |
| Subject areas | 8 | 2 | $\% 80$ |
| Number of functions | 3 | 1 | $\% 75$ |
| Content | 4 | 1 | $\% 80$ |
| Learning-teaching process | 4 | 0 | $\% 100$ |
| Evaluation | 8 | 2 | $\% 80$ |
| Average Value | 27 | 6 | $\% 81,82$ |

(C: Consensus, D: Disagreement)
The codes obtained were combined under categories in order to obtain meaningful wholes (Yıldırım \& Şimşek, 2021; Merriam, 2013). While creating the categories, a literature review was also made and the subject areas, the number of functions, the content, the learning-teaching process and the evaluation were determined. Subject areas, number of functions, content, learning-teaching process and evaluation dimensions of both curricula were examined and differences were tried to be determined.

### 2.5. Validity and Reliability

In order to increase the reliability and validity of the research, besides the researcher, two field expert academicians and three classroom teachers examined the data. In this context, the opinions of the other five people who participated in the research were taken and the research was given its final form. In this direction, the findings were obtained on the basis that the analysis made by the researcher was reliable and valid.

### 2.6. Ethics Committee Permission

Ethics committee approval is not required as the study is a document review.

## 3. FINDINGS

In this part of the research, the data obtained in accordance with the research subproblems were analyzed.

### 3.1. Between the Science Program Implemented in 2015 and the Science Program Implemented in 2018; Differences in Subject Areas, Number of Acquisitions, Content and Evaluation Dimensions

Under this title, an answer was sought for the first sub-problem of the research, "Between the Science Program Implemented in 2015 and the Science Program Implemented in 2018; Differences in Subject Areas, Number of Acquisitions, Content and Evaluation Dimensions". Table 3 below shows the unit names, subject areas and number of functions belonging to the 3rd grade science program of primary school in Türkiye in 2015 and 2018.

Table 3.
Unit Names, Subject Areas and Number of Functions of the 3rd Grade Science Program Implemented in 2015-2018

| 2015 Science Program |  |  | 2018 Science Program |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Unit Name | Subject Areas | Number of Functions | Unit Name | Subject Areas | Number of Functions |
| Our Five Senses | Creatures and Life | 3 | Let's Get to Know Our Planet | Earth and Universe | 5 |
| Let's Get to Know the Force | Physical Events | 4 | Our Five Senses | Creatures and Life | 3 |
| Let's Get to Know the Matter | Matter and Change | 4 | Let's Get to Know the Force | Physical Events | 4 |
| Light and Sounds | Physical | 8 | Let's Get to Know the | Matter and | 4 |
| Around Us | Events |  | Matter | Nature |  |
| Journey to the World of the Living | Creatures and Life | 6 | Light and Sounds Around Us | Physical Events | 8 |
| Electric Vehicles in Our Lives | Physical Events | 4 | Journey to the World of the Living | Creatures and Life | 8 |
| Let's Get to Know Our Planet | Earth and Universe | 3 | Electric Vehicles | Physical <br> Events | 4 |
| Total |  | 32 |  |  | 36 |

Source: (MoNE, 2015a; MoNE, 2018a).
As seen in Table 3; 3rd grade Science Course; the subject area and number of units remained unchanged. While the number of functions in the 2015 Science course was 32, this number was increased to 36 in the 2018 program. There was no change in the 22 course hours. The number of functions, subject areas and unit names of the 2015 and 2018 primary school 4th grade Science Curriculum in Türkiye are given and interpreted in Table 4. In Table 4; It is seen that the number of subject areas, which was 4 in the 2015 program, was added to the Science and Engineering Applications subject area in the 2018 program, and the number of subject areas was increased to 5 . The number of units, which was 7 in the 2015 program, was increased to 8 in the 2018 program. The number of functions, which is 46 , and the number of course hours, which is 108 , have not changed in the program.

In the primary school science program; By adding Science, Engineering and Entrepreneurship Applications to the 2018 program, the number of subject areas has been increased from 4 to 5 . The explanations of the units have been simplified and the order of the units has been changed. The number of functions has been partially reduced and the explanation parts of the functions have been clarified.

The content part has been mitigated by making changes. In the renewed program, the spiral structure was partially preserved and innovation and entrepreneurship were added to the curriculum. In the practical part of the program, decision-making and discussion skills were emphasized, and universal, national and scientific ethical values were included. In the measurement and evaluation part of the program, skill and process-based understanding are included. Written and verbal communication skills were emphasized in the program prepared for students, and TIMSS and PISA assessments, which are international exams, were taken into consideration.

Table 4.
Unit Names, Subject Areas and Number of Functions of the 4th Grade Science Program Put into Practice in 2015-2018

| 2015 Science Program |  |  |  |  | 2018 Science Program |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | Subject <br> Areas | Number of <br> Functions | Unit Name | Subject Areas | Number of <br> Functions |
| Let's Solve Our Body <br> Riddle | Creatures <br> and Life | 8 | Earth's crust and <br> movements of our <br> world | Earth and Universe | 5 |
| Effects of Force | Physical <br> Events <br> Matter and | 11 | Effects of Force | Physical Events | Creatures and Life |

Source: (MoNE, 2015a; MoNE, 2018a).

### 3.2. Between the Life Studies Program Implemented in 2015 and the Life Studies Program Implemented in 2018; There Are Differences in Subject Areas, Number of Acquisitions, Content and Evaluation Dimensions

Under this title, an answer was sought for the second sub-problem of the research, " Between the Life Studies Program Implemented in 2015 and the Life Studies Program Implemented in 2018; There Are Differences in Subject Areas, Number of Acquisitions, Content and Evaluation Dimensions". The unit names and number of functions of the primary school life studies program in Türkiye in 2015 and 2018 are shown in Table 5.

Table 5.
Unit Names and Number of Functions of the 2015-2018 Life Studies Course Program

| Unit Name | Number of Functions |  |  |  |  |  |  |
| :--- | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2018 | 2015 | 2018 | 2015 | 2018 | 2015 | 2018 |
| $\mathbf{2 0 1 5}$ | Life in Our School | 14 | 17 | 11 | 11 | 6 | 10 |
| Me and My School | Life | 6 | 7 | 6 | 9 | 6 | 8 |
| My Family and My Home | Life in Our House | 12 | 7 | 7 | 7 | 5 | 5 |
| Healthy Life | Healthy life | 7 | 7 | 8 | 6 | 10 | 7 |
| Safe Life | Safe Life | 7 | 6 | 7 | 8 | 9 | 9 |
| I love My Country | Life in Our Country | 8 | 8 | 10 | 9 | 7 | 6 |
| Nature and Environment | Life in Nature | 54 | 53 | 49 | 50 | 43 | 45 |
| Total |  |  |  |  |  |  |  |

Source: (MoNE, 2015b; MoNE, 2018b).
According to Table 5, 2015 Program; it consisted of 6 units: Me and My School, My Family and My Home, Healthy Life, Safe Life, I Love My Country, Nature and Environment. The 2018 Program is; It consists of 6 units: Life in our school, life in our home, healthy life, safe life, life in our country and life in nature. The 1st grade program in 2015 consisted of 54 acquisitions, and the 2018 1st grade program consisted of 53 acquisitions. The 20152 nd grade program consisted of 49 acquisitions, and the 2018 2 nd grade program consisted of 50 acquisitions. While the number of functions in the 3rd grade program was 43 in 2015, it was determined to be 45 in 2018.

In the Life Studies Program; The aim of the renewed program is for the student to know himself and the environment he lives in, to have the basic values of the family and society, to make national, spiritual and human values experienced, to be aware of what he needs to do to ensure his personal development, to develop his personal care skills, to lead a healthy and safe life. and gain social participation skills.

The general objectives in the 2018 program have been made simpler and more understandable, and have been integrated with the program content. While there are 22 skills in the 2015 program, there are 23 skills in the 2018 program. In the renewed program, the content has been updated so that students can develop their scientific process skills, discover, ask, question, produce and solve problems.

In the content of the program, the functions related to occupational health and safety are covered. In addition, correlations between courses were made in the program. In the new program, it is aimed to use assessments such as written exams, short answer tests, multiple choice tests, projects, self-assessment and student product file. The program gave importance to in-school and out-of-school activities and wanted the use of student-centered teaching strategies, methods and techniques.

### 3.3. Between the Turkish lesson program implemented in 2015 and the Turkish lesson program implemented in 2019; differences in subject areas, number of acquisitions, content and evaluation dimensions

Under this title, an answer was sought for the third sub-problem of the research, "Between the Turkish lesson program implemented in 2015 and the Turkish lesson program implemented in 2019; differences in subject areas, number of acquisitions, content and evaluation dimensions". Learning areas and number of functions of the primary school Turkish Language Program are shown in Table 6.

Table 6.
Learning Areas and Number of Functions of the Turkish Language Program Implemented in 2015-2019

| Learning Areas |  | Number of Functions |  |  |  |  |  |  |  |
| :--- | :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1. Grade |  | 2. Grade |  | 3. Grade | 4. Grade |  |  |  |
| $\mathbf{2 0 1 5}$ | $\mathbf{2 0 1 9}$ | 2015 | 2019 | 2015 | 2019 | 2015 | 2019 | 2015 | 2019 |
| Oral Communication | Listening/Watching | 14 | 11 | 15 | 9 | 13 | 13 | 10 | 13 |
| Reading | Talking | 18 | 4 | 18 | 4 | 23 | 6 | 28 | 6 |
| Writing | Reading | 9 | 19 | 10 | 19 | 11 | 28 | 11 | 37 |
|  | Writing |  | 13 |  | 14 |  | 17 |  | 22 |
| Total |  | 41 | 47 | 43 | 46 | 47 | 64 | 49 | 78 |

Source: (MoNE, 2015c; MoNE, 2018c).
In Table 6, in the Turkish Program; instead of cursive italic writing, it has been changed to vertical basic writing. A transition was made from sound-based sentence method to sound-based first literacy teaching. The letters collected in 6 groups in the 2015 Turkish Curriculum were collected in 5 letter groups in the updated 2019 program. The content and explanations of the functions have been edited and the number of themes and examples have been increased. In addition, the most striking change in the Turkish lesson program, which was updated in 2019, was the transition from the cursive letter style to the basic vertical letter writing style.

The number of themes, which was 8 in the 2015 Turkish Curriculum, was increased to 16 in the 2019 Turkish Curriculum, of which 3 are compulsory and 13 are elective. The number of functions, which was 41 in the 1 st grade program in 2015, was increased to 47 in 2019. The number of functions, which was 43 in the 2nd grade program in 2015, was increased to 46 in 2019. The number of functions, which was 47 in the 3 rd grade program in 2015, was increased to 64 in 2019. The number of functions, which was 49 in the 4th grade program in 2015, was increased to 78 in 2019.

7 key skills specified in the Turkish Qualifications Framework are included in the Turkish Program. Values education is given importance in the program and it is aimed at conveying values through texts related to themes. In the program, the expression of learning areas is organized as skills. In the 2015 Turkish Curriculum, 3 language skills, which are reading, writing and oral communication, have been increased to 4 language skills as listening/watching, speaking, reading and writing in the 2019 Turkish Curriculum. With the Turkish Course Program, students provided developing listening/watching, speaking, reading and writing language skills, ensuring that they use Turkish correctly and carefully, enriching their vocabulary, enabling them to express their feelings, thoughts and opinions understandably, giving importance to national, moral, moral, spiritual, cultural and social values. Spiral and thematic were used in the content of the Turkish Curriculum.

The 2019 Turkish Curriculum has been enriched in terms of universal and national values. In addition, in the 2019 Turkish Curriculum, attention was paid to use different teaching methods and techniques, not a single learning-teaching approach, in the acquisition of the 4 basic language skills of listening/watching, speaking, reading and writing. Attention was paid to students' readiness levels, learning styles, learning needs and sociocultural differences.

### 3.4. Between the Mathematics Program Implemented in 2015 and the Mathematics Program Implemented in 2018; Differences in Subject Areas, Number of Acquisitions, Content and Evaluation Dimensions

Under this title, an answer was sought for the fourth sub-problem of the research, "Between the Mathematics Program Implemented in 2015 and the Mathematics Program Implemented in 2018; Differences in Subject Areas, Number of Acquisitions, Content and Evaluation Dimensions". The comparison of the learning areas and number of functions of the primary school mathematics curriculum in Turkey in 2015 and 2018 is given and interpreted in the table below.

Table 7.
Learning Areas and Number of Functions of the Mathematics Program Implemented in 2015-2018

| Learning Areas |  | Number of Functions |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1. Grade |  | 2. Grade |  | 3. Grade |  | 4. Grade |  |
| 2015 | 2018 | 2015 | 2018 | 2015 | 2018 | 2015 | 2018 | 2015 | 2018 |
| Numbers and Operations | Numbers and Operations | 24 | 19 | 29 | 25 | 35 | 36 | 40 | 34 |
| Geometry | Geometry | 7 | 6 | 9 | 8 | 10 | 10 | 12 | 12 |
| Measuring | Measuring | 12 | 10 | 16 | 16 | 21 | 23 | 26 | 21 |
| Data | Data processing | 2 | 1 | 3 | 1 | 4 | 3 | 2 | 4 |
| Total |  | 45 | 36 | 57 | 50 | 70 | 72 | 80 | 71 |

Source: (MoNE, 2015d; MoNE, 2018d).
According to what is given in Table 7; In the 2015 Mathematics Curriculum, 4 learning areas are included: numbers and operations, geometry, measurement and data processing. While the number of achievements in the 1st grade curriculum was 45 in 2015, this number increased to 36 in 2018. While the number of acquisitions in the 2 nd grade program was 57 in 2015, the number of acquisitions was reduced to 50 in 2018. While the number of achievements in the 3rd grade Mathematics Curriculum was 70 in 2015, this number increased to 72 in 2018. While the number of achievements in the 4th grade Mathematics Curriculum was 80 in 2015, this number increased to 71 in 2018.

The basic skills covered by the functions in the target part of the Mathematics Program are handled on the basis of the Turkish Qualifications Framework. Values education is given special importance in the program. In the content part of the 2018 Mathematics Curriculum, the 'Transition to Algebra' sub-learning area in the 'Numbers and Operations' learning area has been removed. In the program whose 'Data' learning area was renewed, as 'Data Processing' learning area; The 'Data' sub-learning area was named 'Data Collection and Evaluation'.

In the teaching process, importance was given to individual and interpersonal communication and the use of concrete materials was encouraged. In addition, the applications that students will use in daily life in the teaching process are based on. In the renewed program, basic views about measurement and evaluation are given in detail. As the Measurement and Evaluation Approach, Recognition, Monitoring-Forming and Result (product) Oriented evaluation forms were used.

## 4. RESULTS, DISCUSSION AND RECOMMENDATIONS

One of the main factors that increase the success of the education program in theory and practice is that the elements that make up the education program are in harmony with each other. Therefore, it is substantial that the program of courses such as Turkish, Mathematics, Life Sciences, and Science, which are the foundation courses in the primary school program, adopt a common understanding. In this study, the primary school program, which was implemented in 2015 and 2018 and is still being implemented today, was compared in terms of program elements. In particular, all grade-level updates were made in the programs of Science, Life Sciences, Turkish and Mathematics courses, which were renewed and put into practice in 2018. Changes were made in the number of units, subject areas and the number of functions. In addition, although updates have been made in the program examined within the scope of the research since 2018, it has been observed that no significant change has been made in the context of the sub-problems in the research.

In the science program, the explanations of the units were simplified and clear expressions were tried to be used. The content of the functions has been simplified and limitations have been added to the functions. Studies are showing that the functions are generally at the sub-cognitive level (Yolcu, 2019). Thus, it was tried to prevent unnecessary information overloads. The spiral structure was partially preserved and innovation and entrepreneurship were added. Values education was implicitly included in the program, where the role of the teacher was highlighted. The order of the units has been changed, and it is aimed to convey the science subjects that progress from the universe to the body by ordering them, entertaining them and establishing a relationship with life. A skill and process-based assessment and evaluation approach has been adopted, such as monitoring/unit tests, practice activities, authentic tasks, student product file, rubrics.

In the Science Program, a fifth learning area, which corresponds to the last three weeks of the academic year, has been added in the 4th grades under the name of Science and Engineering applications, and it is foreseen that students will do engineering applications related to the subjects included in the course from the beginning of the academic year in this period. Thus, time was allocated for activities such as project exhibitions and science fairs, and it was also aimed to carry out a science fair where
the products produced in the school environment were exhibited. Altınok and Tunç (2013), in their study in which they compared science curricula from the republican period to 2005 in terms of scientific process skills, stated that although science process skills were included in previous programs, skills such as determining variables were only included in the 2005 curriculum. It is seen that this situation has been corrected again with the program prepared in 2018. It can also be said that the 2018 program is product and performance oriented. It is seen that a process-oriented (Bașar \& Demiral, 2020) evaluation approach has been adopted in both current and previous Science Programs.

The general objectives in the Life Studies program have been made simpler and more understandable and have been combined with its contentIn the 2018 life studies curriculum, the content has been updated so that students can develop their scientific process skills, ask, question, discover, solve problems and produce. It is seen that the content of the 2018 curriculum includes the achievements related to occupational health and safety. In addition, correlations between courses were made in the program. Activity examples guide practitioners on how to deliver outcomes (Van De Walle, Karp \& Bay-Williams, 2012). While it is known that the activity examples guide the practitioners, although the 2018 program includes explanations about the functions, activity examples are not included. There are 23 skills in the 2018 Life Studies Curriculum and 22 skills in the 2015 curriculum. In 2018, the number of functions was increased by three in the 1st grade and by two in the second grade (Aktay \& Çetin, 2019; MoNE, 2018a). The learning-teaching process was organized by considering new learning approaches. The program has both a process and a result-oriented evaluation approach. The 2018 curriculum has adopted an approach that prioritizes the multi-focused assessment and evaluation process and the changes within the process (Aktay \& Çetin, 2019; MEB, 2018a).

While 8 themes were included in the 2015 Turkish program, 16 themes were included in the 2019 program, of which 3 were compulsory and 13 were elective. In the 2019 Turkish curriculum, a transition was made from cursive italic writing to vertical basic writing, from sound-based sentence method to sound-based primary literacy teaching. The letters collected in 6 letter groups in the 2015 curriculum were reduced to 5 letter groups in the 2019 curriculum. Özenç (2018) also mentioned this situation in her study. In the Turkish program of 2019 , the student product file was mentioned more frequently and a learningteaching environment suitable for the student's level was adopted. While a process-based assessment and evaluation approach was adopted in the 2015 program, a process and performance-based approach was adopted in the 2019 program.

Values education has been added to the 2019 Turkish curriculum, changes have been made in the unit areas and order, 3 language skills (oral communication, reading and writing) have been increased to 4 language skills (listening, speaking, reading and writing), and the number of achievements has been changed. Explanations have been added in addition to the functions. Bayburtlu (2015), in his study on this subject, suggested that reducing the number of acquisitions will reduce more information transfer, instead it will lead to a more skill-based understanding. In the light of these data, increasing the number of achievements in the 2019 Turkish course curriculum may create negativity. On the other hand, it was observed that the number of achievements increased by 2 in the third grade Turkish Language Curriculum, which was renewed in 2018 and updated in 2019 (MEB, 2018b). Ayrancı and Mutlu (2017), in their study, found that the positive aspects of the 2018 Turkish Language Curriculum are the presence of the guidance and values education section, putting the student in the center, including the structure of the program, explaining the text qualities, assigning the gains in class, explaining the themes, and revealing the learning approach can be said. However, in the same study, the aspects of the curriculum that need to be developed; She/He declared that it is substantial to explain the sample lesson teaching, to develop the measurement and evaluation section and the methods and techniques sections, to increase the emphasis on basic language skills, to give learning area ratios and to support them with activity examples.

The 'Transition to Algebra' sub-learning area, which is in the 'Numbers and Operations' learning area in the content part of the 2018 mathematics lesson curriculum, has been removed from the program. In the 2018 mathematics curriculum, the 'Data' learning area was renewed as the 'Data Processing' learning area; The 'Data' sub-learning domain has been changed to 'Data Collection and Evaluation'. It has been observed that explanations for functions and activities are included in the 2015 and 2018 curricula. There are factors that the program is effective in the learning-teaching process. As stated by Baş (2017), these were effective in the implementation process of the program, but they also gave flexibility to teachers on the condition that they stay within the framework of determining the teaching approach, organizing learning environments, and the program's achievements and recommendations. As the measurement and evaluation approach in the 2018 program, recognition, monitoring-forming and result (product)-oriented evaluation types were used. In addition, in the renewed program, basic views are given in detail for all teaching programs related to measurement and evaluation. Falcon (2015); He stated that in the evaluation culture, while the process and result-oriented evaluation is made, the students are in a position to take responsibility, actively participate, reflect, self-evaluate and cooperate during the evaluation period, and when this position of the student is considered in the process, there should be alternative evaluations. In addition, it is declared that the 2018 Mathematics curriculum is coherent with the Trends in International Mathematics and Science Study (TIMSS) exam. In their research, Erdoğan, Hamurcu and Yeşiloğlu (2017) determined that the distribution of learning areas in the mathematics curriculum in Turkey is compatible with the TIMSS distribution. It is clear that this feature is preserved in the mathematics curriculum updated in 2018 (MEB, 2018c).

When the research results are evaluated in general, it can be said that the 2015 and 2018 primary school curricula have undergone some changes, and the most radical change and development is in the measurement-evaluation dimension. In general, a performance-process and product-result-oriented evaluation method was used in all basic courses in the program.

Some national and international studies on the subject (Atik \& Aykaç, 2017; Aykaç, 2011; Girgin, 2011; Walsh, 2016) support this result. The following recommendations can be made for this research:

- The subject area of "Engineering applications", which was added to the 4th grade program, is also at the 3rd grade level,
- In the 2018 Life Studies program, the functions are based on the process, the learner functions skills, and the knowledgebased subjects are given in higher grades,
- Inclusion of measurement and evaluation tools in the Turkish lesson program in detail in the 2019 Turkish program, as in the previous programs,
- It can be suggested to give an example of an activity for each acquisition that is not included in the 2015 and 2018 mathematics programs.


## Research and Publication Ethics Statement

The paper is complied with research and publication ethics.

## Ethics Committee Permission

Ethics committee approval is not required as the study is a document review.

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