A Taxonomic Analysis of the Questions Prepared by Prospective Primary Teachers for Primary School Mathematics and Turkish Language Courses

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ABSTRACT

The aim of this study is to investigate the cognitive process dimension of the revised Bloom's taxonomy in the question preparation of prospective primary school teachers in fourth grade Turkish and mathematics courses. This research is a descriptive study carried out following the survey model, one of the quantitative research methods. The study group consisted of 85 prospective teachers in their final year of the undergraduate programme in primary education at a state and foundation university in Turkey. The data were obtained through questions prepared by the prospective teachers through question preparation forms on Turkish and mathematics courses. These data were analyzed using the descriptive analysis method. The study concluded that the majority of questions prepared by prospective primary teachers in both courses were in the lower levels of the cognitive process dimension of revised Bloom's Taxonomy (remember, understand and apply). It was found that the questions in the Turkish language course were mostly prepared in the remember and understand dimensions and in the mathematics course were mostly prepared in the apply and understand dimensions. In light of these results, it can be suggested that the preparation of high-level questions in terms of the revised Bloom's taxonomy should be included more in undergraduate education.

Key words: Revised Bloom's Taxonomy, Prospective Primary Teachers, Turkish Language Instruction, Mathematics Instruction

INTRODUCTION

Education plays a key role in the development and progress of societies. One of the main objectives of the education system is to develop students' cognitive skills. It also aims to make them active and critical thinkers. At this point, primary teachers are one of the most important factors that have an impact on the learning process of students. The primary teachers use a variety of ways to reveal the learning potential of the students and to make them into individuals who think deeply. One of these ways is to ask students questions.

Teachers shape the learning process through their questioning of students. Questioning is a process that enables students to maintain their sense of curiosity, challenge information and develop in-depth understanding (Flage, 2003). It is in this context that the preparation of questions is recognized as an important element of the educational process. Studies show that question preparation should be part of the pedagogy skills of the teacher for effective teaching (Kiss & Wang, 2017; Wilen & Clegg Jr, 1986). Teachers' question preparation skills have an impact on the development of students' thinking skills, the encouragement of in-depth learning, and the assessment of their level of comprehension (Arslan, 2006; Chin, 2007). These skills require teachers to prepare questions that are appropriate to the objectives of the curriculum and that take into account the cognitive level of the students (Bloom, 1956; Webb, 2002). Furthermore, studies show that teachers' questioning skills increase students' motivation to learn and improve classroom interaction (Samson et al., 1987). Therefore, it is important that teacher education programs focus on questioning skills and provide opportunities for teachers to develop these skills (Grossman et al., 2009).

A framework is needed to organize classroom learning, to develop thinking skills and to prepare questions. Bloom's Taxonomy can be used in this process. In the field of education, Bloom's Taxonomy is a widely accepted cognitive classification model. It is recognized as a tool for classifying students' cognitive abilities (Bloom, 1956) and was originally developed by Benjamin S. Bloom in 1956. Its revision in 2001 demonstrated that it is a useful tool for teachers in setting learning goals, designing teaching strategies and assessing student performance (Anderson et al., 2001). The revised taxonomy is composed of two distinct dimensions: cognitive accumulation (factual, conceptual, procedural, and metacognitive) and cognitive procedures (remember,

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understand, apply, analyze, evaluate and create). Each of the accumulation dimensions can be delineated as follows: *Factual knowledge* pertains to discipline-specific information or essential knowledge required for problem-solving. *Conceptual knowledge* is characterized as comprehension regarding the interconnections among fundamental elements within a comprehensive structure. *Procedural knowledge* is defined as comprehension related to methods of inquiry, qualification criteria, techniques, and algorithms essential for task execution. Lastly, *metacognitive knowledge* encapsulates the awareness and recognition of cognitive processes (Krathwohl, 2002). The dimensions of cognitive processes are explicated as follows: *Remember* entails retrieving pertinent information from long-term memory. *Understand* constitutes the interpretation of instructional messages, which may be conveyed verbally, in written form, or graphically. *Apply* corresponds to the execution or utilization of procedural knowledge. *Analyze* involves the dissection of material into its constituent elements and discerning the relationships among the elements and to the overall structure. *Evaluate* involves the formation of judgments predicated on established criteria and standards. Finally, *create* entails the formulation of a novel, original product through the integrative combination of elements (Anderson & Krathwohl, 2010). These dimensions serve to classify students' cognitive capabilities and facilitate learning at sequentially complex levels. The revised Bloom's Taxonomy offers guidance to teachers in formulating questions, tasks, and activities consonant with students' cognitive competencies. Additionally, it aids teachers in the development of teaching strategies that promote in-depth, critical, and creative learning. Consequently, it is anticipated that teachers acquire the knowledge of these strategies and the application of the taxonomy during their undergraduate education.

In the undergraduate curriculum for primary education, prospective teachers undertake a plethora of courses, both pedagogical and pertinent to their prospective field of instruction. These courses encompass areas like Turkish language instruction and mathematics instruction. It is incumbent upon prospective teachers to acquire proficiency in the fundamental knowledge, skills, principles, and methods relevant to Turkish language instruction prior to entering the profession (Anılan & Kılıç, 2013). This is due to the assertion that prospective primary school teachers garner confidence, experience, and competence through the Turkish instruction course, which concurrently bolsters their cognitive skills such as critical and creative thinking (Collins, 2005; Kılıç, 2008). Through the process of developing their thinking skills, questioning their knowledge, and engaging in critical reflection, prospective teachers have the opportunity to enhance their understanding of the scientific method and cultivate their critical literacy. This enables them to effectively utilize the scientific method, evaluate evidence, engage in logical thinking, and foster their critical analysis skills. By acquiring these abilities, prospective teachers are equipped with essential tools for engaging in critical inquiry, evidence-based reasoning, and thoughtful analysis (Janks, 2013; Pahl & Rowsell, 2011). In the context of the mathematics instruction course, the possession of diverse

competencies by prospective primary teachers plays a significant role in attaining the objectives of this course. The comprehension of mathematical terminology and concepts, coupled with the development of mathematical skills, will significantly contribute to the transformation of prospective teachers into successful professionals in their future careers (Cekirdekci, 2021; NCTM, 2000). In the field of mathematics, it is essential for teachers to possess the ability to ask questions that cover all the taxonomic levels, as well as to have a deep understanding of the answers to these questions. Additionally, being able to differentiate between definitions, theories, hypotheses, and examples, and comprehending the contextual aspects of mathematical concepts while recognizing their limitations are all crucial for the development of thinking and reasoning skills, which are integral to mathematical proficiency. These skills represent just one facet of mathematical literacy, which encompasses a range of activities and competencies (OECD, 2006; Turner, 2014).

In the literature, various studies investigated pre-service teachers' question preparation skills in terms of revised Bloom's taxonomy. These investigations analyzed the questions prepared by prospective teachers across different disciplines: Turkish language (Aktaş, 2017; Eyüp, 2012), science (Koray et al., 2005; Özcan & Akcan, 2010), social studies (Mercan Işık, 2019), and mathematics (Altaylı Özgül & Polat, 2021; Öztürk, 2019; Sebastian, 2020). In the realm of primary school teaching, studies examined the questions prepared by primary teachers in science (Dindar & Demir, 2006), prospective teachers on fractions (Özçakır-Sümen & Karakaş, 2022), and different text types in Turkish language (Aktaş, 2017; Erdoğan & Erdoğan, 2018) through the lens of the revised Bloom's Taxonomy. In these studies, the discourse was solely centered on the questions prepared for the relevant discipline. However, in this study adopted a novel approach. It compared and analyzed the questions formulated by prospective primary teachers for both reading comprehension in the Turkish course and the environmental measurement subsection of the mathematics course, according to the cognitive process dimension of the revised Bloom's Taxonomy. Additionally, texts rooted in everyday life events were utilized to formulate questions for prospective teachers. This approach aimed to align academic investigation with real-world situations, thereby integrating an interdisciplinary perspective into the study.

Purpose

The main purpose of the study is to investigate prospective primary teachers' question preparation in fourth-grade Turkish and mathematics courses according to the cognitive process dimension of revised Bloom's Taxonomy. In line with this purpose, the research question was determined as "What is the taxonomic distribution (according to the dimensions of cognitive processes) of the questions prepared by prospective primary teachers for the fourth-grade Turkish and mathematics courses?" The sub-questions of the research are as follows:

1. What is the taxonomic distribution (according to the dimensions of cognitive processes) of the questions

prepared by prospective primary teachers for Turkish language course narrative text?

2. What is the taxonomic distribution (according to the dimensions of cognitive processes) of the questions prepared by prospective primary teachers for the problem situation related to the sub-learning area of environmental measurement in the mathematics course?

3. What is the comparative taxonomic distribution (according to the dimensions of cognitive processes) of the questions prepared by prospective primary teachers for the Turkish and mathematics courses?

METHODS

Research Model

This study, seeking to taxonomically scrutinize the questions formulated by prospective primary school teachers for primary Turkish and mathematics courses, is descriptive research conducted employing a survey model, a quantitative research method. Karasar (2015) explains survey models as research approaches aiming to depict a past or present situation as it stands. Such a research model allows for the integration and interpretation of disparate data sources, including written documents, statistics, photographs, images, video, and audio recordings, within a unified system (Karasar, 2015).

Study Group

The study group comprised 85 prospective teachers in their final year of undergraduate primary education at both state and foundation universities. A convenience sampling method was employed (Büyüköztürk et al., 2016) as the objective was to gather data from a sample easily accessible to the researcher and amenable to voluntary participation. The rationale for engaging prospective teachers in their final year was that these students have been exposed to courses such as Reading and Writing Instruction, Turkish Instruction, Mathematics Instruction, and Measurement and Evaluation throughout their undergraduate education. The descriptive characteristics of the participants are presented in Table 1. Among the state university attendees, 46 prospective teachers were female and 21 were male. For those attending a foundation university, 15 prospective teachers were female and 3 were male. Participants were coded as P1, P2.,P85 in the research.

Data Collection Tools and Data Collection

The study's data collection instruments were separately designed for Turkish language and mathematics courses. The Question Preparation Form for the Turkish course includes

Table 1. Descriptive characteristics of the participants

University Type	Female	Male	Total
State University	46	21	67
Foundation University	15	3	18
Total	61	24	85

an instruction, a narrative text titled "Çömlek Ustası Kaplumbağa (Pottery Master Tortoise)", and a dedicated section for question writing. Similarly, the Mathematics Question Preparation Form is composed of instructions, a scenario (problem situation) titled "Anneler Günü (Mother's Day)" and a dedicated section for question writing. The narrative text "Çömlek Ustası Kaplumbağa (Pottery Master Tortoise)" was chosen from the Turkish fourth-grade textbook endorsed by the Ministry of National Education (MoNE) in 2013, while the "Anneler Günü (Mother's Day)" scenario was extracted from Uygun's (2010) research. The reason for the choice of a narrative text for the Turkish course in this study is that this type of text is more often used in the textbooks. For the mathematics course, a scenario framed according to the problem-based learning approach (within the measurement learning domain) was chosen, as it is pertinent to real-life experiences and encourages students to engage in thought and exploration. In the context of mathematical literacy, students are expected to demonstrate their ability to apply mathematical concepts to real-life situations by formulating problems that can be solved using mathematical modeling. They should also be able to effectively utilize mathematical tools and interpret mathematical solutions in the process of problem-solving. These skills are crucial for students to develop a practical understanding of mathematics and its relevance in various real-world contexts (MoNE, 2011).

The study data were collected from the questions composed by the prospective primary teachers via the question preparation forms for both the Turkish and Mathematics courses. The prospective primary teachers were given one lesson for each course. They were asked to write at least six questions in this period. The data collection process was conducted face to face.

Data Analysis

The data procured in this research were analyzed utilizing the descriptive analysis method. This method involves summarizing and interpreting the acquired data according to pre-set themes. Data can be organized in line with themes established based on the research questions, or they can be presented according to the questions or dimensions utilized in the observation and interview process. The aim of descriptive analysis is to systematically organize, interpret, and describe research findings (Yıldırım & Şimşek, 2021). The data were analyzed in accordance with the cognitive process dimension of the revised Bloom's Taxonomy.

In order to enhance the reliability and validity of this research, questions analyzed by the researchers were tabulated according to the taxonomy's steps and were forwarded to academics specializing in mathematics education, Turkish education, and measurement and evaluation education, thereby ensuring researcher triangulation. Researcher triangulation refers to the inclusion of more than one researcher in the study to mitigate potential errors and biases that could arise from a single researcher's influence (Türnüklü, 2001). This emphasizes that the participation of

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different individuals in the data analysis process significantly contributes to the validity and reliability of research findings (Patton, 2018). Moreover, the questions composed by the prospective primary teachers were categorized by these researchers. These categories were then compared, and the percentage of agreement was calculated using the formula (Reliability = [Agreement/(Agreement + Disagreement)] x 100) (Miles & Huberman, 2015), which resulted in an agreement percentage of 90.15%. Upon final categorization, frequency and percentage values were deployed.

FINDINGS

In this investigation, questions composed by 85 prospective primary school teachers, responding to assigned texts, were analyzed. Each question was categorized according to the cognitive process dimension of the Revised Bloom's Taxonomy. The findings of this study are organized in accordance with the sequence of the research inquiries.

The findings related to the sub-question of the research "*What is the taxonomic distribution (according to the dimensions of cognitive processes) of the questions prepared by prospective primary teachers for Turkish language course narrative text?*" are presented in Table 2.

Table 2 demonstrates that prospective primary teachers prepared a total of 541 questions related to narrative texts for Turkish language course. Of these questions, 188 (34.8%) were classified at the *remember* level, 161 (29.8%) at the *understand* level, 2 (0.4%) at the *apply* level, 82 (15.1%) at the *analyze* level, 53 (9.8%) at the *evaluate* level, and 55 (10.1%) at the *create* level.

Sample Questions Related to the Turkish Language Course

The following are examples of questions prepared by prospective primary teachers about narrative texts used to Turkish language course.

Remember

What message did Beyoğlu leave behind in the note? (P27)
How many days after did the tortoise release Beyoğlu from prison? (P48)
Where is the setting of the story? (P62)
Who are the characters in the story? (P6)

Table 2. Taxonomic distribution of questions related to Turkish language course

Cognitive Levels	Frequency (f)	Percentage (%)
Remember	188	34.8
Understand	161	29.8
Apply	2	0.4
Analyze	82	15.1
Evaluate	53	9.8
Create	55	10.1
Total	541	100

Understand

How did Beyoğlu come to realize that pottery-making is a complex and time-consuming process? (P46)
What was the turtle implying when he stated that "not everything revolves around money"? (P49)
Can you identify and describe the central theme of the story you've just read? (PA63)
Could you elucidate the connection between the turtle's lesson and the proverb "Not with money, but with order"? (P18)
What interpretation can you offer for the proverb, "The true power of a prince lies in working, conducting business, and producing"? Can you elaborate on this saying? (P6)
What associations do the terms "work" and "craft" evoke in you? Please share your thoughts. (P6)

Apply

Could you list the idioms that were used within the text? (P47)
Can you analyze a current event by applying the steps undertaken by the turtle in the story? (P1)

Analyze

What differences can you observe between Beyoğlu's initial behaviour and his behaviour at the end of the story? (P28)
Could you analyze the personality traits of the Potter Turtle? (P40)
What is the core message or idea conveyed through the story? (P58)
Are you able to find a proverb or saying that aligns with the underlying message of this story? (P55)

Evaluate

Is it appropriate for the tortoise, as a master potter, to impart such a lesson to Beyoğlu? Why or why not? (P40)
Are there any parts of the story that did not appeal to you? (P16)
Evaluate the characters in the story in terms of their personalities. (P18)
Do you find the title of the story fitting to its content? Please explain why? (P1)
If someone were to ruin something you worked hard on, would you make them recreate it, similar to the tortoise potter in the story? Do you believe this is the right approach? (P6)
Evaluate the Potter Turtle's refusal to give the pots to Beyoğlu as a moral dilemma, considering what is right and wrong. (P46-3)
What conclusions can you draw from the text you have read? (P21)

Create

If you were in the Tortoise's position, what would you say to Beyoğlu? (P6)
If you were in Beyoğlu's position, how would you react to the Tortoise's response? (P8)

If you were tasked with providing a title for the text you have just read, what would it be? (P18)

Rewrite the resolution of the story, "The Pottery Master Tortoise", in a different manner. (P8)

Use the significance of hard work as highlighted in the story to create a new narrative. (P2)

What measures would you undertake if you were to find yourself in a similar situation? (P44)

Create the theme of the narrative using a different animal as the central character. (P59)

The findings related to the sub-question of the research "*What is the taxonomic distribution (according to the dimensions of cognitive processes) of the questions prepared by prospective primary teachers for the problem situation related to the sub-learning area of environmental measurement in the mathematics course?*" are presented in Table 3.

Table 3 reveals that, in relation to the problem situation associated with the sub-learning domain of environmental measurement in the mathematics course, prospective primary school teachers prepared a total of 510 questions. The questions, categorized according to the cognitive process dimension, include 5 (1%) *remember* level, 52 (10.2%) *understand* level, 405 (79.4%) *apply* level, 43 (8.4%) *analyze* level, 1 (0.2%) *evaluate* level, and 4 (0.8%) *create* level.

Sample Questions Related to the Mathematics Course

The following are examples of questions prepared by prospective primary teachers, drawn from the scenario developed for the mathematics course utilizing a problem-based learning approach.

Remember

Which unit and tool are used for the measurement of length? (P15)

What formula is utilized for the computation of a box's perimeter? (P24)

How is the perimeter of a photograph measured? (P64)

Understand

How does the environment change when the family photo is turned sideways? (P17)

How can we calculate the perimeter of a photograph? (P15)

Explain whether the ribbon gets longer when Buse ties a

purple ribbon of 70 centimeters around the paper on which she is writing a poem. (P5)

Which figure (photo or poem) has a larger perimeter? (P17)

Apply

What is the length of Buse's ribbon in centimeters? (P85)

What is the length of the picture's perimeter in centimeters? (P23)

How many centimeters of the purple ribbon will remain unused if Buse decorates the frame with it? (P9)

If Buse chooses to decorate the photo with a pink ribbon only, what length of ribbon will be left unused? (P45)

What is the total length of purple tape Buse would use to cover the short sides of the poem and the photo? (P79)

How much larger is the perimeter of a piece of poetry paper than a picture frame? (P4)

Analyze

Which color ribbon would Buse use if she wanted to decorate the long sides of the photograph with one ribbon and the short sides with two ribbons? (P10)

If Buse wants to decorate the poem she has written with a purple ribbon and a pink ribbon, how many ways can she decorate it? (P5-6)

Which color ribbon should Buse decorate around the photo? Why? (P11)

Evaluate

Buse wants to use purple ribbon to frame both the poem and the photo. When she finishes the frame of one, she moves on to the next. Is it right or wrong to decorate the frame of the poem first? Please provide the justification for this determination. (P38)

Create

If you were in Buse's position, what would be your preferred method of decorating around the photo using the 70 cm purple ribbon and the 85 cm pink ribbon? (P56)

What would be your strategy for using ribbons that are either shorter or longer than Buse's? (P34)

In the scenario where a yellow background carton needs to be determined, and the picture frame and poetry paper share the same size, what specific width and length specifications would you decide upon? (P2)

The findings related to the sub-question of the research "*What is the comparative taxonomic distribution (according to the dimensions of cognitive processes) of the questions prepared by prospective primary teachers for the Turkish and mathematics courses?*" are presented in Table 4.

According to Table 4, the prospective primary teachers prepared a total of 1051 questions for both courses. A comparison of the number of questions reveals that the prospective teachers generated a higher quantity of questions for the Turkish language course. Moreover, when examining the questions prepared by the prospective teachers for

Table 3. Taxonomic distribution of questions related to the mathematics course

Cognitive Levels	Frequency (f)	Percentage (%)
Remember	5	1.0
Understand	52	10.2
Apply	405	79.4
Analyze	43	8.4
Evaluate	1	0.2
Create	4	0.8
Total	510	100.0

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Table 4. Taxonomic distribution of questions related to Turkish language and mathematics courses

Cognitive Levels	Turkish Language Course		Mathematics Course		Total	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Remember	188	34.8	5	1	193	18.4
Understand	161	29.8	52	10.2	213	20.3
Apply	2	0.4	405	79.4	407	38.7
Analyze	82	15.1	43	8.4	125	11.9
Evaluate	53	9.8	1	0.2	54	5.1
Create	55	10.1	4	0.8	59	5.6
Total	541	100	510	100	1051	100

both courses based on the cognitive process dimension, it is evident that they created 193 (18.4%) questions for the *remember* level, 213 (20.3%) for the *understand* level, 407 (38.7%) for the *apply* level, 125 (11.9%) for the *analyze* level, 54 (5.1%) for the *evaluate* level, and 59 (5.6%) for the *create* level.

When examining Table 4 in detail, it becomes apparent that in the *remember* level, 188 (34.8%) questions were prepared for the Turkish course and 5 (1%) questions were prepared for the mathematics course. In the *understand* level, 161 (29.8%) questions were created for the Turkish course and 52 (10.2%) questions for the mathematics course. Regarding the *apply* level, 2 (0.4%) questions were generated for the Turkish course and 405 (79.4%) questions for the mathematics course. For the *analyze* level, 82 (15.1%) questions were prepared for the Turkish course and 43 (8.4%) questions for the mathematics course. In terms of the *evaluate* level, 53 (9.8%) questions were formulated for the Turkish course and 1 (0.2%) question for the mathematics course. Finally, in the *create* level, 55 (10.1%) questions were developed for the Turkish course and 4 (0.8%) questions for the mathematics course.

DISCUSSION AND CONCLUSION

In this study that examined the question preparation of prospective primary teachers in the fourth grade Turkish and Mathematics courses, it was concluded that the majority of the questions prepared by the prospective teachers in both courses were at the lower levels of the cognitive process dimension of revised Bloom taxonomy (remember, understand and apply). This finding indicates that prospective teachers have difficulty in preparing questions according to the higher levels (analyze, evaluate, and create) of the cognitive process dimension of the taxonomy. These levels of analyze, evaluate, and create, recognized as advanced thinking skills, necessitate the enactment of more complex competencies than the other levels. It is necessary to use knowledge and skills about newly encountered concepts, events and situations when assessing these thinking skills. The preparation of such questions ought to be context-specific and students should be motivated to engage in critical, creative, and reflective thinking (Brookhart, 2010; Krathwohl, 2002). Such questions should also support critical literacies. These skills enable students to develop a deeper understanding of the subject matter, think critically about societal issues, and

become active participants in their learning and in society as a whole (Janks, 2013; Luke, 2012). Incorporating critical literacies in questioning helps foster students' critical thinking abilities and their capacity to navigate complex and diverse information landscapes. In addition, it can be said that prospective teachers generally ask questions to evaluate the outcomes. For this reason, it is seen that they prepare questions to question what and how much they have learned rather than how the knowledge is learned and where it is used (Akyol et al., 2013).

In the Turkish lesson, most of the questions were prepared in the remember level, followed by the understand level. These questions are low level questions in terms of the revised Bloom's Taxonomy. The prospective primary school teachers prepared the least number of questions within the apply level and subsequently within the evaluate level for the Turkish language course. The results of this study are consistent with previous studies that examined the questions prepared by prospective primary teachers about reading comprehension in Turkish language course from the perspective of Bloom's taxonomies (Aktaş, 2017; Erdoğan & Erdoğan, 2018). In an experimental study involving pre-service teachers, Aslan (2011) discovered that these aspiring teachers tended to incorporate a preponderance of low-level questions before implementation. Additionally, a study focusing on question preparation by primary teachers revealed that teachers predominantly favored questions aimed at simple comprehension level and posed questions necessitating lower-level cognitive processes (Akyol et al., 2013).

In terms of the dimension of cognitive processes, the prospective primary teachers in the mathematics course produced questions mostly in the apply level and then in the understand level. These questions are categorized as low-level according to revised Bloom's Taxonomy. In this course, the least number of questions were produced within the evaluate level, and subsequently, within the create level. These questions are considered high-level according to the taxonomy. This result is supported by the study of Özçakır-Sümen and Karakaş (2022). Their research suggested that few of the fractions questions prepared by prospective primary teachers in the mathematics course were of a high standard, suggesting the need for further training. Similarly, Rahmatih et al. (2020) found that the questions prepared by prospective primary teachers were predominantly low-level. It seems that prospective teachers are better equipped to identify and formulate questions corresponding to understand and apply

levels in mathematics. Specifically, prospective teachers have less difficulty in preparing questions, especially in the apply level, as compared to the other levels (Altaylı Özgül & Polat, 2021; Cumhur et al., 2018; Sebastian, 2020).

The questions prepared by prospective primary teachers in Turkish and mathematics courses are mostly in the apply and understand levels of revised Bloom's taxonomy. The fewest number of questions emerge within the evaluate and create levels. It is understood that prospective teachers are struggling to prepare high level questions according to the revised Bloom's Taxonomy for both courses. We can also see that the prospective teachers prepared more questions for the Turkish language course. This situation can be explained by the fact that the content of the narrative texts used for the Turkish course can be easily concretized. Prospective teachers can easily produce some question patterns (such as what, where, when, how, why, who). On the other hand, mathematics, being a construct of human cognition, inherently assumes an abstract character. Abstract subjects are difficult to understand. Therefore, it is difficult to use/teach mathematical concepts (Altun, 2010).

The following suggestions can be made in light of the experience gained from this research:

1. The undergraduate curriculum for prospective primary teachers could incorporate greater emphasis on the formulation of high-level questions, aligning with the upper echelons of Bloom's Revised Taxonomy.
2. Future research could explore the use of different types of texts for the Turkish language course and different learning areas for the mathematics course.
3. In teaching courses, educational activities can be included for prospective primary teachers' high level question writing skills.

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