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# An Analysis of the 2018 Life Study Curriculum Learning Outcomes and Textbook Assessment Questions in Türkiye

## 2018 Hayat Bilgisi Öğretim Programı Kazanımları ile Ders Kitabı Değerlendirme Sorularının Solo Taksonomisine Göre İncelenmesi

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**Abstract:** This study evaluates the learning outcomes and assessment questions in the 2018 Life Study Course Curriculum (LSCC) through the lens of the Structure of the Observed Learning Outcomes (SOLO) taxonomy. Employing a qualitative document analysis methodology, the research examined the curriculum's learning outcomes and corresponding questions in 1st, 2nd, and 3rd-grade life study textbooks. These materials were sourced from the Education Information Network platform managed by the Ministry of National Education. In total, 138 learning outcomes and 270 assessment questions targeting cognitive skills were analyzed. Our analysis revealed a predominant focus on unistructural-level learning outcomes within the curriculum, while also identifying numerous learning outcomes at the multistructural and relational structure levels. Additionally, learning outcomes at the abstracted structure level were notably present in the 3rd-grade curriculum. Conversely, the textbooks contained a minimal number of multistructural and relational assessment questions and entirely lacked questions at the abstracted structure level. When considered in conjunction, these findings highlight a low level of consistency between the curriculum's learning outcomes and the assessment questions in terms of their alignment with the SOLO taxonomy. The study concludes with recommendations for enhancing the cognitive alignment between textbook questions and curriculum learning outcomes.

**Keywords:** SOLO taxonomy, Life study course, Curriculum, Textbook, Evaluation questions.

**&**

**Öz:** Bu çalışmanın amacı 2018 Hayat Bilgisi Dersi Öğretim Programı kazanımları ile ders kitaplarındaki değerlendirme sorularının SOLO taksonomisine göre incelenmesidir. Çalışma nitel araştırma yaklaşımlarından biri olan doküman analizi yoluyla gerçekleştirilmiştir. Çalışmanın veri kaynağını 2018 Hayat Bilgisi Dersi Öğretim Programı kazanımları ve Millî Eğitim Bakanlığının Eğitim Bilişim Ağı platformunda yayımlanan 1, 2 ve 3. sınıf hayat bilgisi ders kitaplarında yer alan değerlendirme soruları oluşturmaktadır. Bilişsel alanda olan 138 kazanım ve 270 değerlendirme sorusu incelenmiş ve değerlendirilmeye tabi tutulmuştur. Bu analiz sonrasında 2018 Hayat Bilgisi Dersi Öğretim Programında ağırlıklı olarak tek yönlü yapı düzeyinde kazanımların bulunduğu tespit edilmiştir. Çok yönlü ve ilişkisel yapı düzeyinde de çok sayıda kazanımın bulunduğu, az sayıda bulunan soyutlanmış yapı düzeyindeki kazanımların da 3. sınıf seviyesine ait olduğu belirlenmiştir. Buna karşın ders kitaplarında çok az sayıda çok yönlü ve ilişkisel yapıda değerlendirme sorusuna yer verildiği ve soyutlanmış yapıda herhangi bir değerlendirme sorusuna yer verilmediği görülmüştür. Birlikte değerlendirildiğinde ise kazanımlar ile değerlendirme sorularının SOLO taksonomisinin düzeyleri açısından tutarlılığın düşük olduğu sonucuna ulaşılmıştır. Ders kitaplarındaki soruların bilişsel düzey açısından öğretim programıyla daha uyumlu hale gelmesi için önerilerde bulunulmuştur.

**Anahtar Kelimeler:** SOLO taksonomisi, Hayat bilgisi dersi, Öğretim programı, Ders kitabı, Değerlendirme soruları.

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## 1. INTRODUCTION

Education is considered a fundamental right that enables individuals to keep up with the societal and personal changes they experience. An individual with well-developed life skills can adapt to their environment, solve problems, adopt specific attitudes and values, and possess strong communication skills. Therefore, there is a need for curricula that can most effectively prepare children for life.

Curricula are comprised of four intertwined and dynamic dimensions: goals, content, learning-teaching process, and evaluation. Goals indicate the desired outcomes, content specifies the subjects to be taught, the learning-teaching process outlines the methods for delivering the content, and evaluation measures the extent to which the goals have been achieved (Demirel, 2017). The main element of the curriculum is the goal and guides the other elements of the program (Çerçi, 2018). Goals constitute the starting point for the other three dimensions of the program. Goals ensure that learning-teaching activities are carried out in a specific plan and the desired results are achieved (Filiz & Yıldırım, 2019). Correctly set goals ensure that needs can be met, educational activities can be carried out for the purpose, and evaluation studies can be implemented reliably (Bümen, 2006). In order for the general goals of the curriculum to be realized, the specific goals must be shaped in line with the general goals. Thus, the learning outcomes indicating the program's specific goals will increase its effectiveness, ensuring the acquisition of high-level skills determined by general learning outcomes.

In updated curricula, learning outcomes are referred to as goals (MoNE, 2018). Taxonomies play a role in the systematic development and enhancement of these learning outcomes. Taxonomy involves the hierarchical classification of elements from simple to complex, and these elements are often prerequisites for one another. In the context of curriculum development, taxonomy means organizing desired behaviors in a hierarchical structure, ranging from easy to difficult and from concrete to abstract (Sönmez, 2020). Taxonomies are widely used to improve the quality of curriculum. A literature review reveals that Bloom, SOLO, Fink, and Dettmer taxonomies are widely used for the cognitive classification of learning outcomes (Bursa, 2022). Researchers most commonly utilize Bloom's revised taxonomy, followed by the SOLO taxonomy, for learning outcome classification studies (Arı, 2013). İlhan and Gezer's (2017) study, which compared the revised Bloom and SOLO taxonomies, concluded that the SOLO taxonomy was more effective for assessing the cognitive level of evaluation questions. Hattie and Purdie (1998) identified certain limitations in Bloom's taxonomy and recommended the use of SOLO taxonomy for the cognitive classification of curriculum elements. In this context, it can be said that the SOLO taxonomy is effective in classifying the cognitive levels of learning outcomes and evaluation questions.

The SOLO taxonomy, which stands for 'Structure of Observed Learning Outcomes,' was developed by John Biggs and Kevin Collis in 1982 (Biggs & Collis, 1982). This framework aims to objectify the evaluation process by measuring students' levels of understanding and highlighting qualitative differences in their responses. The SOLO taxonomy, which was developed specifically for evaluating cognitive comprehension levels, is well-suited for assessing the quality of students' answers to evaluation questions (Doğan, 2020)

The SOLO taxonomy comprises five cognitively sequential steps. The fundamental characteristics of these five stages are outlined in Table 1 (Ağçam & Babanoğlu, 2018; Arı, 2013; Biggs & Tang, 2011; Çetin & İlhan, 2016; İlhan & Gezer, 2017)

**Table 1.**

*Solo Taxonomy Levels*

| Steps | Features |
|---|---|
| Prestructural | Inability to comprehend |
| Unistructural | Ability to focus on a conceptual topic |
| Multistructural | Being able to grasp the many parts that make up a subject |
| Relational | Being able to understand that many parts are related to each other |
| Extended abstract | Ability to transfer what has been learned to a new structure |

In the SOLO taxonomy, cognitive processes begin at the prestructural level and culminate in the extended abstract level. At the prestructural level, which is the first level, students have a limited grasp of the subject and their knowledge is fragmented and disorganized. The second level, known as the unistructural level, focuses on a single aspect of the subject. At this level, students may grasp one facet but are unable to connect it to the broader context. The third level is the multistructural level, where students recognize multiple aspects of the subject but struggle to see how they interrelate. The Relational level is the fourth level, where students are able to connect various pieces of information, synthesize them into a coherent whole, and understand cause-and-effect relationships. Finally, the extended abstract level is the pinnacle of the taxonomy. At this level, students can structure their acquired knowledge and even generate new ideas based on their understanding (Arı, 2013; Biggs & Tang, 2011; Çetin & İlhan, 2016)

To identify the levels within the SOLO taxonomy, indicative verbs have been established by Biggs and Collis for each level, except for the prestructural level (Gezer & İlhan, 2014). These verbs serve dual purposes: they are used to formulate learning outcomes and analyze existing ones (Bursa, 2020). A list of these SOLO taxonomy indicative verbs can be found in Table 2 (Biggs & Tang, 2011; Burnett, 1999; Gezer & İlhan, 2014).

**Table 2.**

*Indicative Verbs for SOLO Classification Levels*

| Unistructural | Multistructural | Relational | Extended Abstract |
|---|---|---|---|
| Transfer | Classify | Distinguish | Examine in depth |
| Speak | Combine | Categorize | Design |
| Arrange | Number | Question | Create |
| Count | Give examples | Merge | Judge |
| Express | Make a list | Relate | Hypothesize |
| Remember | Define | Apply | Evaluate |
| Become aware | Plan | Analyze | Discuss |
| Name | Structure | Compare | Reflect |
| Repeat | Clarify | Outline | Generalize |
| Diagnose | Symbolize | Estimate | Formulate theory |
| Identify | Clarify | Evaluate | High-level forecast |
| Mark | Introduce | Summarize | Apply theory to new field |
| Memorize | Qualify | Observe | |
| Describe | Assign metaphorical meaning | Integrate | |
| | | Explain reasons | |
| | Follow algorithm | Establish cause-effect relationship | |
| | Implement method | | |

Studies in the existing literature have deployed various taxonomies for analyzing curricula in the field of life study. A majority of these investigations primarily utilize Bloom's taxonomy as a guiding framework. For instance, Güllühan and Bekiroğlu (2022) scrutinized the 2018 LSCC through the lenses of cognitive, affective, and psychomotor domains, employing Bloom's taxonomy. Similarly, Yıldırım (2022) conducted a taxonomic assessment of the learning outcomes from the 2015 and 2018 LSCC. In a distinct study, Karacaoğlu (2020) evaluated second-grade life study learning outcomes based on existing literature criteria, while Eker et al. (2019) utilized a structured version of Bloom's taxonomy to examine the learning outcomes specified in the life study curriculum. Moreover, Yağan (2022) adopted Fink's taxonomy to categorize LSCC learning outcomes in alignment with Fink's meaningful learning approach.

A growing body of research employs the SOLO taxonomy for curriculum analysis. Diverse curricula, such as the social studies curriculum (Bursa, 2022), primary school mathematics curriculum (Doğan, 2020), science curriculum (Dönmez & Zorluoğlu, 2020), English curriculum (Ağçam & Babanoğlu, 2018), and Turkish curriculum (Aktı Aslan, 2023), have been examined through the SOLO framework. Kabaran and Altıntaş (2018) evaluated the learning outcomes of the 2017 LSCC utilizing the SOLO taxonomy.

Beyond curriculum assessments, literature exists that applies the SOLO taxonomy to the analysis of evaluation questions in textbooks. For example, Erbaş (2021) studied evaluation questions in middle school mathematics textbooks, while Gezer and İlhan (2015) investigated those in social studies textbooks. Similar works explored evaluation questions in history textbooks (Gövercin & Filiz, 2023) and the 8th-grade "DNA and Genetic Code" unit (Polat et al., 2022), respectively, all using the SOLO taxonomy as their methodological foundation.

The life study course plays a pivotal role in enhancing students' self-expression, fostering a comprehensive understanding of the society in which they reside, and promoting adaptability to their environment (Binbaşıoğlu, 2003). "The life study is a course that appeals to the interests, curiosities and needs of the students, in which all aspects of the social life and natural environment they come from are handled in their naturalness in their real environment and arranged following their development levels"

(Bektaş, 2012). In the life study course, students can associate what they learn at school with what they learn in real life (Bektaş, 2007). Life study course contributes to the adaptation of the child to natural and social life, which is one of the most important goals of education (Özdemir, 1998). Moreover, this course is a foundational precursor for subsequent social studies and science courses in higher education. In order to realize the aims of the course, life study course curriculum is applied. Curricula should be updated in response to evolving societal needs and timely adjustments should be made. Consequently, life study curricula were developed in the years 1926, 1936, 1948, 1968, 1998, 2005, 2009, 2015, 2017, 2018 (Ekmen & Demir, 2019), and most recently, in 2023, during the Republican Period. As of now, the 2018 LSCC is being implemented in schools, while the 2023 LSCC is set to be introduced in the 2023-2024 academic year.

The efficacy of the curriculum designed for life study—given its imperative role in preparing students both for life and for more advanced educational experiences—is of paramount importance. To gauge curriculum effectiveness, it is essential to identify the cognitive levels of the learning outcomes and assess the cognitive levels of evaluation questions. Moreover, these elements must be cross-examined for consistency (Gezer & İlhan, 2014). Existing studies endorse the superiority of the SOLO taxonomy over alternative taxonomies for this purpose, asserting its enhanced effectiveness in categorizing the cognitive levels of both learning outcomes and evaluation questions (Arı, 2013; İlhan & Gezer, 2017; Hattie & Purdie, 1998).

### 1.1. Aim of the study

This study is particularly timely, as it evaluates the current effectiveness of the 2018 Life study Curriculum Content (LSCC). While existing literature does provide various perspectives on different courses and taxonomies, there is a notable absence of research specifically focused on analyzing the 2018 LSCC learning outcomes and textbook evaluation questions using the Structure of Observed Learning Outcomes (SOLO) taxonomy. Given this gap, the present research is poised to offer valuable insights and actionable recommendations to both practitioners and scholars concerned with the 2018 LSCC and associated evaluation methods. Thus, this study aims to significantly contribute to the existing body of literature.

In line with these learning outcomes, the primary aim of this research is to categorize the learning outcomes and evaluation questions of the 2018 LSCC according to the levels delineated by SOLO taxonomy. To accomplish this, the study addresses the following research questions:

1. How are the learning outcomes in the 2018 LSCC distributed across class levels when classified according to SOLO taxonomy?
2. How do grade levels distribute the evaluation questions in life study textbooks in alignment with SOLO taxonomy?

### 1.2. The importance of the study

In the present study, we classify the learning outcomes and evaluation questions of the 2018 LSCC using the SOLO taxonomy. Analyzing the 2018 LSCC through the lens of SOLO taxonomy constitutes a significant research endeavor that aims to assess both the curriculum's effectiveness and the calibration of its learning outcomes. According to SOLO taxonomy, the Relational structure and extended abstracted structure levels engage metacognitive processes, whereas the unistructural and multistructural levels involve sub-cognitive processes (Bursa, 2022). Lower-level learning outcomes in the curriculum serve as foundational stepping stones toward the attainment of higher-level learning outcomes (Gezer and İlhan, 2014). There should be a clear parallelism between the learning outcomes and the cognitive levels of evaluation questions. High-level evaluation questions should align with high-level learning outcomes; conversely, lower-level questions should correspond to lower-level learning outcomes. This research aims to elucidate the consistency between the cognitive levels of evaluation questions and those of

learning outcomes. Consequently, the study is anticipated to yield valuable insights into the applicability of the 2018 LSCC.

## 2. METHOD

### 2.1. Research design

In this study, document analysis method, one of the qualitative research approaches, was used. The document analysis process includes accessing documents, verifying their authenticity, interpreting the content, conducting data analysis, and utilizing the data for research purposes (Forster, 1995, as cited in Yıldırım & Şimşek, 2018). In this study, it is aimed to examine 2018 LSCC outcomes and textbook evaluation questions. For this reason, it can be said that the documents examined are official documents.

### 2.2. Sampling Strategy

The primary dataset for this study is derived from the learning outcomes outlined in the 2018 LSCC for 1st, 2nd, and 3rd grades, as published by the MoNE Board of Education. This curriculum was accessed from the TTKB website (TTKB, 2018). Although a 2023 version of the LSCC has been released for implementation in the 2023-2024 academic year, the only modification relative to the 2018 LSCC pertains to the number of textbooks (TTKB, 2018, 2023). As the learning outcomes remain unchanged, we have chosen to focus on the 2018 LSCC for the purpose of this study.

The 2018 LSCC is structured into three main sections: curricular aims, specific learning outcomes related to the life study course, and grade-level-specific learning outcomes. The curriculum is organized around general aims, essential life skills, values, concepts, units, and learning outcomes. The program features six units at all three grade levels, namely Life in Our School, Life in Our Home, Healthy Life, Safe Life, Life in Our Country and Life in Nature. In terms of learning outcomes, the 1st grade has 53, the 2nd grade contains 50, and the 3rd grade includes 45. Each learning outcomes is accompanied by explanatory notes to specify and clarify its scope.

The secondary dataset for this study comprises evaluation questions from 1st, 2nd, and 3rd grade life study textbooks, which are publicly available on the Education Information Network (EBA) system maintained by the MoNE. These textbooks were accessed via the EBA system's website (EBA, 2018). Specifically, the textbook for the 1st grade is published by a private publishing house, while the MoNE publishes those for the 2nd and 3rd grades. All these textbooks have been in use as the life study educational resources since 2018.

Each textbook incorporates various types of questions: preparatory questions at the beginning of each unit, activity questions throughout the unit, and evaluation questions at the unit's conclusion. Cognitive and affective learning outcomes from the 2018 LSCC and the number of questions in these textbooks by grade level, are provided in Table 3.

**Table 3.**

*Cognitive and Affective Learning Outcomes in the 2018 LSCC by Grade Level and the Numbers of Evaluation Questions in Textbooks*

| | Number of Learning Outcomes | | | | Number of Evaluation Questions | | | |
|---|---|---|---|---|---|---|---|---|
| | 1st Grade | 2nd Grade | 3rd Grade | Total | 1st Grade | 2nd Grade | 3rd Grade | Total |
| **Cognitive** | 49 | 46 | 43 | 138 | 60 | 122 | 88 | 270 |
| **Affective** | 4 | 4 | 2 | 10 | - | 1 | - | 1 |
| **Total** | 53 | 50 | 45 | 148 | 60 | 123 | 88 | 271 |

As indicated in Table 3, the 2018 LSCC contains varying numbers of cognitive and affective learning outcomes across different grade levels: 49 cognitive and 4 affective learning outcomes for 1st grade, 46 cognitive and 4 affective learning outcomes for 2nd grade, and 43 cognitive and 2 affective learning outcomes for 3rd grade. This totals 138 cognitive and 10 affective domains. In terms of evaluation questions within the life study textbooks, the 1st grade includes 60 cognitive questions, the 2nd grade 122, and the 3rd grade 88. One question in the 2nd grade's Life in Our School end-of-unit evaluation was affective and therefore excluded from the analysis, which was subsequently based on 270 cognitive evaluation questions.

### 2.3. Data Analysis Procedure

SOLO taxonomy serves as an effective model for classifying learning outcomes in the cognitive domain. Of the 148 total learning outcomes outlined in the 2018 LSCC, 10 were related to affective domains and were thus not included in this study. The analysis focused on the remaining 138 cognitive learning outcomes. Researchers reached a consensus on the coding level for 128 of these 138 learning outcomes. The agreement between researchers was quantified using the consensus/(consensus + disagreement) formula developed by Miles & Huberman (1994), yielding a consistency rate of 93%. There remained disagreement concerning the classification of the final 10 learning outcomes as either cognitive or affective. Within the 2018 LSCC, clarifying explanations were provided under each achievement statement where necessary to define and contextualize the scope of the learning outcomes (MoNE, 2018). When classifying learning outcomes, if indicator verbs in the cognitive or affective domains were insufficient for evaluation, the content and meaning of the learning outcomes statements were used for deciding. An example evaluation of a 1st-grade learning outcome is provided below.

> LS.1.1.3. He/she complies with the safety rules on the way to and from school. *The basic rules to be followed in shuttle vehicles, pedestrian crossing, sidewalks and roads, and what to pay attention to in communication with people he/she knows and does not know are emphasized.*

When the indicator verb indicated by the 2018 LSCC LS.1.1.3. is examined, it is seen that there is an acquisition in the affective field. When this learning outcome, which was determined to be affective, was examined together with its explanation, it was decided that the learning outcome was a cognitive learning outcome according to the content of the explanation. Classifying the learning outcomes at all grade levels as cognitive or affective field acquisition was evaluated and decided as specified in the example. As a result of these evaluations, it was decided that all 10 learning outcomes were cognitive field learning outcomes.

After the learning outcomes, the analysis of the evaluation questions was started. The researchers assigned 259 of the 270 questions they coded to the same level and the remaining 11 evaluation questions to different levels. The agreement between the researchers for the evaluation questions was found to be

95%. A joint decision was reached for the evaluation questions that the researchers assigned to different levels of SOLO taxonomy and had disagreements. One researcher assigned the following evaluation question to the unistructural level, and two researchers assigned it to the multistructural level.

| 3rd Grade- Life at Home Unit |
|---|
| Can you give examples of behaviors that allow us to establish good relations with our neighbors? |

The first researcher assigned the question to the unistructural level, thinking that the question in the example measures the information given. Other researchers assigned the question to the multistructural level by associating it with the act of giving an example that reflects the multistructural level of the problem. As a result of the researchers' evaluation, it was decided that the problem corresponded to the multistructural level. The final decisions regarding the evaluation questions in which the researchers disagreed are shown in Table 4.

**Table 4.**

*Number of Evaluation Questions with Researcher Disagreement by Grade Level and SOLO Taxonomy Levels*

| Grade | Number of Disputed Evaluation Questions | First Researcher | Second Researcher | Third Researcher | Final Decision |
|---|---|---|---|---|---|
| **1st Grade** | 1 | Multistructural | Relational | Multistructural | Multistructural |
| | 1 | Unistructural | Relational | Unistructural | Unistructural |
| **Table 4. Continue** | | | | | |
| | 1 | Multistructural | Unistructural | Unistructural | Multistructural |
| **2ndGrade** | 1 | Relational | Multistructural | Multistructural | Multistructural |
| | 1 | Unistructural | Unistructural | Multistructural | Unistructural |
| | 1 | Unistructural | Relational | Unistructural | Unistructural |
| | 1 | Unistructural | Multistructural | Unistructural | Unistructural |
| **3rdGrade** | 1 | Unistructural | Relational | Unistructural | Unistructural |
| | 1 | Unistructural | Relational | Unistructural | Unistructural |
| | 1 | Relational | Unistructural | Unistructural | Unistructural |
| | 1 | Unistructural | Multistructural | Multistructural | Multistructural |

The data analysis process was finalized by collectively re-evaluating any disputed evaluation questions among the researchers and arriving at a consensus.

### 2.5. Ethics Approval

In this study, all the rules specified in the "Directive on Scientific Research and Publication Ethics of Higher Education Institutions" were followed. None of the actions specified under the second section of the Directive, "Actions Contrary to Scientific Research and Publication Ethics", have been carried out.

**Ethics Committee Approval Information:**

Ethical committee: Sakarya University, Social and Human Sciences Research and Publication Ethics Committee

Data of ethical approval: February 08, 2024

The number of ethical approval: 28/24

## 3. FINDINGS

The results of this study, which examines the 2018 LSCC learning outcomes and evaluation questions through the lens of SOLO taxonomy, are presented under two primary sub-sections corresponding to the research questions posed. The first sub-section addresses the distribution of 2018 LSCC learning outcomes across grade levels as classified by SOLO taxonomy. The second sub-section focuses on the categorization of evaluation questions found in life study textbooks according to levels within the SOLO taxonomy.

### 3.1. Distribution of 2018 LSCC Learning outcomes by Grade Levels According to SOLO Taxonomy

In order to determine the distribution of 2018 LSCC learning outcomes according to SOLO taxonomy levels, a total of 138 learning outcomes from the 1st, 2nd, and 3rd grade levels were examined. The distribution of all learning outcomes according to SOLO taxonomy levels is shown in Figure 1.

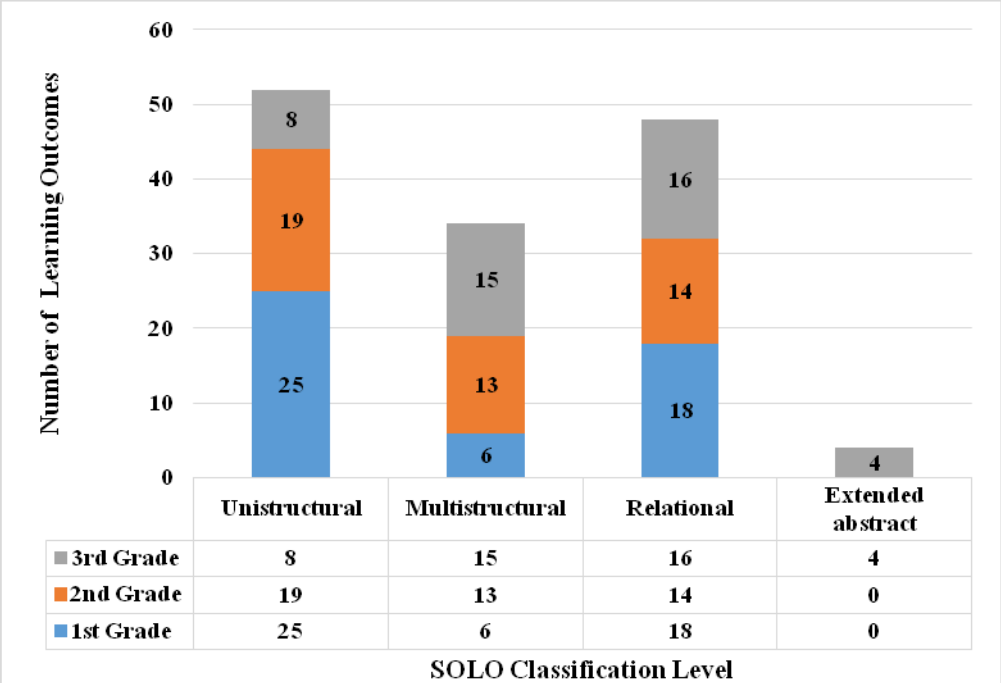


**Figure 1.** *Distribution of 2018 LSCC learning outcomes according to SOLO taxonomy*

According to Figure 1, 52 of the learning outcomes outlined in the 2018 LSCC are categorized under the unistructural level in the SOLO taxonomy. The relational level comprises 48 learning outcomes, followed by 34 at the multistructural level and 4 at the extended abstract level. In sum, the unistructural and multistructural levels, which generally encompass lower-level cognitive processes, account for a total of 86 learning outcomes in the 2018 LSCC. On the other hand, the relational and extended abstract levels, which involve higher-level cognitive processes, represent a total of 52 learning outcomes. Therefore, the 2018 LSCC predominantly features learning outcomes at the unistructural and multistructural levels, whereas the relational and extended abstract levels are underrepresented.

For the 1st-grade level in the life study course, Figure 1 shows a total of 49 learning outcomes. Of these, 25 are classified under the unistructural level, 6 under the multistructural level, and 18 under the relational level. No learning outcomes are found at the extended abstract level. When assessing the distribution among these levels, 43 learning outcomes fall under either the unistructural or multistructural levels, which mainly cover lower-level cognitive processes. In contrast, only 18 learning outcomes are categorized under the relational and extended abstract levels. This indicates a predominance of learning outcomes at the lower cognitive levels for 1st-grade learning outcomes in the life study course.

In the life study course at the 2nd-grade level, there are a total of 46 learning outcomes. Figure 1 reveals that 19 of these learning outcomes align with the unistructural level, 13 with the multistructural level, and 14 with the relational level. No learning outcomes are classified under the extended abstract level. Examining the distribution of 2nd-grade learning outcomes, 32 are situated at either the unistructural or multistructural level. Conversely, 14 learning outcomes fall under the relational and extended abstract levels. This indicates a predominance of learning outcomes at the lower cognitive levels for 2nd-grade learning outcomes in the life study course.

For the 3rd-grade level in the life study course, Figure 1 illustrates that out of 43 learning outcomes, 8 are classified under the unistructural level, 15 under the multistructural level, 16 under the relational structure level, and 4 under the extended abstract level. When considering the distribution of these 3rd-grade learning outcomes, 23 are situated within either the unistructural or multistructural levels, while 20 are classified under the relational and extended abstract levels. This balanced distribution suggests that the 3rd-grade life study course learning outcomes are equally distributed between levels that include and those that do not include high-level cognitive processes.

**Table 5.**

*Examples of Learning Outcomes from the 2018 Life Study Curriculum for Different Grade Levels and the Levels of SOLO Taxonomy to which These Learning Outcomes Correspond*

| Grade | Outcome No | Sample Learning outcomes | Solo Taxonomy Level |
|---|---|---|---|
| **1st Grade** | 1 | LS.1.5.5. Knows the life of Atatürk.<br>*With visual and audio materials, Atatürk's birthplace, the names of his parents, place of death and Anıtkabir are emphasised.* | Unistructural |
| **2nd Grade** | 2 | LS.2.2.3. Knows the address of the house he/she lives in.<br>*Emphasis is placed on being able to verbally and in writing express the address of his/her home, the phone number of his/her parents or at least one of his/her family members.* | Unistructural |
| **3rd Grade** | 3 | LS.3.1.3. Recognizes how the behaviors of his/her friends affect him/her.<br>*Emphasis is placed on how he/she is affected by the positive or negative behaviors of his/her friends.* | Unistructural |

**Table 5. Continue**

| | | | |
|---|---|---|---|
| **1st Grade** | 4 | LS.1.2.1. Introduces family members.<br>*The concept of family is explained and the names and prominent characteristics of people such as mother, father, siblings, grandparents are emphasized.* | Multistructural |
| **2nd Grade** | 5 | LS.2.1.5. Introduces the immediate surroundings of his/her school.<br>*The location and position of the school is emphasized in terms of the surrounding buildings, institutions, streets, avenues, etc.* | Multistructural |
| **3rd Grade** | 6 | LS.3.2.7. Gives examples of the contributions of being planned to personal life.<br>*Emphasis is placed on the convenience of planning activities such as playing games, studying, reading, resting, sleeping, eating, spending quality time with family and friends and using mass media.* | Multistructural |
| **1st Grade** | 7 | LS.1.2.7. Distinguishes the difference between wants and needs.<br>*Wishes and needs are exemplified and their differences are emphasized.* | Relational |
| **2nd Grade** | 8 | LS.2.2.6. Investigates the contribution of using resources at home economically to the family budget.<br>*It is ensured that table reading skills are developed during the subject.* | Relational |
| **3rd Grade** | 9 | LS.3.1.10. Researches the professions he/she is interested in and their characteristics.<br>*It is emphasized that every profession is necessary and respected in social life, the place of various professions in daily life and the social division of labor.* | Relational |
| **3rd Grade** | 10 | LS.3.2.6. Makes original suggestions for the effective and efficient use of resources at home.<br>*The use of electricity, water, money, clothing and food is discussed, with particular emphasis on preventing the waste of bread and utilizing surplus foodstuffs.* | Extended abstract |

The SOLO taxonomy levels corresponding to the sample learning outcomes in the 2018 LSCC are detailed in Table 5. The first and second learning outcomes align with the taxonomy's indicator verb 'to know,' requiring students to understand only a single facet of the subject matter. Similarly, the third learning outcome aligns with the verb 'to notice' and also demands single-faceted understanding. Therefore, these first three learning outcomes appropriately fall under the unistructural level of SOLO taxonomy. The fourth, fifth, and sixth learning outcomes align with the indicator verbs 'to introduce' and 'to give examples.' Here, students must grasp and articulate multiple facets of the subject. Accordingly, these

learning outcomes are classified as multistructural level. The seventh learning outcome, aligning with the verb 'to distinguish,' necessitates multi-faceted understanding and analysis, placing it at the relational level. The eighth and ninth learning outcomes, which correspond to the indicator verb 'to apply,' also require multi-faceted understanding and are thus categorized under the relational level. The final learning outcome aligns with the verbs 'to design' and 'to create,' requiring students to generate creative solutions based on concrete data. Therefore, this learning outcome is classified under the abstracted structure level.

### 3.2. Distribution of Evaluation Questions in Life Study Textbooks by SOLO Taxonomy Levels

To ascertain the distribution of evaluation questions in life study textbooks across SOLO taxonomy levels, a total of 270 questions from 1st, 2nd, and 3rd grade textbooks were analyzed. Figure 2 presents the distribution of these questions according to their respective SOLO taxonomy levels.

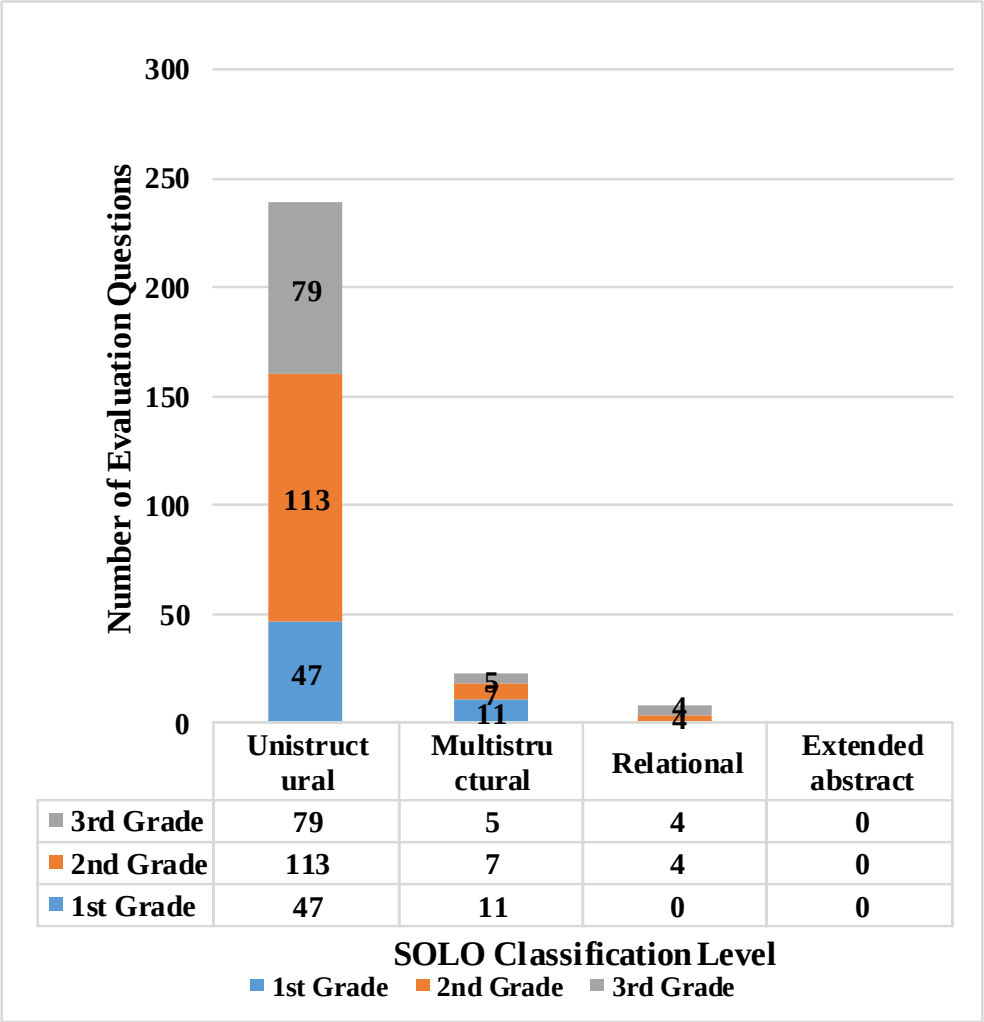


**Figure 2.** *Distribution of life study textbook evaluation questions according to SOLO taxonomy*

According to Figure 2, 239 are evaluated at the unistructural level of the SOLO taxonomy among the evaluation questions in life study textbooks. There are 23 evaluation questions at the multistructural level and 8 at the relational level. No questions are assessed at the extended abstract level. A comprehensive analysis of these evaluation questions reveals that the unistructural and multistructural levels are significantly more represented, totaling 262 questions, whereas the relational and extended abstract levels are minimally represented with 8 questions in total. These findings suggest that the evaluation questions

in life study textbooks predominantly target lower-level cognitive processes within the unistructural and multistructural levels of the SOLO taxonomy. In contrast, higher-level cognitive processes, which are more qualitative in nature, are underrepresented at the relational and extended abstract levels.

In the life study textbook for the first grade, there are a total of 58 evaluation questions. As illustrated in Figure 2, 47 of these questions belong to the unistructural level and 11 to the multistructural level. No questions are categorized under the relational or extended abstract levels. Therefore, it is evident that first-grade evaluation questions primarily focus on lower-level cognitive processes within the unistructural and multistructural levels.

The life study textbook for the second grade has a total of 124 evaluation questions. According to Figure 2, 113 of these questions are suitable for the unistructural level, 7 for the multistructural level, and 4 for the relational level. No questions are present at the extended abstract level. Overall, the unistructural and multistructural structure levels dominate with a total of 120 questions, while only 4 questions are evaluated at the relational and extended abstract levels. This indicates that second-grade evaluation questions primarily concentrate on lower-level cognitive processes.

In the life study textbook for the third grade, a total of 88 evaluation questions are present. As shown in Figure 2, 79 of these questions are appropriate for the unistructural level, 5 for the multistructural level, and 4 for the relational level. No questions are evaluated at the extended abstract level. Upon considering the distribution, it becomes apparent that 84 questions are concentrated on the unistructural and multistructural structure levels, while only 4 questions pertain to the relational and extended abstract levels. This further underscores the emphasis on lower-level cognitive processes in third-grade evaluation questions.

**Table 6.**

*Examples of Evaluation Questions from Life study Textbooks and Their Corresponding Levels in SOLO Taxonomy*

| Grade | Sample Question No. | Sample Evaluation Questions | SOLO Taxonomy Level |
|---|---|---|---|
| **1st Grade** | *1* | **Which of the following is not an item found in the classroom?**<br>*A. Chair*<br>*B. Blackboard*<br>*C. Desk* | Unistructural |
| **2nd Grade** | *2* | **Which of the following is a physical characteristic?**<br>*A. Jumping rope*<br>*B. Playing ball*<br>*C. Wearing glasses* | Unistructural |
| **3rd Grade** | *3* | **Which of the following statements is true?**<br>*We share our joys and sorrows with our friends.*<br>*My friend should always agree with me.*<br>*We should fulfill all of our friend's requests.* | Unistructural |

**Table 6. Continue**

| | | | |
|---|---|---|---|
| **1st Grade** | *4* | Provide three examples related to the safe use of technological devices. | Multistructural |
| **2nd Grade** | *5* | Give an example of frugal use of our resources at school. | Multistructural |
| **3rd Grade** | *6* | Briefly introduce the local administrators in your area. | Multistructural |
| **2nd Grade** | *7* | Why is it important to cooperate within the family? | Relational |
| **3rd Grade** | *8* | Research the life of a person who has contributed to our country through their work. | Relational |

According to Table 6, the first three evaluation questions align with the criterion of memorization. In these questions, students are merely required to recall information to provide answers, classifying these questions within the unistructural of the SOLO taxonomy. Questions four and five correspond with the indicator verb "to give an example." These questions demand that the students understand and illustrate multiple aspects of the topic, characterizing them as multi-faceted in nature. The sixth question is associated with the introductory indicator verb, requiring students to possess subject-matter knowledge and present it coherently, also categorizing it as multi-faceted. The seventh question, which necessitates explaining reasons, and the eighth question, which calls for applying theory through research, align with higher cognitive processes. Therefore, these questions are appropriately categorized at the relational level of the SOLO taxonomy.

## 4. DISCUSSION AND CONCLUSION

This study aims to analyze the 2018 LSCC learning outcomes and textbook evaluation questions through the lens of the SOLO taxonomy. After this analysis, it was determined that in all grade levels, 2018 LSCC learning outcomes were mostly at the level of unistructural, secondly at the level of multistructural and relational, and finally only at the 3rd grade level at the level of extended abstract structure. It was found that the majority of the evaluation questions in the life study textbooks at all grade levels were at the unistructural level. This is followed by assessment questions at the multistructural and relational structure level. However, it was found that there were no assessment questions at the extended abstract structure level.

According to our research findings, the 2018 LSCC more represents learning learning outcomes at unistructural and multistructural structure levels, emphasizing lower-level cognitive processes and prioritizing quantity. These learning outcomes are essential for students to acquire foundational knowledge and serve as precursors to higher-level cognitive skills. However, learning outcomes at the relational and extended abstract levels, which engage higher-level cognitive processes and place a greater

emphasis on quality, are comparatively underrepresented. This result is similar to some studies in the literature. For instance, Kabaran and Altıntaş (2018) observed that the 2017 LSCC mostly emphasized lower-level cognitive structures, a finding that mirrors our own. Yıldırım (2022) noted a similar trend, concluding that the 2018 LSCC learning outcomes were primarily focused on the 'remembering and understanding' stages of the Renewed Bloom Taxonomy, with fewer learning outcomes targeted towards higher cognitive levels. Furthermore, Çelik (2022) and Bektaş et al. (2019) reported that the life study curriculum is insufficient in cultivating students' high-level thinking skills, aligning with our observation that the 2018 LSCC inadequately addresses learning outcomes aimed at enhancing higher-level cognitive abilities.

In the 2018 LSCC curriculum, first-grade learning outcomes predominantly feature unistructural learning outcomes. The unistructural level is followed by learning outcomes at the multistructural level. It was observed that lower-level cognitive learning outcomes including unistructural and multistructural were predominantly included at the 1st grade level.

The first grade is a critical stage in education, providing students with basic knowledge and skills that are directly applicable and relevant to their immediate environment. In this vein, relational level learning outcomes were more prevalent at the first-grade level than in other grades. Yağan (2022) also found, in a study that classified 2018 LSCC learning outcomes using the Fink taxonomy, that first-grade learning outcomes focused primarily on practical skills. This congruency suggests that first-grade students can apply foundational knowledge through relational level learning outcomes, based on what they have learned at unistructural and multistructural levels. The fact that students do not yet know how to read and write and are in the process of learning to read and write in the first grade life science course may necessitate that the information they will learn in this process should be more practice-oriented. This may be one of the reasons why there are more learning outcomes at the relational structure level in the first grade in LSCC compared to other grade levels.

At the second-grade level, LSCC learning outcomes encompass one-way, multistructural, and relational levels. As in the first grade, the curriculum primarily features lower-level cognitive learning outcomes, with high-level cognitive learning outcomes being notably sparse. Studies by Irmak (2023) and Karacaoğlu (2020), which examined second-grade life study learning outcomes according to the Renewed Bloom Taxonomy, concluded that these learning outcomes predominantly focus on application skills, while high-level cognitive learning outcomes are limited. This is consistent with the findings of the current study.

Upon examining the distribution of learning outcomes at the third-grade level, it was observed that the emphasis on unistructurals diminished relative to the first and second grades, while some learning outcomes at the extended abstract structure level emerged. This shift may reflect the students' growing cognitive capacities and the onset of abstract thinking skills. Biggs and Collis (1982) posited that students should progress toward higher SOLO taxonomy levels as their cognitive abilities develop; the curriculum seems aligned with this expectation. Yağan (2022) classified the 2018 LSCC objectives according to Fink's taxonomy and found that the 3rd grade objectives were at the upper level. The similarities between these findings suggest a progression in cognitive levels between the classes. Nonetheless, the curriculum includes only four abstracted structure learning outcomes in the third grade, indicating a nearly equal distribution between high- and low-level cognitive structures. Therefore, as grade level advances, there is a gradual increase in higher-level cognitive learning outcomes.

In all grade levels, it was determined that the life science textbook evaluation questions mainly represented the unistructural level, then the multistructural level, there were very few questions representing the relational level, and there were no questions representing the extended abstract level. Irmak (2023) found that when analyzed via the Renewed Bloom Taxonomy, second-grade life study evaluation questions were primarily low-level, failing to assess higher cognitive skills. Similarly, in this study, it was determined that the assessment questions predominantly measured lower level cognitive skills.

The alignment between 2018 LSCC learning outcomes and evaluation questions, regarding SOLO taxonomy levels, appears weak. In addition to the unistructural level, there are a significant number of multistructural and relational objectives in the curriculum. However, it was found that the assessment questions were predominantly at the level of unistructural level. While there are learning outcomes at the level of extended abstract in the program, there are no assessment questions at the level of extended abstract in the textbooks. The purpose of assessment is to determine the level of achievement of the learning outcomes in the curriculum. Making accurate evaluations about the level of achievement of the objectives and making the learning outcomes an effective learning target for students depend on the preparation of assessment questions that are compatible with the learning outcomes (Gezer & İlhan, 2014). Inconsistency between assessment questions and learning outcomes, which are two important elements of the curriculum, can prevent achievement of the learning outcomes and reduce the success of the curriculum.

In this study, the learning outcomes of the 2018 LSCC and the assessment questions in the textbooks were analyzed by document analysis according to the SOLO taxonomy. In future studies, the opinions of field experts can be obtained by using techniques such as Delphi about the distribution of the objectives in the curriculum and the assessment questions in the textbooks according to the SOLO taxonomy.

The results obtained by examining the curriculum learning outcomes and textbook questions of other courses in the first three grades of primary school can be compared with the results obtained in this study.

In this study, it was concluded that the consistency in the distribution of the learning outcomes in the 2018 HLTLC and the assessment questions in the textbooks in terms of the levels of the SOLO taxonomy was low. It is thought that the consistency of the assessment questions in the textbooks with the curriculum in terms of cognitive level should be taken into consideration when the textbooks are prepared and examined by the commission.

The results obtained from this research can be taken into consideration in new curriculum development studies. The new Life Study Course Curriculum and textbooks that will be published by the Ministry of National Education can be examined in terms of SOLO taxonomy.

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## UZUN ÖZET

# 1. GİRİŞ

Eğitim, bireyin içinde yaşadığı topluma ve değişimlere ayak uydurması için sahip olduğu temel bir haktır. Eğitimin amacı, çocuğun etkin bir şekilde çevresine uyum sağlamasına yardımcı olmaktır ve buna katkı sağlayacak ilk ders hayat bilgisi dersidir (Binbaşıoğlu, 2003). Hayat bilgisi dersinde öğrenciler okulda öğrendikleriyle gerçek hayatta öğrendiklerini ilişkilendirme fırsatı yakalar (Bektaş, 2013). Hayat bilgisi dersi sosyal bilimler, doğa ve fen bilimlerini kapsayan, çocuğun bütünsel gelişimine uygun ve ona günlük yaşam becerilerini kazandırmaya uygun bir derstir (MEB, 2018). Yaşam becerileri gelişmiş bir birey çevresine uyum sağlayabilen, problem çözebilen, belirli tutum ve değerleri kazanmış ve iletişimi güçlü biri olacaktır. Bu nedenle çocukları hayata en iyi şekilde hazırlayabilecek öğretim programlarına ihtiyaç duyulmaktadır.

Bu çalışmada 2018 Hayat Bilgisi Dersi Öğretim Programı (HBDÖP) kazanımlarının ve hayat bilgisi ders kitaplarındaki değerlendirme sorularının SOLO taksonomisine göre sınıflandırılması yapılmıştır. 2018 HBDÖP'nin SOLO taksonomi ile incelenmesi, programda yer alan kazanımların ve öğrenme çıktılarının değerlendirmelerinin doğru yapılabilmesini ve öğretim programının etkililiğini belirlemeye yarayacak önemli bir çalışmadır. SOLO taksonomisinde ilişkisel yapı düzeyi ve soyutlanmış yapı düzeyleri üst bilişsel süreçlerin olduğu düzeylerdir. Tek yönlü yapı düzeyi ve çok yönlü yapı düzeyi ise alt bilişsel süreçlerin olduğu düzeylerdir (Bursa, 2022). Programda yer alan alt düzey kazanımlar, üst düzey kazanımlara ulaşmak için bir temel oluşturmaktadır (Gezer ve İlhan, 2014). Kazanımlar ile değerlendirme sorularının düzeyleri arasında bir paralellik olmalıdır. Üst düzey kazanımları ölçmek için üst düzey değerlendirme soruları, alt düzey kazanımları ölçmek için alt düzey değerlendirme soruları birbirine karşılık gelmelidir. Bu araştırma ile değerlendirme sorularının bilişsel düzeyleri ve kazanımların bilişsel düzeyleri arasındaki tutarlılık ortaya konulabilecektir. Böylece araştırmanın 2018 HBDÖP'nin etkililiği hakkında fikir veren bir çalışma olması öngörülmektedir. Bu araştırmanın amacı 2018 HBDÖP kazanımları ile ders kitaplarındaki değerlendirme sorularının SOLO taksonomisinin düzeylerine göre incelenmesidir. Çalışmada aşağıdaki sorulara yanıt aranmıştır:

1. 2018 HBDÖP kazanımlarının SOLO taksonomine göre sınıf düzeylerine dağılımı nasıldır?

2. Hayat bilgisi ders kitaplarında yer alan değerlendirme sorularının SOLO taksonomisine göre sınıf düzeylerine dağılımı nasıldır?

# 2. YÖNTEM

Bu çalışmada nitel araştırma yaklaşımlarından biri olan doküman analizi yöntemi kullanılmıştır. Doküman incelemesi dokümanlara ulaşma, orijinalliğini kontrol etme, dokümanları anlama, veriyi analiz etme ve veriyi kullanma aşamalarından oluşmaktadır (Yıldırım ve Şimşek, 2018). Bu araştırmada 2018 HBDÖP kazanımları ile ders kitabı değerlendirme sorularının incelenmesi amaçlanmaktadır. Bu nedenle incelenen belgelerin resmi doküman niteliği taşıdığı söylenebilir.

Araştırmanın veri kaynaklarını 2018 HBDÖP'de yer alan 1, 2 ve 3. sınıf kazanımları ve MEB'in Eğitim Bilişim Ağı (EBA) sisteminde yayımlanan 1, 2 ve 3. sınıf hayat bilgisi ders kitaplarında yer alan değerlendirme soruları oluşturmaktadır. 2018 HBDÖP'de toplam 148 kazanım bulunmaktadır. Bu kazanımlardan 10 tanesi duyuşsal alan kazanımı olduğu için araştırmaya dahil edilmemiş; analizler toplam 138 kazanım üzerinden yapılmıştır. Araştırmacılar kodladıkları 138 kazanımdan 128'ini aynı düzeye atamıştır. Araştırmacıların kodlamaları arasındaki uyumu belirlemek için Miles & Huberman (1994) tarafından geliştirilen görüş birliği / (görüş birliği+görüş ayrılığı) formülü kullanılmıştır. Kazanımlar için araştırmacılar arasındaki uyum %93 olarak tespit edilmiştir. Kazanımlar sınıflandırılırken kazanımların bilişsel ya da duyuşsal alanda kazanım olmalarının gösterge fiilleri

açısından değerlendirilememeleri durumunda, kazanımların anlam içeriği ve açıklamalarına göre karar verilmiştir.

## 3. BULGULAR, TARTIŞMA VE SONUÇ

2018 HBDÖP'de yer alan kazanımların 52 tanesi SOLO taksonomisinin tek yönlü, 48 tanesi ilişkisel, 34 tanesi çok yönlü ve 4 tanesi soyutlanmış yapı düzeyinde olduğu belirlenmiştir. 2018 HBDÖP'de tek yönlü ve çok yönlü yapı düzeyleri toplamda 86 kazanım ile temsil edilirken, ilişkisel ve soyutlanmış yapı düzeyleri toplamda 52 kazanım ile temsil edilmiştir. Buna göre SOLO taksonomisinin alt düzey bilişsel süreçleri içeren ve niceliğin daha önemli olduğu tek yönlü ve çok yönlü yapı düzeyleri 2018 HBDÖP'de ağırlıklı olarak temsil edilmektedir. Buna karşın üst düzey bilişsel süreçleri içeren ve niteliğin daha önemli olduğu ilişkisel yapı ve soyutlanmış yapı düzeyi daha az temsil edilmiştir. Bu sonuç alanyazındaki bazı çalışmalarla benzerlik göstermektedir. Kabaran ve Altıntaş (2018) 2017 Hayat Bilgisi Programı kazanımlarını inceledikleri çalışmada kazanımların çoğunun alt düzey bilişsel yapıda olduğunu, üst düzey bilişsel yapıdaki kazanımların daha az olduğunu tespit etmişlerdir. Bu çalışmada da kazanımların çoğunluğunun alt düzey bilişsel yapıda olduğunun tespit edilmesi sonucuyla benzerlik göstermektedir. Yıldırım (2022) 2018 HBDÖP kazanımlarını Yenilenmiş Bloom Taksonomisine göre incelediği çalışmasında program kazanımlarının genel olarak hatırlama ve anlama basamağında olduğunu, üst seviyelere doğru kazanım sayısının düştüğü sonucuna ulaşmıştır. Buna benzer olarak bu çalışmada da üst düzey bilişsel yapıdaki kazanımların daha az yer aldığı tespit edilmiştir. Çelik (2022) öğretmenlerin, hayat bilgisi program kazanımlarını öğrencilerin üst düzey düşünme becerilerini karşılamada yetersiz gördükleri; Bektaş vd. (2019) hayat bilgisi programının öğrencilerin eleştirel ve yaratıcı düşünme becerilerini desteklemesi bakımından sınırlı kaldığı sonucuna ulaşmışlardır.

Hayat bilgisi ders kitaplarında yer alan değerlendirme sorularının 239 tanesinin SOLO taksonomisinin tek yönlü, 23 tanesinin çok yönlü ve 8 tanesinin ilişkisel yapı düzeyinde olduğu belirlenmiştir. Soyutlanmış yapı düzeyinde değerlendirme sorusu bulunmamaktadır. Hayat bilgisi ders kitabı değerlendirme soruları incelendiğinde tek yönlü ve çok yönlü yapı düzeyleri toplamda 262 soru ile temsil edilirken, ilişkisel ve soyutlanmış yapı düzeyleri ise toplamda 8 soru ile temsil edilmiştir. Buna göre SOLO taksonomisinin alt düzey bilişsel süreçleri içeren ve niceliğin daha önemli olduğu tek yönlü ve çok yönlü yapı düzeyleri hayat bilgisi ders kitabı değerlendirme soruların ağırlıklı olarak temsil edilmektedir. Buna karşın üst bilişsel süreçleri içeren ve niteliğin daha önemli olduğu ilişkisel yapı ve soyutlanmış yapı düzeyi çok az temsil edilmiştir. Irmak (2023) 2. sınıf hayat bilgisi kazanımlarını ve değerlendirme sorularını Yenilenmiş Bloom Taksonomisine göre incelediği çalışmasında değerlendirme sorularının alt düzeyde kaldığı, üst düzey becerilerinin ölçülemediği sonucuna ulaşmıştır. Bu çalışmada da değerlendirme sorularının ağırlıklı olarak alt düzey bilişsel becerileri ölçtüğü tespit edilmiştir. Altdüzey bilişsel yapıya yönelik sorular niceliksel öğrenmelere yoğunlaşmakta, derinlemesine öğrenmeleri desteklememekte, öğrencinin üst düzey bilişsel yapıdaki sorularla karşılaşmasını destekleyememektedir (Gezer ve İlhan, 2015). Bu sebeple öğrencilerin üst düzey bilişsel yapıdaki sorularla daha çok karşılaşabilmeleri için ders kitaplarında yeteri kadar ilişkisel ve soyutlanmış yapıda değerlendirme sorularına yer verilmelidir.

## ETHICAL APPROVAL

In this study, all the rules stated in the "Higher Education Institutions Scientific Research and Publication Ethics Guidelines" were strictly followed. None of the actions specified under the section titled "Actions Contrary to Scientific Research and Publication Ethics" in the guidelines were carried out.. Ethics

**Ethics Committee Approval Information:**

Ethical committee: Sakarya University, Social and Human Sciences Research and Publication Ethics Committee

Data of ethical approval: February 08, 2024

The number of ethical approval: 28/24

## CONTRIBUTION OF RESEARCHERS

The contribution percentages of the first author is 40%, second author and third authors to the research are 30%.

Areas of contribution by the researchers:

Author 1: Design of the research, conceptual framework, methodology, validity and reliability, data analysis, and reporting.

Author 2: Conceptual framework, methodology, validity and reliability, data analysis, and reporting.

Author 3: Data collection, validity, and reliability.

## CONFLICT OF INTEREST

There are no conflicts of interest.