

Examination of Text-Based Questions in Secondary School Turkish Textbooks According to the Renovated Bloom Taxonomy

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Abstract: In this study, it is aimed to examine the text-based questions in the secondary school Turkish textbooks according to the revised Bloom's Taxonomy and to evaluate these questions according to the cognitive domain steps. In the research, the text-based questions in the Turkish textbooks approved by the Ministry of National Education were examined by document analysis method, and a separate analysis was made for each grade level. As a result of the study, it was seen that the text-based questions in Turkish textbooks concentrated on the steps of remembering and understanding. It is noteworthy that in the fifth, sixth and seventh grade Turkish textbooks, the questions that serve high-level thinking skills have lower rates than the questions of other skills. This situation differs only in the textbook for the eighth-grade level. The variation in the number of questions at all grade levels and in all themes at these levels reveals the unplannedness in the textbooks. The research reveals that it is necessary to develop high-level thinking skills of students at the secondary school level and to support this goal with textbooks, which are the most used teaching materials in education.

Keywords: Renewed Bloom Taxonomy, Textbook, Text-based questions

Introduction

Proper use of language is the main objective language education. However, in recent years, the objective of raising students who can think critically and creatively has become prominent. Correct thinking, correct understanding and correct use of language can only be fully achieved with the development of critical thinking education. (Karadüz, 2010). The constructivist approach, which has a significant part in today's education, reveals high-level thinking skills. The conceptual framework formed with the constructivist theory has activated the students in learning and leded new assessment applications by affecting learning process and assessment approaches after (Yurdabakan, 2012). In this approach, the objective is human qualification generating new information and using the information, not the one who stores it. In Turkish education curriculum, it has been stated that along with the basic skills, students should acquire critical thinking, creative thinking, problem solving, researching and decision-making skills (MEB, 2006). With this understanding, it is important to determine to what extend students have these skills in Turkish lessons taught to improve students' high-level mental skills (Çintaş Yıldız, 2015). One of the most important materials of the Turkish course is the texts used

in the course. The teacher is a very affective factor in the students' understanding of the texts discussed in these courses in the best way possible. Because the teacher is the person who can improve the thinking skills along with the comprehension and expression skills by arousing the attention of the students (Eyüp, 2012).

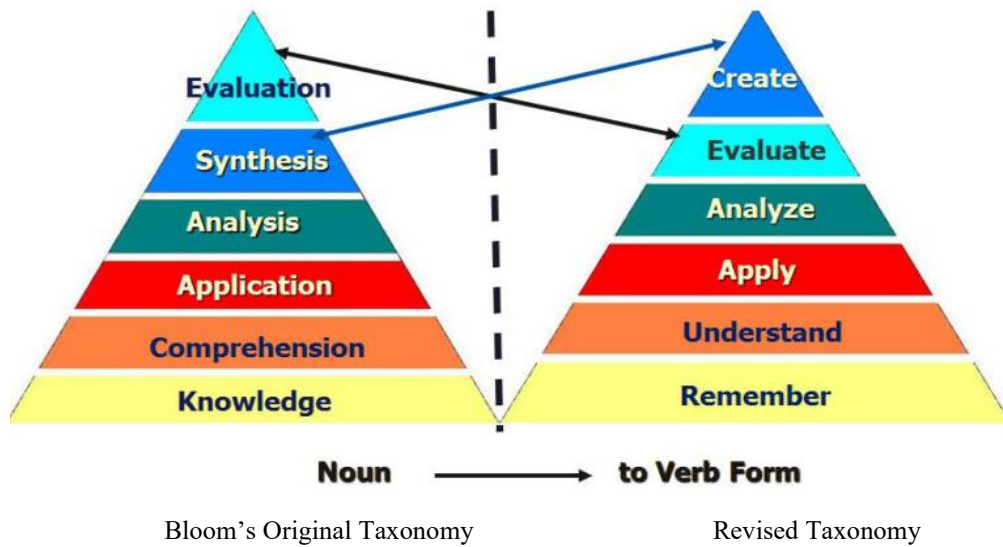
The questions to be asked by the teacher after the text is read, should improve students' skills of thinking, criticizing, making critical, developing evidence and motivate them to learn (İşman & Eskicumalı, 2001). Because asking questions is method that activates thinking (Sara Kuzu, 2013) and learning may not be completely mentioned in an environment where there is no thinking. Allen and Tanner (2002), stated that the questions should not only measure what students have learned, but also improve their thinking skills. In this regard, the questions which are the most important elements in assessment and evaluation in the education and training process, are prepared mostly according to Bloom's taxonomy in compliance with the learning approaches of our age. According to Thompson (2008), the exam questions for students at the present time are also classified according to Bloom's taxonomy which is universally accepted.

Completed in 1956 and published in a book, Bloom's taxonomy of cognitive domain consists of six categories. There is a hierarchical structure among these categories from simple to complex. Knowledge is considered the lowest level of the cognitive domain and is respectively followed by the levels of comprehension, application, analysis, synthesis and evaluation. Each lower category is the prerequisite for the next higher category (Ari, 2011). In this classification, where knowledge, comprehension and application are considered as lower order thinking skills; analysis, synthesis and evaluation are expressed as higher order thinking skills (Gündüz, 2009). Since 1956, when Bloom's taxonomy emerged, improvements in developmental and learning psychology, teaching methods and techniques, assessment and evaluation have necessitated the reorganization of learning and learning objectives (Başbay, 2007). This taxonomy, which has been criticized for various reasons, was revised in 2001 with some alterations (Bümen, 2006). In 1990s, David Krathwohl, one of the authors of the original taxonomy, and Lorin Anderson, one of Bloom's students, took action to reorganize the existing taxonomy to meet the necessities of our age (Anderson, Krathwohl et al., 2001, as cited in Altındağ & Demirel, 2013).

In the new classification, the cognitive domain has been handled in two dimensions as content and process. As in the original classification, the dimensions of cognitive process in the revised one, consist of six main categories in a hierarchy from simple to complex (Eroğlu & Sara Kuzu, 2014). On the other hand, in the revised taxonomy, "Each lower category is the prerequisite for the next higher category" principle has been removed (Ari, 2011). The most significant change has been realized in the dimension of knowledge and this dimension has been explained in detail and has become an aspect that teachers can easily benefit from (Altındağ & Demirel, 2013). In addition, this dimension has been arranged from simple to complex supporting the infrastructure of the dimension of cognitive process and metacognitive knowledge category has been added to the dimension (Yurdabakan, 2012).

The verb structure of the knowledge category in the original taxonomy maintains to be in the first place with the

name of remembering in the revised taxonomy. Comprehension, the second category, has been changed to understanding. In this classification, while the categories of application, analysis and evaluation have kept their place, the synthesis category was replaced with the evaluation category and renamed as creating. Subcategories, which are stated as nouns in the original taxonomy, are stated in verb form in the revised taxonomy (Ari, 2011). The original and revised taxonomies are given below by comparison. It is known that the revised taxonomy, which is universally accepted, is also widely used in Türkiye. There are numerous applied studies on this taxonomy.



Purpose of the Study

In this study, it is purposed to examine the text-based questions in secondary school Turkish textbooks according to the revised Bloom's taxonomy and evaluate these questions according to cognitive domain levels. Within the scope of this purpose, answers to the following questions have been sought:

- 1.How is the distribution of the text-based questions in the fifth-grade Turkish textbook to the cognitive domain levels in the revised Bloom's taxonomy?
- 2.How is the distribution of the text-based questions in the sixth-grade Turkish textbook to the cognitive domain levels in the revised Bloom's taxonomy?
- 3.How is the distribution of the text-based questions in the seventh-grade Turkish textbook to the cognitive domain levels in the revised Bloom's taxonomy?
- 4.How is the distribution of the text-based questions in the eighth-grade Turkish textbook to the cognitive domain levels in the revised Bloom's taxonomy?
- 5.How is the distribution of the text-based questions in the Turkish textbooks of all grade levels to the cognitive domain levels in the revised Bloom's taxonomy?

Method

The method of the research is document analysis, one of the qualitative research methods. Document analysis is the analysis of written and visual materials containing information about the investigated phenomenon, event and situation (Yıldırım & Şimşek, 2005).

Data Collection Tools and Data Collection

The data of the study have been obtained from the Turkish textbooks taught in secondary schools in Türkiye in the 2021-2022 school year. Text-based questions in the textbooks have been investigated by three field experts and the data have been descriptively analyzed and tabulated.

Findings

In this section, the findings that emerged as a result of the investigation of the text-based questions in the examined Turkish textbooks have been included. Accordingly, the findings of the text-based questions regarding the cognitive domain levels in the revised Bloom's taxonomy are indicated below.

Table 1. The Distribution of Text-Based Questions in the Fifth Grade Turkish Textbooks to the Cognitive Domain Levels in the Revised Bloom's Taxonomy

Cognitive Domain	Themes								Total
	Theme 1	Theme 2	Theme 3	Theme 4	Theme 5	Theme 6	Theme 7	Theme 8	
Remembering	7	11	10	19	9	6	4	16	82
Understanding	2	-	5	1	5	5	2	5	39
Applying	-	1	1	-	1	-	1	2	6
Analyzing	2	2	3	3	2	1	3	1	17
Evaluating	3	1	5	1	4	5	2	2	23
Creating	-	-	1	1	-	2	5	2	11

When Table 1 is examined, it is seen that the text-based questions in the fifth-grade Turkish textbooks increase in the remembering and understanding levels. The levels at the lowest ratio are applying and creating. This applies to all themes. In general terms, it is remarkable that the questions related to high-level thinking skills have lower rates.

Table 2. The Distribution of Text-Based Questions in the Sixth Grade Turkish Textbooks to the Cognitive Domain Levels in the Revised Bloom's Taxonomy

Cognitive Domain	Themes								Total
	Theme 1	Theme 2	Theme 3	Theme 4	Theme 5	Theme 6	Theme 7	Theme 8	
Remembering	18	8	9	10	12	12	17	17	103
Understanding	5	7	5	2	4	4	2	1	30
Applying	-	1	-	-	-	-	-	-	1
Analyzing	1	-	-	-	-	-	-	-	1
Evaluating	1	5	2	1	4	1	1	1	16
Creating	-	-	-	4	-	-	-	-	4

When Table 2 is examined, it is seen that the text-based questions in the sixth-grade Turkish textbooks increase in the remembering and understanding levels. The levels at the lowest ratio are applying, analyzing and creating. It is detected that some themes do not contain the questions related to these levels. In general terms, it is remarkable that the questions related to high-level thinking skills have lower rates.

Table 3. The Distribution of Text-Based Questions in the Seventh Grade Turkish Textbooks to the Cognitive Domain Levels in the Revised Bloom's Taxonomy

Cognitive Domain	Themes								Total
	Theme 1	Theme 2	Theme 3	Theme 4	Theme 5	Theme 6	Theme 7	Theme 8	
Remembering	19	10	8	14	17	13	11	8	100
Understanding	6	5	4	4	3	4	6	10	64
Applying	-	-	-	-	-	-	-	-	0
Analyzing	-	3	3	-	-	1	-	-	7
Evaluating	-	-	-	-	-	-	-	-	0
Creating	2	2	-	-	2	-	3	-	9

When Table 3 is examined, it is seen that the text-based questions in the seventh-grade Turkish textbooks increase in the remembering and understanding levels. The levels at the lowest ratio are applying, analyzing and evaluating. It is detected that some themes do not contain the questions related to these levels. Especially, the questions regarding the applying and evaluating levels were not encountered in any of the themes. In general terms, it is remarkable that the questions related to high-level thinking skills have lower rates.

Table 4. The Distribution of Text-Based Questions in the Eighth Grade Turkish Textbooks to the Cognitive Domain Levels in the Revised Bloom's Taxonomy

Cognitive Domain	Themes								Total
	Theme 1	Theme 2	Theme 3	Theme 4	Theme 5	Theme 6	Theme 7	Theme 8	
Remembering	7	8	10	7	9	12	10	8	71
Understanding	6	4	2	5	4	6	4	5	36
Applying	2	-	2	-	1	2	1	-	8
Analyzing	3	1	-	-	-	2	-	3	9
Evaluating	9	3	5	7	5	9	9	8	55
Creating	1	5	5	4	4	2	-	3	24

When Table 4 is examined, it is seen that the text-based questions in the eighth-grade Turkish textbooks increase in the remembering and evaluating levels. The levels at the lowest ratio are applying and analyzing. It is detected that some themes do not contain the questions related to analyzing and creating levels. In general terms, it is noteworthy that there is a disorder in the distribution of the numbers of questions. While there are 8 questions in the applying level, there are 24 questions in creating level which is a high-level thinking skill, and alike, there are 36 questions in the understanding level, while there are 55 questions in the evaluating level which is a high-level thinking category, distinguish this grade level from other grade levels.

Table 5. The Distribution of Text-Based Questions in the Turkish Textbooks of All Grade Levels to the Cognitive Domain Levels in the Revised Bloom's Taxonomy

Cognitive Domain	No. of Questions	Percentage
Remembering	356	%50
Understanding	169	%24
Applying	15	%2
Analyzing	34	%4
Evaluating	94	%13
Creating	48	%7

When Table 5 is examined, it is seen that 50% of the text-based questions in the textbooks are in the remembering level. There are 356 questions in total at this level. It is respectively followed by the understanding level with 169 questions and 24% rate, evaluating level with 94 questions and 13% rate, creating level with 48 questions and 7% rate, analyzing level with 34 questions and 4% rate, and finally the applying level with 15 questions and 2% rate. It is noteworthy that the creating level, which is considered as a high-level thinking category, has a higher rate than the applying level. It can be said that text-based questions in Turkish textbooks increase in the remembering and understanding levels, but are insufficient in the applying and analyzing levels.

Conclusion

The main objective of the education systems must be to keep up with the world in constant change and development, not to fall behind the times, to provide students with high-level thinking skills to raise individuals who can express themselves better (Kalaycı, 2001). These targeted high-level thinking skills are included in the general objectives of the Primary School Turkish Course Curriculum (6th, 7th and 8th grades) as follows: “Improving understanding, sorting, relating, classifying, questioning, criticizing, estimating, making analysis-synthesis, interpreting and evaluating skills” (MEB, 2006). In order to develop high-level thinking processes, the cognitive domain classification made by Bloom in 1956 is frequently used (Sönmez, 2007).

In this study, text-based questions in secondary school Turkish textbooks have been examined according to the revised Bloom’s Taxonomy and these questions have been evaluated according to the cognitive domain levels. As a result of the study, it is seen that the text-based questions in Turkish textbooks increase in the remembering and understanding levels. It is noteworthy that the questions related to high-level thinking skills in Turkish textbooks of fifth, sixth and seventh grade levels have lower rates. This case differs only in the eighth-grade textbook. While there are 8 questions in the applying level of this grade level, there are 24 questions in creating level which is a high-level thinking skill, and alike, there are 36 questions in the understanding level, while there are 55 questions in the evaluating level which is a high-level thinking category, distinguish this grade level from other grade levels. The variation in the number of questions in all grade levels and all themes in these levels, reveals the disorganization in the textbooks.

Durukan and Demir (2017), as a result of their study named “Classifying the Activities in Turkish Lesson Textbook for the 6th, 7th and 8th Grades Students According to the Revised Bloom’s Taxonomy”, detected that the distribution of activities regarding the four basic skills to the taxonomy is not proportional, and the activities are more likely to increase in the remembering and understanding levels which are the first two levels of the taxonomy. In this study, it is concluded that the number of the activities regarding the evaluating, analyzing and creating levels, which can be linked with critical thinking skill, is insufficient.

Yıldız (2015) examined Turkish course exam papers in her study, in which she analyzed Turkish Course exam questions according to the revised Bloom’s taxonomy. According to the result of the research, most of the questions in Turkish course exam papers are mainly in conceptual knowledge level in the dimension of knowledge; and understanding level in the dimension of cognitive process. Kavruk & Çeçen, 2013, as a result of their study in which they evaluated the Turkish course written exam questions in terms of cognitive domain levels, concluded that most of the questions are in the knowledge, comprehension and application levels which measure lower order information. Güftâ & Zorbaz (2008), in their study named “A Review Regarding Levels of Written Examination Questions for Turkish Courses of the Secondary School”, detected that the questions in Turkish course written exam are mostly low-level questions.

Kuzu (2013), in her study, in which she examined the text-based questions in Turkish textbooks according to the revised Bloom's Taxonomy in terms of the cognitive levels of remembering and understanding, detected that the rate of the questions of remembering level to the total number of questions is 36%, the questions of understanding level is 39%, the questions of other levels is 25%. Çiftçi & Çeçen (2009), in their study named "An Evaluation of Pre- and Post-Reading Questions in the 5th and 6th Grade Textbooks in Primary School in Terms of Bloom's Taxonomy", found out that the least successful level is the synthesis level, the most successful level is the evaluation level. Besides, understanding degrees in comprehension, application, analysis and synthesis levels had a significant difference according to gender. Similarly, Akyol (2001) in his study, where he analyzed questions related to the reading texts in the 5th grade Turkish textbooks in primary school, concluded that most of the questions led the students to memorization, and the questions that require thinking and criticizing such as evaluation and estimation are included just a little or not included at all. Kutlu (1999), found out that no questions were asked regarding the analysis and synthesis levels, in his study named "An Investigation of the Questions Prepared According to the Reading Texts in Turkish Course Textbooks Used in Primary Education".

Çiftçi (2010), in his study, in which he evaluated the reading comprehension achievements in primary school 5th grade Turkish education curriculum in terms of cognitive skills, stated that the cognitive levels are not evenly distributed in the achievements and the majority of the achievements were in the lower cognitive levels. Eyüp (2011) revealed that teacher candidates prepared questions mostly in "remembering" and "understanding" levels, and were unable to prepare questions to improve high-level thinking skills in her study named "Evaluation of the Questions Prepared by Turkish Language Teacher Candidates According to the Revised Bloom's Taxonomy". In Göçer (2008)'s study, titled as "Investigation of Primary School Turkish Textbooks in Terms of Assessment and Evaluation", one of the results was that the questions in the assessment and evaluation section at the end of the theme in the textbooks increase at the knowledge level of the cognitive domain.

The results of this study indicate that a significant part of the reading comprehension questions used in Turkish course can raise the student to some levels of the cognitive processes in Bloom's Taxonomy such as "remembering", "understanding" or "applying" at most; and yet, cannot activate high-level cognitive skills such as analyzing, evaluating and creating. Our research also reinforces these studies.

Thinking is the most important component of the process of acquiring knowledge, understanding and learning. Interrogation of the information forms the basis of the studies of evaluation and generation of new information. Additionally, solving the problems becomes a necessity by means of developing mental freedom and shaping the future (Güneş, 2012). Our research and other researches prove that there are deficiencies in our education system in learning and teaching high-level cognitive skills such as interrogation of the information, evaluation and generation of new information. The biggest objective of today's education is to raise individuals who can adapt to various conditions and think flexibly and clearly (Seferoğlu & Akbıyık, 2006). Therefore, the importance of the studies carried out to provide our students with high-level thinking skills is increasing day by day.

Recommendations

1. In order to activate students' high-level thinking skills, the achievements in Turkish education curriculum should be properly distributed to the cognitive levels.
2. Teachers and teacher candidates; should be trained about providing students with high-level thinking skills, and the number of the in-class activities serving this purpose should be increased.
3. In Turkish textbooks, texts that are attention-grabbing and open to creative ideas, suitable for the student's levels and areas of interests should be taught instead of long and boring texts that contain only information.
4. The text-based questions in Turkish course textbooks should be separated from the 5W1H framework, and prepared to serve all of the cognitive levels.
5. In accordance with all these studies, Turkish course exam questions should be appropriate to the cognitive levels and as qualitative as to improve the students' high-level thinking skills.

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