

# Comparison of Assessment and Evaluation Elements of 2018 and 2024 Middle School Mathematics Curriculums

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**Abstract:** *The aim of the study was to compare the assessment and evaluation elements of the 2018 and 2024 Middle Mathematics Curriculums. In this study, the document review method in the qualitative research design was used. The data of this study consists of 2018 and 2024 Middle Mathematics Curriculum. In the research process, documents were first accessed. The originality of the documents was checked and an attempt was made to understand the documents. Then, data analysis was started. In the data analysis, while comparing the assessment and evaluation in the curriculums, the unit of analysis was determined in accordance with the purpose of the research. In the study, sentences and paragraphs in the curriculum were used as the unit of analysis. As a result of the analysis, necessary information was provided on assessment and evaluation in both curriculums. However, in the 2024 Middle Mathematic Curriculum, assessment and evaluation types were determined for each subject and presented to the service of practitioners.*

Keywords: Middle Curriculum, Curriculum elements, Assessment and evaluation

## 1. INTRODUCTION

In the 2018 middle school mathematics Curriculum, there are course topics and time distribution learning outcomes (Ministry of National Education of the Republic of Turkey, 2018). In the 2024 middle school mathematics Curriculum, there are class hours, field skills, Conceptual Skills, Trends. There are also inter-Curriculum Components, Learning-Teaching Experiences and Differentiation titles.

Within Inter-Curriculum Components, Social-Emotional Learning Skills, Values, Literacy Skills, Interdisciplinary Relations, Relationships Between Skills, Learning Outcomes and Process Components, Content Frame, Key Concepts Evidence of Learning (Assessment and Evaluation) (Ministry of National Education of Republic of Turkey, 2024). Within Learning-Teaching Experiences,

Basic Assumptions, Preliminary Evaluation Process, Building Bridges, Learning-teaching Applications are included. Within Differentiation, Enrichment, Supporting are seen. For example, the concept of Differentiation in the Geometric Shapes subject in the middle school mathematics course Curriculum has the following subheadings: Enrichment and Supporting

Enrichment: In a park shaped like an equilateral triangle, when a tree is to be planted in a way that the sum of the distances to the sides is the least, a discussion can be provided on how to determine its location. In this process, the dragging feature in the mathematical software can be used. Height construction studies can be carried out in triangles with the help of compasses and unmeasured rulers. In the construction processes, the use of circle and line tools in the mathematical software can also be given the opportunity.

With the help of compass and straightedge, a triangle construction study can be carried out in a way that a given line segment will be the median. With the help of compass and straightedge, an equilateral triangle construction study can be carried out in a way that a given line will be one of the medians of the sides. The use of circle and line tools in mathematical software can also be given the opportunity in the construction processes. Triangle types can be examined depending on the intersection point of angle bisectors, the center of gravity and the intersection point of heights.

Supporting: By measuring length and angle in a triangle, medians and angle bisectors can be drawn. Original paper folding studies can be done to determine whether an isosceles and equilateral triangle is a median or an angle bisector by starting from the symmetry lines.

In order for the Curriculum to be effective, the Curriculum elements must be very effective (Alsubaie, 2016). For this, detailed work is being done on Curriculum development (Mckay, 2003). In addition, in order to make progress in the Curriculums, it is necessary to present a better Curriculum compared to the previous Curriculum. New and old Curriculums should be compared and the similarities and differences between them should be examined in detail. Positive similarities and differences between the elements of the Curriculums should be highlighted. Curriculums that are suitable for their purpose should be developed. Based on this, the problem of the study is "What are the similarities and

differences between the assessment and evaluation elements of the 2018 and 2024 Middle School Mathematics Curriculum?"

## **2. METHODOLOGY**

### **2.1. Model of the Research**

In this study, qualitative research design and document review method was used. In qualitative research, data is usually collected through observation, interview and document analysis (Yıldırım & Şimşek, 2021). While document analysis is mostly complementary to other research methods, it can also be used as a stand-alone method (Koyuncu, Şata and Karakaya, 2018).

### **2.2. Research Process**

#### **2.2.1. Document Collection :**

The data of this study consists of the the Assessment and Evaluation in the 2018 Middle School Mathematics(5., 6., 7. and 8. Grades) and 2024 Middle School Mathematics Curriculum(5., 6., 7.and 8. Grades). The research data were taken from <https://mufredat.meb.gov.tr> and <https://tymm.meb.gov.tr>.

**2.2.2. Verifying Document Originality:** Both curriculum examined are official curriculum used in Turkey.

#### **2.2.3. Document Understanding:**

The assessment and evaluation statements in both Middle mathematics curriculum were read and interpreted comparatively.

#### **2.2.4. Data Analysis:**

The categories titled assessment and evaluation were created for the 2018 and 2024 Middle school mathematics curriculum. After the categories were created, the unit of analysis was determined depending on the purpose of the study. In the study, sentences and paragraphs included in assessment and evaluation were used as the unit of analysis. Finally, findings and results based on the evaluation of the assessment and evaluation elements in both Curriculums in terms of similarities and differences were presented.

In the assessment and evaluation section of the 2018 Middle school (5., 6., 7. and 8. grades) mathematics curriculum, there is no assessment and evaluation section

for each subject. However, in the assessment and evaluation section of the 2024 Middle school (5., 6., 7. and 8. grades) mathematics curriculum, there is a assessment and evaluation section for each subject. For this reason, the assessment and evaluation section of one of the subjects was selected and included in the analysis. The subject selected for analysis is the subject “ THEME 5: (8. Grade). Information about the subject is provided below.

#### **5.THEME: TRANSFORMATION**

In this theme, it is aimed for students to analyze the translation transformation with the help of mathematical tools and technologies, to make inferences about the changes in the abscissa and ordinates of points belonging to a shape in reflection and translation transformation, and to reflect their inferences to problem situations.

### **4.FINDINGS**

**Table 1**

#### **Assessment and Evaluation in The 2018 Middle School Mathematics Curriculums**

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No person is exactly the same as another. For this reason, it is against human nature for curriculums and the related assessment and evaluation process to be “suitable for everyone”, “valid and standard for everyone”. For this reason, it is essential to act with the maximum understanding of diversity and flexibility in the assessment and evaluation process. Curriculums are a guide in this respect. Expecting curriculums to include all elements related to assessment and evaluation cannot be considered as a realistic expectation. Since diversity in education is seriously affected by internal and external dynamics such as the individual, education level, course content, social environment, school facilities, etc., the priority in ensuring the effectiveness of assessment and evaluation practices is expected from teachers and educational practitioners, not curriculums. At this point, originality and creativity are the basic expectations from teachers.

1. Assessment and evaluation studies should provide maximum compatibility with all components of the curriculum, and the limits of achievements and explanations should be taken as basis.
  2. The curriculum does not draw definite boundaries for implementers in terms of assessment tools and methods that can be used in the assessment process, it only guides them. However, the required technical and academic standards should be followed in the preferred assessment and evaluation tool and method.
  3. Assessment and evaluation practices in education are an inseparable part of education and are carried out throughout the education process. Assessment results are not considered alone, but in
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an integrated manner together with the processes followed.

4. Due to the fact of individual differences, it is not appropriate to talk about a single type of assessment and evaluation method that covers all students and is universal for all students. The academic development of the student is not measured and evaluated with a single method or technique.

5. Education is provided not only for “knowing (thinking)” but also for “feeling (emotion)” and “doing (action)”; therefore, only cognitive assessments cannot be considered sufficient.

6. Multi-focused assessment and evaluation is essential. Assessment and evaluation practices are carried out with the active participation of teachers and students.

7. Individuals’ characteristics such as interests, attitudes, values and success, which are the subjects of assessment and evaluation, may change over time. For this reason, it is essential to use assessments that take into account changes in the process rather than measuring these characteristics at a single time.

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## Table 2

### Assessment and Evaluation in The 2024 Middle School Mathematics Curriculums

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In the Middle School Mathematics Curriculum, a assesment and evaluation approach that will support students' learning and provide systematic feedback to students has been adopted. In this approach, in addition to monitoring and evaluating the development of students' knowledge and skills, observing the development of their tendencies towards mathematics, social-emotional learning skills, literacy skills and values is also important in terms of the holistic approach of the Curriculum. In the Middle School Mathematics Curriculum, it is aimed to provide feedback to students about their knowledge levels, deficiencies or misconceptions by using supplementary measurement tools. In this process, the measurement tools used should be preferred in a way that will contribute to the learning-teaching process in the different dimensions mentioned above based on the principle of feedback.

#### 5.THEME (8. Grade): Assessment and Evaluation onTransformation

Learning outcomes can be assessed with worksheet, follow-up test, group assessment form, performance task, self and peer assessment, holistic graded scoring key, analytic al graded scoring key. Students can be given a performance task in which they examine the transformations in the work by presenting Escher's works, and they can make ornaments by developing their own original and aesthetic designs on a pattern. In the performance task, they can be provided with the opportunity to evaluate each other through the peer assessment form and themselves through the self-assessment form. In addition, students' designs can be assessed

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using holistic or analytical graded scoring key that includes criteria based on determining the transformations in the work, creating an Escher type ornament, and creativity. A performance task can be given to create images of polygons formed by connecting certain points on the map of Turkey placed in the vertical coordinate system under a translation transformation depending on certain direction and distance. In this process, the visual of the map of Turkey can be placed between the lines  $x=26$ ,  $x=45$ ,  $y=36$ ,  $y=42$  in the mathematics software and worked with software tools. Students may be asked to explain the cultural and geographical characteristics of cities and districts in the interior of the polygons they created on the map. Students can be asked to present their work through digital presentations and the presentations can be evaluated using the appropriate measurement tool (self/peer/group assessment, checklist, observation form, rating scale, holistic or analytical rubric).

A follow-up test can be applied to determine and eliminate students' deficiencies in learning about the learning outcomes/process components covered throughout the theme. Performance products, follow-up tests and worksheets can be used as final assessments.

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Table 1 mentions that it is essential to take into account that individuals are different from each other in the assesment and evaluation of the 2018 Secondary School Mathematics Course Curriculum. It is emphasized that assesment and evaluation cannot be done with a single type of measurement tool. The importance of assesment and evaluation regarding all processes of education and training is emphasized.

Table 2 shows that in the 2024 middle school mathematics course Curriculum, in addition to monitoring and evaluating the development of students' knowledge and skills, the focus is on observing the development of their tendencies towards mathematics, social-emotional learning skills, literacy skills and values. In addition, examples of assesment and evaluation are given for each subject. Table 2 provides examples of assesment and evaluation for the 8th Grade subject. As assesment and evaluation tools, worksheet, follow-up test, group assessment form, performance task, self and peer assessment, holistic graded scoring key, analytical graded scoring key.

## CONCLUSION

In the 2024 Middle School Mathematics Curriculum, it is aimed to provide feedback to students about their knowledge levels, deficiencies or misconceptions by using supplementary measurement tools. For this purpose, each theme and appropriate assesment and evaluation suitable for each theme have been organized and presented to the service of teachers. Curriculum development is a broad and

complex process (Soto, 2015; Dopson, & Tas, 2004). In this process, the Curriculum should help practitioners while being created (B y k arag z, 1997). From this perspective, we can say that the 2024 Curriculum fully guides practitioners in assesment and evaluation.

In the assesment and evaluation in the 2018 Middle School Mathematics Curriculum, it was emphasized to the practitioners how to have a good assesment and evaluation and what should be taken into consideration in the application. The application part was left to the teacher's own knowledge and experience. In the 2018 Curriculum, the teacher was guided. However, information on measurement and tools and how and where to use them was not provided. From this perspective, we can say that the 2024 Curriculum is better in terms of assesment and evaluation.

## REFERENCES

A., Yildirim, A., & H.,  im ek, *Qualitative research methods in social sciences. Se kin Publishing*. 2021.

L. R., Dopson, & R. F. Tas, "A Practical Approach to Curriculum Development: A Case Study", *Journal of Hospitality & Tourism Education*, vol.6, no.1, , pp. 39–46, 2004.

M., Koyuncu, M.  ata and  ., Karakaya, "The Investigation of the Papers Presented in Assesment and evaluation in Education and Psychology Congresses with Document nalysis" vol.9, no.2, , pp. 216-238., 2020.

Ministry of National Education of Republic of T rkiye, "Middle mathematicCurriculum(5., 6.,7. and 8.. Grades)" 2018, <https://mufredat.meb.gov.tr/>

Ministry of National Education of Republic of T rkiye, "Middle mathematic Curriculum(5., 6.,7. and 8.. Grades)" 2024, <https://mufredat.meb.gov>

M., A. Alsubaie, "Curriculum Development: Teacher Involvement in Curriculum Development", *Journal of Education and Practice*vol.7, no.9, , pp. 2222-1735, 2016.

S., M., Mckay, "Eil Curriculum Development", *RELC Journal*, 2003.

S. Karag z , "Curriculum Development" Kuzucular Publishing, 1997.

S., T., Soto, "An Analysis of Curriculum Development", *Theory and Practice in Language Studies*, Vol. 5, No. 6, pp. 1129-1139, 2015.

Dopson, L. R., & Tas, R. F. (2004). *A Practical Approach to Curriculum Development: A Case Study. Journal of Hospitality & Tourism Education*, 16(1), 39–46