

Nartgün, Z., Canibey, K. (2015). Reflections of the understanding of assessment adopted in the ninth grade mathematics curriculum in textbooks. *Abant İzzet Baysal Üniversitesi Eğitim Fakültesi Dergisi*, 15 (2), 247-258.

Geliş Tarihi: 12/10/2015

Kabul Tarihi: 18/11/2015

## REFLECTIONS OF THE UNDERSTANDING OF ASSESSMENT ADOPTED IN THE NINTH GRADE MATHEMATICS CURRICULUM IN TEXTBOOKS\*

Zekeriya NARTGÜN<sup>\*\*\*</sup>  
Köksal CANİBEY<sup>\*\*\*</sup>

### ABSTRACT

The main purpose of this study is to determine to what extent the understanding of assessment adopted in the renewed High School Education 9<sup>th</sup> grade Math Curriculum's evaluation component is reflected in textbooks prepared by the related publishers and approved for use by the Republic of Turkey Ministry of National Education. Because it is based on a document analysis the research is a qualitative study. Analysis on curriculum showed that evaluation dimension of curriculum primarily focused on "diversity in assessment techniques", "continuity in assessment practices and process evaluation" and "multi-purpose use of assessment results". As a result, analysis of the textbooks revealed that the understanding of assessment adopted in the curriculum is not reflected in the related textbooks sufficiently in terms of "diversity in assessment techniques"; is reflected in terms of "continuity of assessment practices and process evaluation" compared to diversity in assessment techniques; is reflected in terms of "multi-purpose use of assessment results" limited to the detected assessment techniques used in textbooks.

**Key words:** Math Curriculum, Textbook, Assessment.

## DOKUZUNCU SINIF MATEMATİK PROGRAMININ BENİMSEDİĞİ DURUM BELİRLEME ANLAYIŞININ DERS KİTAPLARINA YANSIMALARI

### ÖZ

Bu araştırmanın temel amacı yenilenen dokuzuncu sınıf matematik programının değerlendirme ögesinin benimsediği durum belirleme anlayışının ilgili yayınevleri tarafından hazırlanan ve Milli Eğitim Bakanlığı tarafından kabul edilen ders kitaplarına ne derece yansıdığını belirlemektir. Araştırma nitel araştırma yöntemleri çerçevesinde doküman analizi temel alınarak gerçekleştirilmiştir. Ele alınan matematik programıyla ilişkili analizler, programın değerlendirme ögesinin benimsediği durum belirleme anlayışının "durum belirleme tekniklerindeki çeşitlilik", "durum belirleme uygulamaları ve süreç değerlendirmede süreklilik" ve "durum belirleme çalışmalarından elde edilen sonuçların çok amaçlı kullanımı" na odaklandığını göstermiştir. Ders kitapları üzerinde yapılan analizler neticesinde ulaşılan bulgular şunlardır. Program tarafından benimsenen "durum belirleme tekniklerindeki çeşitlilik" anlayışı ilgili ders kitaplarına yeterince yansıtılmamıştır. "Durum belirleme uygulamaları ve değerlendirme sürecinde süreklilik" anlayışı, çeşitlilik anlayışına oranla, ders kitaplarına daha fazla yansıtılmıştır. "Durum belirleme çalışmalarından elde edilen sonuçların çok amaçlı kullanımı" anlayışı, ders kitaplarında kullanıldığı tespit edilen tekniklerle sınırlı olmak kaydıyla, ilgili ders kitaplarına yeterince yansıtılmıştır.

**Anahtar Sözcükler:** Matematik Programı, Ders kitabı, Durum Belirleme

---

\* This study is based on first authors' master dissertation and also presented as a paper at Second World Congress of Administrative and Political Sciences.

\*\* Assoc. Prof. Dr. AIBU. Faculty of Education/Turkey, e-mail:nartgun@yahoo.com

\*\*\* Degree of Masters. High School Math Teacher/Turkey, e-mail:canibey\_03@hotmail.com

## 1.INTRODUCTION

Displaying a scientific attitude and behavior, researching, creativity, critical thinking, problem solving, effective and timely use of resources, healthy communication, knowing where and how to acquire knowledge, perceiving complex relations and using technological devices and tools have become a necessity and a must to have a quality life (NCREL, 2008).

From the point of view that the existing education systems are far from educating the defined human type above, the efforts to educate an individual equipped with the features required by the information age have brought about studies for “reform in education” and in this framework have resulted in drastic changes such as redevelopment of curriculums in education systems of many countries and reconstruction of schools and classrooms (Kozma, 2008).

With the same idea, Republic of Turkey Ministry of National Education decided to make significant changes in primary, secondary and high school education curriculums in 2004 and has been implementing these since the academic year 2005-2006.

One of the many courses changed in the curriculum is the Math course. Like other courses changed in curriculum, the curriculum of Math course was prepared by taking into consideration the constructivist learning approach. Therefore, evaluation component of the curriculum as well as aim, content and learning-teaching process components was prepared, in compatible with other components, with an understanding based on the constructivist learning approach. The striking points in the evaluation component of the renewed Math Curriculum and thus in the understanding of assessment is given as follows (MEB, 2005):

- I- Assessment is “a multi-step and systematic process which is performed to define effectiveness of teaching and learning and which includes collection and interpretation of data related to education”.
- II- Constructivist understanding underlines that, in assessment, students should be provided multi opportunities in which they can show their knowledge, abilities and attitudes. Within the scope of multi assessment opportunities to be provided to students, the assessment techniques stated in the curriculum and which teachers are asked to use during teaching process are:

Traditional Assessment Techniques: Multiple choice questions, Short answer questions, True-false questions, Matching type questions, Essay type (open ended) questions.

Other Assessment Techniques: Performance assessment, Portfolio assessment, Project studies, Poster studies, Written reports, Concept maps, Word association tests, Branching trees, Structural communication grid, Presentation, Interview, Group, peer and self-assessment.

- III- In parallel with the constructivist learning approach, learning and teaching strategies shift from a teacher-centered structure to a student-centered structure. Therefore, the assessment understanding must be reconstructed in this respect. In this context, the point of view of Math curriculum to assessment and the emphasized points are: 1) Using alternate assessment techniques, 1) Assessment

as a part of learning and teaching, iii) Assessment of meaningful and deeply learned knowledge, iv) Assessment of related and well-structured knowledge net, v) Assessment of scientific understanding and scientific logic, vi) Assessment to determine what a student understands, vii) Assessment practices throughout the semester and, viii) Self and peer assessment with teacher.

Considering the above-mentioned explanations, it can be said that the understanding of assessment adopted in the curriculum focuses on a) diversity in assessment techniques b) continuity in assessment practices and process evaluation and c) multi-purpose use of assessment results.

After the completion of studies to prepare Math Curriculum, the process continued with writing the textbook in line with the curriculum. In this process, the Ministry of National Education adopted an approach which can be called a tri-some set superseding one textbook practice. Accordingly, the related publishers were obliged to write not only a textbook in line with the curriculum but also a workbook for students and a manual book for teachers. At the end of the process books were evaluated by experts of Ministry of National Education and resulted as acceptance or rejection of books for use.

### **1.1. The Purpose of the Study**

Main purpose of this study is to determine to what extent the understanding of assessment adopted in the renewed High School Education 9<sup>th</sup> grade Math Curriculum's evaluation component is reflected in textbooks – student course book, student workbook and teacher's manual – prepared by the related publishers and approved for use by Ministry of National Education.

In the context of the above-mentioned purpose this study looks for answers to the following questions.

Research Questions:

To what extent is the understanding of assessment adopted in the renewed Math curriculum's evaluation component reflected in the related textbooks in terms of;

- 1) "Diversity in assessment techniques"?
- 2) "Continuity of assessment practices and process evaluation"?
- 3) "Multi-purpose use of assessment results"?

### **1.2. The Importance of the Study**

Literature review showed that the renewed Math Curriculum of different grades are analyzed taking into consideration by many aspects (Baki and Gökçek, 2005; Bolat S. S, 2006; Çakır, 2006; Erdal, 2007; Bal, 2008). But in the related literature, although there are some studies for different textbooks such as science and technology (Nartgün, 2008; Bahar, Nartgün and Taşdere, 2010; Bahar, Nartgün and Taşdere, 2011) there exists no study on the understanding of assessment adopted in the math curriculum and to what extent it is reflected in textbooks. This study is considered important for being the first to be done in this respect and the results will make contributions to the relevant such as experts in the process of textbook writing and evaluation process.

## **2.METHOD**

### **2.1.Research Model**

This research is a qualitative study based on document analysis. Depending on the aim of research, two textbooks which is used in the vast majority of Turkey were chosen, among the textbooks written in line with the curriculum of the 9<sup>th</sup> grade Math curriculum and allowed by Ministry of National Education to be put into use. All analysis continued with the examination of selected four units in the textbooks on condition that each represents a different learning subject.

### **2.2.Analysis Process**

The analysis of the textbooks were made in a way to answer each question directed under the purpose of the research. As stated earlier, the textbook is a threesome set consisting of student course book, student workbook and teachers' manual. Student course book, student workbook and teacher's manual are complimentary in terms of discussion of the acquisitions in the course. Therefore, this threesome set were analyzed as a whole in all analysis.

The steps taken during the process of textbook analysis are given below.

In order to answer the first research question, the number of use of each assessment technique mentioned in the curriculum in textbook on the basis of units and also the total number was calculated and the results are given in tables. In this stage, the assessment techniques mentioned in the curriculum were divided into four categories by the researchers. These categories were named "questions related to product", "questions related to process", "performance studies" and "others", respectively.

For the second research question, the analysis were made based on in which stages of the teaching process the related assessment techniques were used and the frequency of use of assessment techniques for process evaluation.

In order to answer the third research question, the assessment techniques used in the textbook were analyzed and a conclusion was drawn whether the assessment results obtained by the use of these techniques would serve the purposes stated in the curriculum.

Before starting analysis, two researchers' trial analysis results for one unit of the first textbook were compared and 82, 8 % agreement for first research question, 86, 5 % agreement for second research question and 88, 6 % agreement for third research question were found. As a result of that the all other analysis of this study were continued by one researcher.

## **3.FINDINGS**

### **3.1.Findings Related to the First Research Question**

Frequency of use of the assessment techniques stated in the curriculum in the 9<sup>th</sup> grade textbooks are given in Table 1 and Table 2. In the first column of the tables are the categories of the assessment techniques; in the second column are the names of the assessment techniques stated in the curriculum and in other columns are the textbooks included in the research, the units in these textbook and the frequency of use of each assessment techniques both in the related units and the textbook as a whole.

In the analysis based on units in the textbooks, it was observed that all “questions related to product” were mostly used and designed as “progress tests” at the end of the units.

When the “questions related to process” are examined, it is observed that open ended questions are the one to be used the most frequently in textbook. Frequent use of open ended questions in textbook can be explained by easy preparation. On the other hand, the frequency of use of other “questions related to process” in textbook is quite low and even in some units they are never used. The fact that the frequency of use of “questions related to process”, except for the open ended questions, is low can be explained by the difficulty in preparing these questions.

It is observed that the assessment techniques considered under “performance study” get dense in especially research and graphs because of the nature of the course. It is also very striking that, though included in the curriculum, portfolio assessment, observation, presentation, interview and project techniques were never used or insufficient level in the textbook.

**Table 1.**  
*Frequency of use of the assessment techniques in the 9<sup>th</sup> grade math textbook A*

	Assessment Tech.	Student Course Book					Student Workbook					Teacher's Manual								
		Units	1	2	3	4	Total	Units	1	2	3	4	Total	Units	1	2	3	4	Total	
Questions related to product	Multiple Choice Questions	20	15	15	25	75	20	20	25	25	90	-	-	2	2	4				
	Short Answer Questions	25	32	47	51	155	27	34	46	56	163	12	16	14	28	70				
	Matching Type Questions	12	-	16	25	53	46	22	4	38	110	-	-	4	28	32				
	True/False Questions	16	10	7	28	61	17	-	6	12	35	2	-	1	-	3				
Questions related to process	Open Ended Questions	26	24	44	48	142	36	42	54	57	189	12	22	28	36	98				
	Structural Communication	1	-	2	-	3	-	1	-	1	2	-	-	1	-	1				
	Grid	-	-	-	-	-	-	-	-	1	1	1	-	-	-	1				
	Association Test	-	1	-	-	1	-	-	1	-	1	-	-	-	-	-				
	Branching Trees	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	Concept Maps	1	-	-	-	1	-	2	-	-	2	-	-	-	1	1				
Performance Studies	Poster Study	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-				
	Observation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	Interview	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	Research	3	2	5	5	15	1	-	2	-	3	1	1	-	1	3				
	Research Project	-	-	-	1	1	-	1	1	-	2	-	-	-	-	-				
	Presentation	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1				
	Portfolio	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	Assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	Text	-	-	2	1	3	2	1	1	2	6	-	-	-	-	-				
	Game	-	1	1	-	2	-	-	2	2	4	-	1	-	-	1				
Puzzle	-	-	-	-	-	-	1	1	-	2	-	-	1	1	2					
Graph	2	2	2	3	9	3	2	4	4	13	-	-	-	2	2					
Others	Self-Evaluation	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Peer Evaluation	-	-	-	-	-	-	-	-	-	-	-	-	-	-					

We know that portfolio assessment which should get under the “performance study” and has different types (pgcps, 2008), it generally necessitates collection of student outcomes in a file called product file according to some rules (Paulson et all, 2001). Projects, posters, research reports, excursion-observation-interview reports and etc. are some of the studies that can be included in portfolios. Although the textbooks include such studies, there is no information about which studies should be included in the student files in which cases. Considering the directions of the Ministry of National Education that student files should be included in the process in determining the grades which are indicators of students’ success (MEB, 2008), it can be said that there is a significant deficiency in the textbook in this respect.

**Table 2.**  
*Frequency of use of the assessment techniques in the 9<sup>th</sup> grade math textbook B*

	Assessment Tech.	Student Course Book				Student Workbook				Teacher’s Manual								
		Units	1	2	3	4	Total	Units	1	2	3	4	Total					
Questions related to product	Multiple Choice Questions	1	18	18	25	76	2	20	25	30	97	4	4	5	6	19		
	Short Answer Questions	5	1	24	23	28	92	2	1	21	29	43	109	8	13	11	16	48
	Matching Type Questions	7	-	9	14	30	6	-	6	11	18	35	-	1	1	1	3	
	True/False Questions	7	-	9	14	30	-	6	11	18	35	-	1	1	1	3		
	True/False Questions	6	16	19	22	63	8	9	6	18	41	-	-	-	-	-		
Questions related to process	Open Ended Questions	2	31	36	47	136	1	28	26	39	111	12	9	16	18	55		
	Structural Communication Grid	2	-	1	1	3	8	1	-	1	2	4	-	-	-	-		
	Word Association Test	1	-	1	1	3	1	-	1	2	4	-	-	-	-	-		
	Branching Trees	-	-	-	-	-	-	1	-	1	-	2	-	-	-	-		
	Concept Maps	-	-	1	1	2	-	-	1	2	3	-	-	-	1	1		
Performance Studies	Poster Study	-	-	1	-	1	-	-	-	-	-	-	-	1	-	1		
	Observation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Interview	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Research	3	5	4	9	21	1	2	2	4	9	-	1	1	2	4		
	Research	-	-	-	1	1	-	1	1	-	2	-	-	-	-	-		
	Project	-	1	2	3	7	-	1	-	2	3	1	-	-	-	1		
	Presentation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Portfolio	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Assessment Text	-	-	-	1	1	-	1	1	3	5	-	-	-	-	-		
	Game	1	1	-	-	2	-	-	1	-	1	-	1	-	-	1		
Puzzle	-	1	-	1	2	-	1	1	1	3	-	-	-	-	-			
Graph	2	1	4	5	12	3	5	4	8	20	-	1	-	-	1			
Others	Self-Evaluation	-	-	-	-	-	1	1	1	1	4	-	-	-	-	-		
	Peer Evaluation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

As known, studies such as project, research, poster, observation, experiment and etc. are discussed under performance tasks in the literature (Instructional Intranet, 2008). One of the main characteristics of such tasks is the use of grading keys which are called rubric created exclusively for the study to define sufficiency level of studies. When the related textbook is analyzed, it is observed that it includes no rubrics peculiar to studies but general rubrics not peculiar to studies which can be used in grading studies such as projects and posters only in teachers’ manual. For this reason, the fact that some of the assessment techniques expected to be used in “performance studies” are rarely or never

included in the textbooks and the textbooks with assessment techniques do not include grading keys can be considered as a very important deficiency.

It was also observed that related textbooks did not include self and peer evaluation studies that would ensure effective participation of students in the assessment and evaluation process.

### **3.2. Findings Related to the Second Research Question**

As stated in the introduction section, the research on the assessment understanding adopted in the Math curriculum reveals that: i) assessment practices are a part of the learning and teaching process. These practices should be applied not only at the end of the teaching process but also in each phase of teaching process (continuity). ii) in assessment practices, techniques related to process rather than product should be emphasized (process evaluation).

In the examinations in Table 1 and 2 to define to what extent the mentioned understanding is reflected in the 9<sup>th</sup> grade textbook, it is observed that various assessment techniques are used in various frequencies in all units of each textbook. According to the examinations in the textbook based on the units, some assessment techniques under “questions related to process” and assessment techniques in “performance studies” are used in all phases of the teaching process. Yet, it is observed that the “questions related to product” are used generally in progress tests at the end of units. These findings can be interpreted such that the assessment practices have become a part of teaching process and thus the understanding of “continuity” is reflected in the textbook in some degree. However, rare use or nonexistence of some techniques such as structural communication grid, word association and branching trees in process evaluation studies can be regarded as a significant deficiency.

### **3.3. Findings Related to the Third Research Question**

According to the examinations in the textbooks, it can be said that the assessment techniques used in the textbook are sufficient in producing the necessary data (assessment results) in order to; determine acquiring level of the students in acquisitions related to the course and provide feedback, determine future learning needs of students, define the effectiveness level of teaching services provided by the teacher, and provide information to parents about their children’s learning level.

However, as stated earlier, it was observed that some assessment techniques were used rarely or never used in the textbook. Therefore, the future contribution of the test results, which will be obtained in the event that these techniques are put into use, to “multi purpose use” should never be ignored.

Using assessment techniques for different purposes requires applying various statistics and processes on assessment results, and interpreting and reporting the results. Accordingly, teachers are expected to be sufficient in these fields. Assessment practices to be carried out under the insufficiency of teachers shall lose their meaning largely. For this reason, explanations about the job and process to be carried out on assessment results are expected to be made in teacher’s manual, considering the possible insufficiency of teachers. Yet, there exists no such finding in the analysis carried out.

## **4.CONCLUSIONS and SUGGESTIONS**

### **4.1.Conclusions**

In the textbooks, questions related to product are frequently used, especially in progress tests at the end of units. In the part of questions related to process, open-ended questions are used frequently while the frequency of use of other question types is very low. The performance studies focus on especially researches and graphs. However, rubrics peculiar to the study, which were expected to be used in the process of grading studies based on performance, were not found in the related textbooks. The related textbooks do not include information about how to run the “portfolio assessment” process, which is emphasized in the new curriculum. It was also observed that related textbooks did not include self and peer evaluation studies that would ensure effective participation of students in the assessment and evaluation process. Consequently, the understanding of assessment adopted in the new curriculum was not reflected in the related textbooks completely.

Examinations about the places of use of assessment techniques in the textbook showed that these are used in all places such as at the beginning, during and at the end of teaching process. It was observed that especially questions related to process and performance studies are used in the teaching process while questions related to product are generally used in tests at the end of the units. Consequently, the understanding of assessment adopted in the new curriculum was reflected in the related textbooks in terms of “continuity of assessment practices and process evaluation”.

The assessment techniques used in the textbook are qualified and sufficient to produce data to serve the purpose of use of assessment within the education system. However, considering the existence of rarely used or unused assessment techniques in the textbooks, though they are stated in the curriculum, it is not possible to say that the understanding of assessment adopted in the curriculum was completely reflected in the related textbooks.

All these results show that there are significant difficulties with respect to reflection of the understanding of assessment within the ninth grade math curriculum, renewed based on the constructivist learning approach, in the practices in the textbooks; and textbooks writers and textbook reviewers and the institutions and authorities to approve textbooks’ sufficiency do not attach the necessary importance to the evaluation component of the curriculum. Probably, one of the most important findings of this study is that it opens to question how “valid” the evaluation criteria are, which ensure textbook reviewing commissions approve textbooks which partially reflect the understanding of assessment required by the curriculum.

### **4.2.Suggestions**

Publishers taking part in the process of textbook writing should surely ensure participation of experts with advanced education on assessment in the teams responsible for textbook writing.

Experts with advanced education on assessment and academicians contributing to curriculum development and revision should take part in the commissions responsible for



revision of textbooks prepared by related publishers and submitted to Republic of Turkey, Ministry of National Education.

After an analysis to be carried out by the related commissions in the textbooks prepared by the related publishers and submitted to Republic of Turkey Ministry of National Education, the textbooks which fail to reflect the understanding of assessment adopted in the curriculum should be determined and returned to the publishers for necessary corrections.

Textbook revising commissions should revise the criteria used in decision-making process related to the sufficiency of assessment practices in textbooks.

#### REFERENCES

- Baki, A. & Gökçek, T. (2005). Türkiye ve Amerika Birleşik Devletlerindeki ilköğretim matematik (1–5) program geliştirme çalışmalarının karşılaştırılması. *Kuram ve Uygulamada Eğitim Bilimleri*. 5 (2), 557-588.
- Bahar, M., Nartgün, Z., Taşdere, A. (2010). Altıncı sınıf fen ve teknoloji ders Kitaplarına yansıyan ölçme değerlendirme anlayışının yeni öğretim programı ışığında değerlendirilmesi. 19. *Ulusal Eğitim Bilimleri Kongresi*. 16-18 Eylül. KKTC.
- Bahar, M., Nartgün, Z., Taşdere, A. (2011). Fen ve teknoloji öğretim programında ölçme ve değerlendirmeye ilişkin benimsenen yeni anlayışların ders kitaplarına yansımaları. I. Uluslararası Eğitim Programları ve Öğretim Kongresi. 5-8 Ekim. Eskişehir, TURKEY.
- Bal, A. P. (2008). Yeni ilköğretim matematik öğretim programının öğretmen görüşleri açısından değerlendirilmesi. *Çukurova Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 17(1), 53-68.
- Bolat Soycan, S. (2006). *2005 yılı ilköğretim beşinci sınıf matematik programının değerlendirilmesi*. Yayınlanmamış Yüksek Lisans Tezi, Bursa: Uludağ Üniversitesi Sosyal Bilimler Enstitüsü.
- Çakır, A. (2006). *İlköğretim matematik ders kitaplarıyla ilgili öğretmen görüşleri*. Yayınlanmamış Yüksek Lisans Tezi, Eskişehir: Eskişehir Osman Gazi Üniversitesi Sosyal Bilimler Enstitüsü.
- Erdal, H. (2007). *2005 İlköğretim matematik programı ölçme değerlendirme kısmının incelenmesi*. Yayınlanmamış Yüksek Lisans Tezi, Afyonkarahisar: Afyon Kocatepe Üniversitesi. Sosyal Bilimler Enstitüsü.
- Instructional Intranet (2008). Ideas For Tasks. Retrieved June 10, 2008 from [http://www.intranet.cps.k12.il.us/assessments/Ideas\\_and\\_Rubrics/Assessment\\_Tasks/Ideas\\_Tasks/ideas\\_tasks.html](http://www.intranet.cps.k12.il.us/assessments/Ideas_and_Rubrics/Assessment_Tasks/Ideas_Tasks/ideas_tasks.html)
- Kozma, R.B. (2008). ICT and Educational Reform in Developed and Developing Countries. Retrieved July 18, 2008 from <http://web.udges/tiec/orals/c.17.pdf>
- MEB. (2005). Matematik dersi öğretim programı ve kılavuzu. Ankara: Devlet Kitapları Müdürlüğü.
- MEB (2008). Sınıf geçme yönetmeliği. Retrieved July 06, 2008 from <http://okulweb.meb.gov.tr/34/13/364942/sinifgecme.html>

- Nartgün, Z. (2008). "Reflections of the understanding of assessment adopted 4th and 5th grade science and technology curriculum in textbooks". Essays in Education. Special edition: Science and science education in Turkey, 76-89, published by department of education at the University of South Caroline Aiken.
- NCREL (2008). Critical Issue: Rethinking Assessment and Its' Role in Supporting Educational Reform. Retrieved July 12, 2008 from <http://www.ncrel.org>
- Paulson, F.L., Paulson, P.R., Meyer, C.A. (1991). What makes a portfolio a portfolio?. *Educational Leadership*, 48(5), 60-63.
- Pgcps (2008). What are some different types of portfolios. Retrieved May 22, 2008 from <http://www.pgcps.pg.k12.md.us/~elc/portfolio2.html>

## GENİŞ ÖZET

### 1.Giriş

Bilimsel tutum ve davranışlara sahip olmak, araştırmacılık, yaratıcılık, eleştirel düşünme, problem çözüme, kaynakların etkili kullanımı, sağlıklı iletişim, bilginin nereden ve nasıl elde edileceğini bilme, karmaşık ilişkileri algılama ve teknolojik araç gereçlerin kullanımı kaliteli bir yaşam için sahip olunması gerekli ve zorunlu olan özelliklerdir (NCREL, 2008).

Varolan eğitim sistemlerinin yukarıda ifade edilen özellikleri bireylere kazandırmaktan uzak olduğuna yönelik bakış açısı eğitim sistemlerinde reform hareketlerini birlikte getirmiş ve eğitim programları ve ders kitapları da dahil olmak üzere eğitimde önemli bir değişim süreci başlamıştır (Kozma, 2008).

Aynı bakış açısıyla Türkiye Cumhuriyeti Milli Eğitim Bakanlığı'nda 2004 yılından itibaren ilköğretim, ortaöğretim ve liselerdeki programların ve ders kitaplarının değişimine yönelik önemli kararlar almış ve değişimini gerçekleştirdiği programları ve bu programlara göre hazırlanmış kitaplara dayalı öğretimi 2005-2006 öğretim yılından itibaren kademeli olarak uygulamaya koymuştur.

Bu kademeli geçiş sürecinde ele alınan programlardan biri de matematik programı olmuştur. Diğer programlarda olduğu gibi matematik programı da yapılandırmacı yaklaşım temele alınarak hazırlanmıştır. Dolayısıyla programın hedef, içerik, öğrenme-öğretme süreci öğeleriyle birlikte değerlendirme ögesi de bu yaklaşım çerçevesinde düzenlenmiştir.

Matematik programının değerlendirme ögesi incelendiğinde özellikle durum belirleme uygulamalarında "durum belirleme tekniklerindeki çeşitlilik", "durum belirleme uygulamaları ve değerlendirme sürecinde süreklilik" ve "durum belirleme çalışmalarından elde edilen sonuçların çok amaçlı kullanımı" anlayışının ön plana çıkarıldığı görülmüştür. Dolayısıyla değişen programa dayalı olarak hazırlanan kitapların da bu anlayışa göre hazırlanması değişim sürecinden beklenen olumlu etkinin görülebilmesi bakımından hem bir gereklilik hem de zorunluluk olarak görülmektedir.

Bu çerçevede, bu çalışmada, yenilenen dokuzuncu sınıf matematik programının değerlendirme ögesinin benimsediği durum belirleme anlayışının ilgili yayınevleri

tarafından hazırlanan ve Milli Eğitim Bakanlığı tarafından kabul gören ilgili ders kitaplarına - öğrenci ders kitabı, öğrenci çalışma kitabı ve öğretmen el kitabı – ne derecede yansıdığı belirlenmeye çalışılmıştır. Araştırma, ulaşılan sonuçların hem yayınevlerinin ders kitabı yazarlarına hem de Milli Eğitim Bakanlığının kitap inceleme komisyonlarında yer alan uzmanlara ve diğer ilgililere yol gösterici olması bakımından önemli görülmektedir.

## 2.Yöntem

Araştırma nitel araştırma yöntemleri çerçevesinde doküman analizi temel alınarak gerçekleştirilmiştir. Araştırmanın amacı doğrultusunda, analizler, MEB tarafından kabul edilen ve Türkiye genelindeki liselerin büyük bir çoğunluğunda kullanılan iki dokuzuncu sınıf matematik kitabı - öğrenci ders kitabı, öğrenci çalışma kitabı ve öğretmen el kitabı - seçilerek bu kitapların farklı konu alanlarını kapsayan dört ünitesi üzerinden gerçekleştirilmiştir.

İlgili programın değerlendirme ögesinin benimsediği durum belirleme anlayışının seçilen ders kitaplarına ne derecede yansıdığı belirlenmesine yönelik analizlerde “durum belirleme tekniklerindeki çeşitlilik”, “durum belirleme uygulamaları ve değerlendirme sürecinde süreklilik” ve “durum belirleme çalışmalarından elde edilen sonuçların çok amaçlı kullanımı” esas alınmıştır.

## 3.Bulgular

Birinci araştırma sorusu kapsamında durum belirleme tekniklerindeki çeşitliliğe yönelik elde edilen bulgular şu şekildedir. Kitaplarda bulunan izleme testlerinin tamamında, ürüne dönük soru tipleri sürece dönük soru tiplerinden açık uçlu soru tipi hariç, diğer soru tiplerine göre daha fazla kullanılmıştır. Performans çalışmaları kapsamında kullanılan durum belirleme teknikleri ise daha çok araştırma ve grafiklerde yoğunlaşmıştır. Son olarak, yapılan analizler, öz ve akran değerlendirme çalışmalarına kitaplarda neredeyse hiç yer verilmediğini göstermiştir.

İkinci araştırma sorusu kapsamında, durum belirleme uygulamaları ve değerlendirme sürecinde süreklilik bağlamında yapılan analizler, sürece dönük soru tipleri ve performans çalışmalarının öğretim sürecinin her aşamasında belli bir düzeyde kullanıldığını göstermektedir. Ürüne dönük soru tipleri ise daha çok ünitelerin sonunda izleme testleri bağlamında kullanılmıştır.

Üçüncü araştırma sorusu kapsamında, durum belirleme çalışmalarından elde edilen sonuçların çok amaçlı kullanımı bağlamında yapılan analizler, ders kitaplarında kullanılan tekniklerle sınırlı olmak kaydıyla, öğrencilerin kazanımlara sahip oluş düzeyleri hakkında, geleceğe dönük öğrenme gereksinimleri hakkında, sunulan öğretim hizmetinin ne derece de etkili olduğu hususunda ve çocukların öğrenme düzeyleri hakkında ilgililere bilgi ve dönüt verici olduğunu göstermektedir.

## 4.Sonuçlar

Programın “durum belirleme tekniklerindeki çeşitlilik” anlayışı ilgili ders kitaplarına yeterince yansıtamamıştır. Bu noktada özellikle sürece dönük soru tipleri, performans çalışmaları ve öz ve akran değerlendirme uygulamaları noktasında önemli eksiklikler tespit edilmiştir.

Programın “durum belirleme uygulamaları ve değerlendirme sürecinde süreklilik” anlayışı ders kitaplarına, nispeten daha fazla yansımıştır. Ancak bazı durum belirleme tekniklerine kitaplarda yer verilmeyişi ve ürüne dönük soru tiplerinin kullanımının da süreç içinde değil özellikle öğretim sürecinin sonunda olması bu noktada önemli bir eksiklik olarak görülmektedir.

Programın “durum belirleme çalışmalarından elde edilen sonuçların çok amaçlı kullanımı” anlayışı, ders kitaplarında kullanıldığı tespit edilen tekniklerle sınırlı olmak kaydıyla, ders kitaplarına yansıtılmıştır. Ancak, durum belirleme tekniklerindeki çeşitliliğe ilişkin tespit edilen sınırlılıklar bu anlayışın kitaplara yansımalarının önündeki en önemli engel olarak görülmektedir.

Ulaşılan sonuçlar bir bütün olarak ele alındığında programın değerlendirme ögesince benimsenen durum belirleme anlayışının belli bir düzeyde ders kitaplarına yansıdığı söylenebilir. Bu durum, kitap inceleme komisyonlarında yer alan uzmanlar tarafından değerlendirilmesi sürecinde kullanılan kriterlerin tartışmaya açılmasını da beraberinde getirmiştir.

## **5.Öneriler**

Kitap yazma sürecinin içinde yer alan yayınevleri kitapları yazmakla görevlendirdikleri ekiplerde nitelikli ölçme ve değerlendirme uzmanlarına yer vererek programın değerlendirme ögesinin bu çalışmada belirtmeye çalışılan durum belirleme anlayışının kitaplara tam olarak yansımaları için çalışmalar yapılabilirler.

Hazırlanan kitapların değerlendirilmesi sürecinde Milli Eğitim Bakanlığı tarafından oluşturulan komisyonlarda nitelikli ölçme ve değerlendirme uzmanlarına yer verilebilir. Böylece, programın değerlendirme ögesinin bu çalışmada belirtmeye çalışılan durum belirleme anlayışının kitaplara ne kadar yansıdığına yönelik nitelikli değerlendirmeler yapılabilir, eksikliklerin saptanmasıyla ilgili yayınevlerine düzeltme süreçleri için önemli dönütler sunulabilir.