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Analysis of Attainments and Evaluation Questions in Sociology Curriculum according to the SOLO Taxonomy

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ABSTRACT

Purpose: This research aims at analyzing the attainments identified in the sociology curriculum for 11th grade implemented by the Ministry of National Education (MoNE) in 2010, and the evaluation questions in the sociology textbook which was taught in the 2016-2017 academic year, based on the Structure of Observed Learning Outcomes (SOLO) taxonomy. **Research Methods:** Document analysis was used in this study. The attainments that constitute the data source of the research were taken from the sociology curriculum for 11th grade published by the Ministry of National Education (MoNE) in 2010. **Findings:** Research findings indicate that 15 out of 60 (25%) attainments in the curriculum could be identified at the level of uni-structural, 14 (23%) multi-structural, 28 (47%) relational, and only 3 (5%) extended abstract. As for the evaluation questions in the textbook, 70 (43%) could be identified as uni-structural, 44 (27%) as multi-structural, 36 (23%) as relational, and 12 (7%) as extended abstract. **Implications for Research and Practice**: When the 11th grade sociology course achievements and assessment questions were examined, it was determined that all thinking levels of the SOLO taxonomy were found at different ratios. It is thought that when the experts prepare the program attainments for the sociology course, the organization of the attainments harmonized by prerequisite considering the principle of progressivity will be of considerable benefit in terms of effectiveness of the program.

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Introduction

Sociology is a science that examines social institutions and social relations and interactions within and between groups (Zencirkiran, 2016). According to the American Sociological Association (2013), sociology is a discipline that deals with social life, social changes, social events, and the consequences of human behavior. Giddens and Sutton (2013) define sociology as a discipline that examines societies, social life, and groups. Sociology became an independent discipline in the 19th century as a result of such events as the French Revolution, Renaissance movements, industrialization, and urbanization. The arrival of sociology as an independent discipline in Turkey began with Ziya Gökalp, when he started giving sociology lessons at the Thessaloniki High School of Union and Progress in 1910–1911 (Zabun, 2012). Having a historical background of nearly 100 years, the aim of the sociology course is to provide students with a basic understanding of the society and the social environment they live in, increasing their awareness of the effect of the society on the individual and giving them a sociological perspective (Banoglu & Bas, 2012; Can, 2006).

According to the Ministry of National Education (2009), the sociology curriculum aims to educate individuals who absorb the national and spiritual values of the society in which they live from a sociological point of view, so that they can analyze social and cultural relationships beyond the daily gaze, have the ability to think critically about social life, comprehend social problems, and analyze the conditions that change and transform social life. Nine different sociology curricula with different aims and content have been implemented since 1924; the one in current use was prepared in 2009 according to the constructivist approach (Zabun, 2012).

The Structure of Observed Learning Outcomes (SOLO) taxonomy was developed by John Biggs and Kevin Collis in 1982 (Baghdad, 2013; Biggs & Tang, 2011; Gezer & Ilhan, 2014; Lian & Idris, 2006; Yazıcı, 2013). The learning outcomes are expressions of what students know or can do by the end of the course. They are the assessable outcomes of the education, based on the students' point of view and what is acheivable.

The SOLO taxonomy, as constituted by Biggs and Collins, is the result of the assessment of answers from hundreds of students who have been educated on subjects such as history, mathematics, literacy, geography, computer technology, and foreign languages in a range of schools from primary school to universities. The SOLO taxonomy is an assessment tool that is applied to assess the quality of learning at different school levels in many subject areas (Arı, 2013; Biggs & Collis, 1982; Collis & Biggs, 1979; Yildirim & Baur, 2016). It can be said that the SOLO taxonomy is an important evaluation tool in assessing students' knowledge and skills, examining answers in depth and revealing the quality and structure of answers. Assessment in the SOLO taxonomy is based on the quality and structure of the answers students have given to questions. The answers are analyzed according to certain criteria and the level of learning is then determined (Baghdad, 2013; Biggs & Tang, 2011; Brabrand & Dahl,

2009; Hattie, Biggs, & Purdie, 1996; Konyalihatipoglu, 2016; Musan, 2012; O'Neill & Murphy, 2010).

There are five different thinking levels that are hierarchical in the SOLO taxonomy, and learning outcomes can be evaluated using the five levels as criteria. These structures are: pre-structural, uni-structural, multi-structural, relational, and extended abstract (Biggs, 2011; Biggs & Collis, 1982; Biggs & Tang, 2011; Hattie et al., 1996; O'Neill & Murphy, 2010; Pegg & Dawey, 2012). All these structures reflect the learning quality of a particular chapter or task (Collis & Biggs, 1979). The descriptions of these structural levels are as follows:

Pre-structural: At this level, direct information particles are used (Biggs, 2011). The student uses the knowledge without any understanding, avoids the question, and repeats only the asked question (Biggs & Collis, 1982; Calkins & Cox, 2009; Olsson, 2005; Rooney, 2012). The student uses inappropriate, irrelevant, and erroneous content or methods. The learner has difficulty in understanding the subject and cannot learn anything meaningful. The student might gain scattered information particles but these information particles are disorganized. The student is far from relating to the subject or problem (Arı, 2013). The student has little or no involvement with the assigned task (Biggs & Tang, 2011; Collis & Biggs, 1979; Hattie et al., 1996; Musan, 2012; Pegg & Dawey, 2012). In short, the answer of the student at the pre-structure level is insufficient (Celik, 2007).

Uni-structural: At this level, the student has limited understanding. The student focuses on the question; however, this focus is only related to using the data associated with the question. The student cannot understand the position of the data used in relation to the question within the whole data and the relation of it with the other data. The answers given by the student are limited and incomplete (Baghdad, 2013; Calkins & Cox, 2009; Hattie et al., 1996; Konyalihatipoglu, 2016; O'Neill & Murphy, 2010; Pegg & Dawey, 2012; Yazici, 2013).

Multi-structural: At this level, two or more pieces of information are used (Biggs, 2011) but the student uses the multiple datasets related to the answer without considering the relationship between them; therefore, some inconsistencies can be seen (Biggs & Collis, 1982; Hattie et al., 1996; Light, Calkins, & Cox, 2009; O'Neill & Murphy, 2010; Steel, 2007). The student can deal with various aspects of a topic but cannot establish links (Pegg & Dawey, 2012; Rooney, 2012). At the multi-structural level, the student can quickly understand and address the topics, interpret data in a table, and easily see the relationship between the datasets (Claesgens, Scalise, Wilson, & Stacy, 2009; Collis & Biggs, 1979; Hattie et al., 1996; Lian & Idris, 2006). The student can focus on more than one aspect for the question but cannot interrelate each aspect. For this reason, the student's answers are composed of disconnected pieces of information and there is no relational link between answers (Baghdad, 2013; Biggs & Tang, 2011; Olsson, 2005).

Relational: At this level, the student is able to relate to the topic by taking various aspects of it and knowing how to put the whole together. The student can build an understandable structure and understand that when the trees come together, they will

form a forest. Attribution, buıldıng cause-and-effect relationships, and beıng able to analyze are the characteristics of this level (Brabrand & Dahl, 2009; Claesgens et al., 2009; Olsson, 2005; Pegg & Dawey, 2012). The student uses two or more pieces of information regarding the understandability of the information which is located in the source of information (Biggs, 2011; Biggs & Collis, 1982; Hattie et al., 1996). The student understands how to construct a whole and the relationship between the structures that make up the whole (Arı, 2013; Biggs & Tang, 2011; Hattie et al., 1996; Light et al., 2009; Rooney, 2012).

Extended Abstract: This level is the highest-level thinking pattern. The student can reason by considering abstract features and can make generalizations; this level can represent a new way of thinking (Baghdad, 2013; Celik, 2007; Collis & Biggs, 1979; Musan, 2012; Pegg & Dawey, 2012). The student can perceive the topic from many perspectives, hypothesize, and make generalizations (Biggs, 2011; Brabrand & Dahl, 2009; Claesgens et al., 2009; Light et al., 2009; Olsson, 2005).

When an assessment is made in the SOLO taxonomy, the pre-structural level must be excluded from the thinking level because, at that stage, there is usually no opinion about the topic to learn, or the ideas being proposed are irrelevant (Potter & Kustra, 2012).

The information to be gained for the analysis of the attainments of the Sociology curriculum according to the thinking levels is considered to provide a data source for the curriculum specialists in the stages of observing, designing and organizing them.

In addition, analyzing evaluation questions as well as attainments according to thinking levels allows for a more accurate judgment of the effectiveness of any program. This study aims to provide information as to consistency achieved between the attainments and the evaluation questions, by determining the cognitive levels of both (Ilhan, Oner, Sunkur & Cetin, 2014). In any case, the determination of attainments and learning levels is seen as important in terms of providing information on whether attainments are balanced distributed without intensification or not.

As a result of this research, it is hoped that teachers will be guided to undertake activities appropriate to students' learning levels by ensuring that teachers have knowledge about the different learning levels of attainment. When relevant literature was searched, we did not find any research analyzing the attainments and the evaluation questions of the sociology curriculum according to the SOLO taxonomy. From this standpoint, it is thought that this work will fill a gap in the literature.

The research question is defined as: "How do the attainments in the 11th grade sociology curriculum lesson and the evaluation questions in the sociology textbook disperse according to the SOLO taxonomy?" Within this main research problem regarding 11th grade Sociology lesson:

i) How does the curriculum attainment SOLO taxonomy level of thinking disperse according to the units?

ii) How do the evaluation questions of the course book disperse according to the SOLO taxonomy?

Method

Research Design

The document review method was used in this study, which was prepared according to a qualitative research design. Document review is a method based on analyzing resources that the researcher has collected over a long period of time (Aktas, 2014).

Data Collection and Analysis

The attainments that constitute the data source of the research were taken from the 11th grade sociology curriculum published by the Ministry of National Education (MoNE) Head Council of Education and Morality in 2010. The evaluation questions were obtained from the course book, which was accepted in 2011 and printed in 2016, published on the web site of MoNE. The curriculum of Sociology for Grade 11 includes a total of 60 learning outcomes, and there are 162 evaluation questions in the related course book. The process of analysis for the 60 attainments and 162 evaluation questions according to the SOLO taxonomy was carried out by taking uni-structural, multi-structural, relational, and extended abstract thinking levels as criteria. The indicator verbs and explanations in the teacher's guidebook were used to determine which levels of thinking in the attainment and evaluation questions were equal. It was expected that it would be difficult to show what the level of thinking was for each of the 162 evaluation questions included in the scope of the research. Therefore, sample questions that represent each level of thinking are given below along with the explanation as to why they were coded to a specific thinking level.

Sample assessment questions at the uni-structural level:

i) Philosophy explores what needs to be done when dealing with social problems while ..... deals with what is done.

ii) The most important phenomenon affecting the emergence of Sociology as a science in the 19th century is accepted as .....

When the above sample evaluation questions are examined, it is seen that students were asked to fill in the blanks with suitable words by remembering the terms. Therefore, the two questions were considered as uni-structural.

Sample assessment questions at the multi-structural level:

i) What is the first thing that comes to your mind when someone says "religion"?

ii) Give examples of social events and phenomena.

When these sample evaluation questions are examined, metaphorical thinking and an ability to give examples of an event to express understanding of a concept are expected from the student. Considering that indicator verbs such as listing, explaining, giving examples, describing, and classifying represent the multi-structural level, the above questions were evaluated at that level.

Sample assessment question at the relational level:

What is the relationship between values and norms?

When this sample evaluation question is examined, it is understood that it is necessary for students to be able to see the relationship between the elements in one structure or several different structures in order for them to be able to answer the question. Therefore, this question was evaluated at the level of a relational structure.

Sample assessment question at the extended abstract level:

What are the problems you have observed in your community in the context of the socialization of children in modern society, and what solutions would you offer for these problems?

When this sample evaluation question is examined, it can be seen that the student is asked to develop a proposal for a problem or a situation based on the information he/she has learned. At this level, the student can go beyond the data to run syntheses, reach generalizations, and make predictions. Considering this, the question above is evaluated at the structural level of extended abstract thinking. The thinking levels of the SOLO taxonomy and their corresponding indicator verbs are given in Table 1.

Table 1

SOLO Taxonomy Thinking Levels and Indicator Verbs for These Levels

Uni-Structural	Multi-Structural	Relational	Extended Abstract
Memorize	List	Query	Assume
Define	Explain	Apply	Generalize
Recognize	Report	Outline	Probe
Count	Debate	Differentiate	Design
Draw	Choose	Analyze	Create
Reveal	Calculate	Classify	Judge
Tell	Plan	Compare	Hypothesize
Say	Clarify	Categorize	Evaluate
Express	Make clear	Observe	Prove
Diagnose	Interpret	Summarize	Reflect
Realize	Symbolize	Guess	Apply
Remember	Qualify	Integrate	theory to a
Repeat	Split into main lines	Explain the causes	new field
Mark	Think metaphorically	Evaluate	
Imitate		Apply a given theory to a related field	Guess

Source: Biggs, 2011; Biggs & Tang, 2011; Burnett, 1999; Lian & Idris, 2006; Light et al., 2009.

The evaluation processes of the attainment and evaluation questions, respectively, were independently examined by two researchers according to the SOLO taxonomy. At the end of the evaluation, each item was processed into the suitable level of thinking. In the next process, the markings of the researchers were compared and the percentages of harmony were examined. The reliability of the research is calculated as 92% in the analysis of attainments and 91% in the analysis of evaluation questions. As

a reliability calculation of over 70% is considered reliable for such studies, the results obtained for this study are considered reliable (Miles & Huberman, 1994).

Results

Results Related to the Second Sub-Problem

The second sub-problem of the study was designated as: "How does the 11th grade sociology course SOLO taxonomy thinking levels disperse according to the units?" Findings related to the research problem are presented in Table 2.

Table 2

Dispersal of SOLO Taxonomy Levels by Curriculum Units

Units	Attainments	SOLO Levels			
		US	MS	R	EA
Introduction to Sociology	1. Questions the information that they know about Sociology.			X	
	2. Realizes that the elements forming the society are in interaction.	X			
	3. Embraces the emergence of Sociology as an independent discipline.		X		
	4. Recognizes the methods used in sociological research.	X			
	5. Realizes the contributions of Turkish sociologists to Sociology.	X			
	Total	3	1	1	
Individual and Society	1. Explains the concept of socialization with examples.		X		
	2. Explains the factors affecting the socialization process.		X		
	3. Realizes that socialization is a lifelong process.	X			
	4. Evaluates the effects of socialization on social relations.			X	
	5. Establishes a relationship between social position, status, and role concepts.			X	
	6. Distinguishes social status and social prestige.			X	
	7. Expresses the importance of values and norms in the regulation of social life.	X			
	8. Expresses the functions of social control.	X			
	9. Investigates the causes of social deviance.			X	
	10. Knows the importance of rights and duties arising from status and roles in social life.	X			
	Total	4	2	4	

Table 2 Continue

Units	Attainments	SOLO Levels			
		US	MS	R	EA
Societal Structure	1.Analyzes the elements of social construction.			X	
	2. Distinguishes the types of social interaction.			X	
	3. Learns the structure of the social layer and stratification.		X		
	4. Learns the difference of the stratification of Turkish society from other societies.		X		
	5. Explains the types and causes of social mobility with examples.			X	
	Total		2	3	
Social Change and Development	1. Grasps the phenomenon of "social change."		X		
	2. Evaluates the factors affecting social change.			X	
	3. Realizes that factors affecting social change can change over time.	X			
	4. Evaluates the impact of science, technology and mass media on social change.			X	
	5. Evaluates the effects of modernization on social change.			X	
	6. Interprets the effects of globalization on social change.		X		
	7. Gets to know the elements of social development.	X			
	8. Expresses the importance of social integration.	X			
	9. Analyzes the factors that cause social disintegration.			X	
	10. Develops solutions to address social disintegration.				X
	Total	3	2	4	1
Society and Culture	1. Distinguishes the different meanings of culture.			X	
	2. Analyzes the elements of culture.			X	
	3. Analyzes the place and importance of functions of culture in society.			X	
	4. Evaluates the contributions of culture to social cohesion.			X	
	5. Evaluates concepts related to culture within their relations to each other.			X	
	6. Realizes the importance of their own social culture in the process of acculturation.	X			
	7. Questions the cultural attitudes of the societies and their views on different cultures.			X	
	8. Evaluates the role of their own culture in the intercultural interaction.				X
	Total	1		6	1
Societal Institutions	1. Explains the meaning of the concept of "institution."		X		
	2. Analyzes the functions of social institutions.			X	
	3. Interprets the importance of the family in terms of social life and socialization.		X		
	4. Analyzes the effects of marriage and divorce on the individual and society.			X	
	5. Assesses the conditions required for marriage in terms of the continuity of the family.			X	

Table 2 Continue

Units	Attainments	SOLO Levels			
		US	MS	R	EA
Societal Institutions	6. Compares the family structure in different societies with Turkish family structure.			X	
	7. Evaluates the position of woman in family and society.			X	
	8. Gives examples of the importance that Ataturk gives to women's rights.		X		
	9. Interprets the importance of education in social life.		X		
	10. Learns the importance of education in the process of socialization.		X		
	11. Expresses the ideas of Atatürk about education.	X			
	12. Learns the importance of religion in social life.		X		
	13. Interprets the relation between the concepts of religion and secularism.			X	
	14. Reveals the concept of secularism in the Ataturkist system of thought.			X	
	15. Evaluates the importance of the economy in social life.			X	
	16. Recognizes the basic elements of economy in social life.	X			
	17. Gives examples of Ataturk's views on economic systems.		X		
	18. Gets to know the institution of "politics."	X			
	19. Expresses the basic concepts related to the political institution.	X			
	20. Recognizes and compares the forms of political administration systems.			X	
	21. Evaluates democracy as a form of governance in terms of social life.				X
	22. Gives examples by associating the concepts of citizenship, rights and responsibility in the Ataturkist thought system.			X	
	Total	4	7	10	1
		15	12	28	3

When the SOLO taxonomy is examined on the basis of units in Table 2, it has been determined that 3 out of the 5 attainments in the Introduction to Sociology unit are found to be uni-structural, 1 is multi-structural and 1 is relational; 4 out of the 10 attainments in the Individual and Society unit are uni-structural in nature, 2 are multi-structural and 4 are relational; while 2 out of 5 attainments in the Societal Structure unit are multi-structural and 3 are at the relational structure level. It has also been determined that 3 out of 10 attainments in the Social Change and Development unit are uni-structural, 2 are multi-structural, 4 are relational, and 1 is of an extended abstract level; 1 out of 8 attainments in the Society and Culture unit is uni-structural, 6 are relational, and 1 extended abstract; 4 out of 22 attainments in the Societal

Institutions unit are uni-structural, 7 are multi-structural, 10 relational, and 1 is at the extended abstract level.

Results Related to the Third Sub-Problem

The third sub-problem of the study was designated as: "How do evaluation questions in the 11th grade sociology course book disperse according to the SOLO taxonomy?" Findings related to this research problem are presented in Table 3.

Table 3

Distribution by SOLO Taxonomy on Evaluation Questions in the Sociology Course Book on the Basis of Units

	SOLO Thinking Level				
Units	Number of questions	Uni-structural	Multi-structural	Relational Structure	Extended Abstract
Introduction to Sociology	24	14	7	3	-
Individual and Society	25	5	9	11	-
Societal Structure	25	8	7	9	1
Social Change /Development	20	7	6	3	4
Society and Culture	14	5	4	3	2
Societal Institutions	54	31	11	7	5
Total	162	70	44	36	12

When Table 3 is examined, it is found that 70 of the total 162 questions (43%) are at the uni-structural level, 44 (27%) are at the multi-structural level, 36 (22%) are at the relational level and 12 (8%) are at the extended abstract level. Examining the evaluation questions on the basis of the units, 14 of the 24 evaluation questions in the Introduction to Sociology unit are uni-structural, 7 are multi-structural and 3 are relational; there were not any questions that met the level of extended abstract. Five of the 25 evaluation questions in the Individual and Society unit are found to be uni-structural, 9 multi-structural and 11 relational, and no question rose to the level of extended abstract. Eight of the 25 evaluation questions in the Societal Structure unit are uni-structural, 7 multi-structural, 9 relational and 1 is at the extended abstract level. Seven of the 20 evaluation questions in the Social Change and Development unit are uni-structural, 6 are multi-structural, 3 relational and 4 at the extended abstract level. Five of the 14 evaluation questions in the Society and Culture unit are uni-structural, 4 are multi-structural, 3 relational and 2 are extended abstract. Thirty-one of the 54 evaluation questions in the Societal Institutions unit are uni-structural, 11 are multi-structural, 7 are relational and 5 are extended abstract.

Discussion and Conclusion

There are 60 attainments in the sociology curriculum related to the first sub-problem. Of these achievements, 15 are uni-structural, 14 are multi-structural, 28 are relational in structure and 3 are of the extended abstract structural level.

In conclusion, as this research is the first study to examine SOLO taxonomy for sociology lessons, the results of the research will be compared with other results from different disciplines that examined the SOLO taxonomy, and such similarities and differences will then be discussed. When the results of the study are examined, it can be said that 29 attainments related to the first sub-problem are from superficial learning that includes uni-structural and multi-structural levels, while 31 are from the deep learning that consists of relational and extended abstract levels. In studies related to the SOLO taxonomy, it is generally observed that the one-structural/multi-structural thinking structure is more involved than the relational and extended abstract thinking structure (Celik, 2007; Goktepe & Ozdemir, 2013; Lian & Idris, 2006). As for this study, it was determined that the attainments related to the relational and extended abstract level of thinking are more than others. This situation differs with the results of the abovementioned studies. It is thought that this is caused by the structure of the sociology course. Because sociology is a scientific discipline that studies societal institutions, social relations and interactions between and within groups (Zencirkiran, 2016), this could be the reason why most attainments were at the level of relational thinking.

In the study by Gezer and Ilhan (2015) where they analyzed attainments of a social studies curriculum according to the SOLO taxonomy, approximately half of the attainments in the curriculum correspond to uni-structural and multi-structural levels, while the ratio of the number of attainments reflecting the level of extended abstract thinking was very low. As it is the case in this aforementioned study with only three attainments related to the extended abstract structure, it shows similarity with this study with a very low ratio. In a study conducted by Baghdad and Saban (2014), it was concluded that the majority of those students were below the relational structural level in the study of algebraic thinking skills, according to the SOLO taxonomy. These results contradict the results of this research. In a study by Biber and İncikapi (2016), the knowledge levels of prospective mathematics teachers were mostly uni-structural, multi-structural, and relational in problems related to the topic of functions, and it was determined that there were very few candidate teachers with knowledge at the structural level of the extended abstract. The result of Biber and İncikapi's study (2016) is consistent with the results obtained for the extended abstract structure in this study.

Holmes (2005) trained 28 mathematics teachers in a Web-based training environment and analyzed the results according to SOLO levels. Analysis showed 19% of the math teachers were at a multi-structural level, 30% were at the relational structure level, and only 2.6% met the extended abstract level. The results showed the teachers' thinking levels are highest in the relational structure, while the lowest level appears to be in the extended abstract structure. The research results by Holmes (2005)

parallel the results of the relational structure and the extended abstract structure in this study.

In a study by Milati, Sunardi, and Dyah (2013), reading texts in mathematics textbooks were analyzed according to the SOLO taxonomy, and results showed that 2.3% of the reading texts were uni-structural, 47.3% were multi-structural and 50% were at the level of relational structure. The results of the study conducted by Milati et al. (2013) show parallelism with this study in terms of relational structure and multi-structural being the most prominent thinking structure groups. In another study conducted by Gezer and Ilhan (2016), the achievements of the Citizenship and Democracy Education Course were examined according to the SOLO taxonomy. The results showed most of the attainments (66.67%) were determined at the multi-structural level, a result contradictory to the results of this study. In yet another study, on the analysis of oral communication attainments of 6th, 7th, and 8th grade Turkish course curricula according to the SOLO taxonomy conducted by Kurt (2016), most of the attainments were of the relational and uni-structural level. Results of the aforementioned research showed that most of the attainments were related to the relational structure, which support the results of this research. On the other hand, the results of the same study for the uni-structural level is inconsistent with the results obtained for the relational structure of this research.

A total of 162 evaluation questions in the sociology textbook relating to the third sub-problem have been analyzed. As a result of the analysis, it was determined that 70 of the evaluation questions were at a uni-structural level, 44 were at a multi-structural level, 36 were relational, and 12 were at the extended abstract level. As a result of Gezer and Ilhan's (2015) study, in which they analyzed the evaluation questions of the social studies curriculum course book according to SOLO taxonomy, it was determined that most of the questions were asked to measure at the uni-structural level, followed by multi-structural, relational and extended abstract levels, respectively. These results are in line with the results of this study. Gezer and Ilhan (2014) also analyzed the evaluation questions related to the Citizenship and Democracy Education lesson taught in primary schools and found that the evaluation questions were mostly at the uni-structural level, then multi-structural, and, lastly, relational structure. The results of Gezer and Ilhan (2014) are only in line with the results of the evaluation questions obtained in this study in terms of uni-structural level. It is contradictory, on the other hand, in terms of the order of multi-structural and relational levels. Moreover, while there is no evaluation question for the extended abstract level in Gezer and Ilhan's (2014) study result, there are 12 questions in this research.

It is thought that when experts prepare program attainments for sociology lessons, organizing the attainments to be in harmony with each other on the basis of prerequisites, using the principle of progressivity, would be of considerable benefit in terms of effectiveness of the program. Also, a balanced distribution of the different levels of thinking with regard to the SOLO taxonomy on a unit basis would also contribute to student attainment of different levels of thinking. It is important to make a balanced distribution in the preparation of both the attainments and evaluation questions in terms of both a unit basis and the thinking levels.

Using attainments as a guide in the preparation of evaluation questions will contribute to the consistency between the attainments and the questions. The fact that there is a high level of inconsistency between the attainments and evaluation questions relating to the 11th grade sociology course in terms of uni-structural and relational structural levels suggests that it is important to review both the attainments and the evaluation questions in order to bring up them to an appropriate level.

References

American Sociological Association (ASA), (2013). National Standards for High School Sociology Asa Natıonal Standards for High School Sociology American Sociological Association. 2013. "21st Century Careers with an Undergraduate Degree in Sociology." Second Edition. Washington, DC: American Sociological Association

Ari, A. (2013). Bilissel alan siniflamasinda yenilenmis bloom, solo, fink, dettmer taksonomileri ve uluslararasi alanda taninma durumlari. [Revised bloom, solo, fink, dettmer taxonomies in cognitive area classification and their international recognition cases]. *Usak Universitesi Sosyal Bilimler Dergisi*, (6)2,259-290.

Baghdad, O. (2013). *Ilkogretim 8. Sınıf ögrencilerinin cebirsel düsünme becerilerinin solo taksonomisi ile incelenmesi.* [Investigation of the 8th grade students' algebraic thinking skills with solo taxonomy].Yüksek Lisans Tezi. Eskisehir Osmangazi Universitesi Egitim Bilimleri Enstitüsü, Eskisehir.

Baghdad, O., & Saban, P. A. (2014). Ilkögretim 8. Sınıf ögrencilerinin cebirsel düsünme becerilerinin solo taksonomisi ile incelenmesi. [Investigation of the 8th grade students' algebraic thinking skills with solo taxonomy]. The *Journal of Academic Social Science Studies (JASS*), (26), 473-496.

Banoglu, K., & Bas, Y. (2012). Sosyoloji dersi ögrenci algilarinin derse verilen önem, sosyal kazanim ve ögrenme ortami boyutlari acısından incelenmesi. [An investigation of students' perceptions of their sociology course in terms of the course's importance, their social attainment and the learning environment]. *Egitim ve Bilim,* (37), 164, 31-44.

Biber, A. C., & Incikapi, L. (2016). Problems posed by prospective elementary mathematics teachers in the concept of functions: an analysis based on solo taxonomy. *Mersin Universitesi Egitim Fakültesi Dergisi,* 12(3), 796-809.

Biggs, J. B., & Collis, K. (1982). *Evaluating the Quality of Learning: the SOLO taxonomy.* New York: Academic Pres.

Biggs, J. B. (2011). *Teaching for quality learning at university: What the student does.* McGraw-Hill Education (UK).

Brabrand, C., & Dahl, B. (2009). Using the SOLO taxonomy to analyze competence progression of university science curricula. *Higher Education, 58*(4), 531-549.

Burnett, P.C. (1999). Assessing the Outcomes of Counselling within a Learning Framework. Paper presented at the Annual Conference of American Educational Research Association (Montreal, Quebec, Canada).

Can, S. (2006). Türkiye'de sosyal bilimler üzerine düsünmek. [Thinking about social sciences in Turkey]. Bilim ve Aklin Aydınlıgında Egitim. (Retrieved December 25, 2016 from (http://yayim.meb.gov.tr/dergiler/sayi75/sayi75/sevim%20can.pdf)

Celik, D. (2007). *Ogretmen adaylarinin cebirsel düsünme becerilerinin analitik incelenmesi.* [Analytical examination of the preservice teachers' algebraic thinking skills] Yayınlanmamis Doktora Tezi, Karadeniz Teknik Universitesi, Trabzon.

Claesgens, J., Scalise, K., Wilson, M., & Stacy, A. (2009). Mapping student understandingin chemistry: The perspectives of chemists. *Science Education, 93*(1), 56-85.

Collis, K. F., & Biggs, J. B. (1979). Classroom Examples of Cognitive Development Phenomena: the SOLO Taxonomy. (Retrieved December 12, 2016 from https://eric.ed.gov/?id=ED185055

Gezer, M., & Ilhan, M. (2014). Ilkögretim Vatandaslik ve Demokrasi Egitimi Dersi. (8. Sınıf) kazanimlari ile degerlendirme sorularinin solo taksonomisi'ne göre incelenmesi. [An evaluation of the assessment questions in the textbook and objectives of the 8th grade curriculum citizenship and democracy education course according to solo taxonomy]. *Dogu Cografya Dergisi, 19*(32), 193-208.

Gezer, M., & Ilhan, M. (2015). Sosyal bilgiler dersi ögretim programi kazanimlari ile ders kitabi degerlendirme sorularinin solo taksonomisine göre incelenmesi. [An analyzing of the assessment questions in the textbook and objectives of the curriculum social studies course according to the solo taxonomy]. *Sakarya Universitesi Egitim Fakültesi Dergisi,* (29), 1-25.

Giddens, A., & Sutton, P. W. (2013). *Sociology.* Cambridge, UK: Polity Press.

Goktepe, S., & Ozdemir, A. S. (2013). Ilkögretim matematik ögretmen adaylarının uzamsal görsellestirme becerilerinin SOLO modeli ile incelenmesi. [Examing elementary mathematics teacher landidates' special visualization skills by solo model]. *Kalem Egitim ve Insan Bilimleri Dergisi, 3*(2), 91-146.

Hattie, J., Biggs, J., & Purdie, N. (1996). Effects of Learning Skills İnterventions on Student Learning: A Meta-Analysis. *Review of Educational Research,* 66, 99-136.

Kurt, A. (2016). Türkce dersi ögretim programı 6, 7 ve 8. sinif sözlü iletisim kazanimlarinin solo taksonomisine göre incelenmesi. [Turkish course education programme, 6, 7 and 8th grade verbal communication gains examining according to the solo taxonomy]. *Bitlis Eren Universitesi Sosyal Bilimler Enstitüsü Dergisi,* 5 (Ek Sayı), 215-228.

Konyalihatipoglu, M.E. (2016). *Ortaokul 7. sinif ögrencilerinin analitik ve bütüncül düsünme stillerinin solo taksonomisi ile incelenmesi.* [A solo taxonomy research on holistic and analytic thinking styles of seventh grade secondary school students]. Yuksek Lisans Tezi. Rize.

Lian, L. H., & Idris, N. (2006). Assessing algebraic solving ability of form four students. *IEJME-Mathematics Education*, 10, 55-76.

Light, G., Calkins, S., & Cox, R. (2009). *Learning and teaching in higher education: Thereflective professional.* California: Sage Publications.

Milati, N., Sunardi, S., & Dyah, N. (2013). Analisis Level Pertanyaan pada Soal Cerita dalam Buku Teks Matematika Penunjang SMK Program Keahlian Teknologi, Kesehatan dan Pertanian Kelas X Terbitan Erlangga Berdasarkan Taksonomi SOLO. *Pancaran Pendidikan*, 2, 83-94.

Miles, M.B. & Huberman, A.M. (1994). *Qualitative Data Analysis: An Expanded. Sourcebook. (2nd Edition).* California: Sage Publications

Musan, M.S. (2012). *Dinamik matematik yazilimi destekli ortamda 8. sinif ögrencilerinin denklem ve esitsizlikleri anlama seviyelerinin solo taksonomisine göre incelenmesi*. [The examınation of 8th grade students' understanding levels of the equation and ineqaulities according to the solo taxonomy in the dynamic mathematics software aided environment]. Yuksek Lisans Tezi. Pamukkale Universitesi Fen Bilimleri Enstitusu Denizli.

O'Neill, G., & Murphy, F. (2010). Guide to taxonomies of learning. UCD Teaching and Learning Resources. (Retrieved December 12, 2016 from http://www.ucd.ie/t4cms/ucdtla0034.pdf

Olsson, T. (2005). *Qualitative Assessment in the Chemical Engineering Curriculum. Myndigheten för nätverk och samarbete inom högre utbildning*. Sweeden: Lund Institute of Technology Lund University.

Pegg, J & Dawey, G. (2012). Interpreting Understading in Geometry: A Synthesis of Two Models. In Lehrer, R., & Chazan, D. (Eds.) *Designing learning environments for developing understanding of geometry and space* (pp. 103-136). New Jersey: Routledge.

Potter, M., & Kustra, E. (2012). A primer on learning outcomes and the SOLO taxonomy. Centre for Teaching and Learning, University of Windsor. (Retrieved January 19, 2016 from www1.uwindsor.cactl/system/files/PRIMER-on-LearningOutcomes.pdf)

Rooney, C. (2012). How am I using inquiry-based learning to improve my practice and to encourage higher order thinking among my students of mathematics? *Educational Journal of Living Theories, 5*, 99-127.

Yazici, N. (2013). *Basarinin olculmesinde solo taksonomiye dayalı hazırlanan rubrik kullaniminin etkisinin karsilastirmali olarak ıncelenmesi.* [A comparative investigating of the effect of rubrics used based on solo taxonomy on the measurement of success]. Yuksek Lisans Tezi. Kahramanmaras Sütcü Imam Universitesi Sosyal Bilimler Enstitusu. Kahramanmaras.

Yildirim, S.G & Baur, S.W. (2016). Development of Learning Taxonomy for an Undergraduate Course in Architectural Engineering Program (Retrieved December 17, 2016 from https://conferences.kstate.edu.aseemidwest2016/files/2016/06/Paper-Yildirim-Baur-1ls8avf.pdf)

Zabun, B. (2012) Turkiye'de sosyoloji dersi ogretim programlarinin amac ve iceriklerinin toplumsal degismeye paralel olarak degisimi. [The changes of the goals and content of sociology curriculums in turkey in parallel with social change]. *GEFAD / GUJGEF*, 32 (1), 157-170.

Zencirkiran, M. (2016). S*osyoloji* [Sociology] (4. Baskı). Bursa: Dora.

Özet

Sosyoloji Dersi Öğretim Programı Kazanımları ve Değerlendirme Sorularının SOLO Taksonomisine Göre Analizi

Atıf:

Korkmaz, F. & Unsal, S. (2017). Analysis of attainments and evaluation questions in sociology curriculum according to the SOLO taxonomy. *Eurasian Journal of Educational Research, 69*, 75-92. http://dx.doi.org/10.14689/ejer.2017.69.5

Problem Durumu: Sosyoloji; toplumsal kurumları, gruplar arasındaki/içindeki sosyal ilişkileri ve etkileşimleri inceleyen bir bilim dalıdır. Sosyoloji toplumsal yaşamı, sosyal değişimleri, sosyal olayları ve insan davranışlarının sonuçlarını konu edinen bir disiplindir. Yine sosyoloji; toplumları, toplumsal hayatı, grupları inceleyen bir bilim dalı olarak tanımlanmaktadır.1924'ten bugüne amaç ve içerikleri birbirinden farklı 9 farklı sosyoloji öğretim programı uygulanmış olup; şu an uygulanmakta olan sosyoloji dersi öğretim programı ise yapılandırmacı yaklaşıma göre 2009 yılında hazırlanmıştır.

SOLO (Structure of the observed Learning outcome) taksonomisi -gözlemlenebilir öğrenme çıktılarının yapısı- John Biggs ve Kevin Collis tarafından 1982 yılında geliştirilmiştir. Öğrenme çıktıları, öğrencilerin dersin sonuna kadar ne yapacaklarını ve yapabileceklerini gösteren ifadelerdir. Sosyoloji Dersi öğretim programındaki kazanımların düşünme seviyelerine göre analizine yönelik olarak edinilecek bilgiler, eğitim programı uzmanlarının kazanımları gözden geçirme, tasarlama ve düzenlemede aşamalarında bir veri kaynağı sağlayacağı düşünülmektedir.

Kazanımların yanında değerlendirme sorularının düşünme seviyelerine göre analiz edilmesi, herhangi bir programın etkililiği hakkında daha doğru yargıda bulunma olanağı sağlar. Çalışma; bu anlayış doğrultusunda kazanımların yanı sıra değerlendirme sorularının da bilişsel düzeyi tespit edilerek; kazanımlar ile değerlendirme soruları arasında tutarlılığa hangi oranda ulaşıldığına yönelik bilgi sunmayı amaçlamaktadır. Diğer taraftan kazanımların ve öğrenme düzeylerinin belirlenmesi; kazanımların sadece belirli bir düzeyde (alt veya üst düzey) yoğunlaşmadan dengeli bir şekilde dağılıp dağılmadığı konusunda da bir bilgi sunması açısından önemli görülmektedir.

Bu araştırma sonucunda; öğretmenlerin kazanımların öğrenme düzeyleri hususunda bilgi sahibi olmaları sağlanarak; öğrenme düzeylerine uygun etkinlik yapmaları konusunda kılavuzluk yapacağı düşünülmektedir. İlgili literatür tarandığında Sosyoloji dersinin kazanımlarını ve değerlendirme sorularını SOLO taksonomisine göre analiz eden herhangi bir araştırmaya rastlanmamıştır. Bu açıdan, yapılan bu çalışmanın literatürdeki boşluğu dolduracağı düşünülmektedir.

Araştırmanın Amacı: Araştırmanın problem cümlesi "11. sınıf Sosyoloji Dersi öğretim programında yer alan kazanımlar ve sosyoloji ders kitabında yer alan değerlendirme soruları SOLO taksonomisine göre nasıl bir dağılım göstermektedir?" şeklinde ifade edilmiştir. Bu ana problem cümlesi bağlamında 11. sınıf Sosyoloji Dersi;

1- Öğretim programı kazanımları SOLO taksonomisi düşünme seviyeleri ünitelere göre nasıl bir dağılım göstermektedir?

2- Ders kitabındaki değerlendirme soruları SOLO taksonomisine göre nasıl bir dağılım göstermektedir?

Yöntem: Nitel araştırma desenine göre hazırlanmış bu çalışmada yöntem olarak doküman inceleme yöntemi kullanılmıştır. Doküman incelemesi, araştırmacının üzerinde çalıştığı konuya göre ulaştığı kaynakları geniş bir zaman diliminde analiz etmeye ve incelemeye dayanan bir yöntemdir. Araştırmanın veri kaynağını oluşturan kazanımlar MEB Talim Terbiye Kurulu Başkanlığı tarafından 2010 yılında yayımlanan 11. sınıf Sosyoloji Dersi Öğretim Programı'ndan alınmıştır. Değerlendirme soruları ise MEB tarafından 2011 yılında kabul edilip, 2016 yılında basılan ve söz konusu bakanlığın internet sitesinde yayımlanan ders kitabından elde edilmiştir. 60 kazanım ve 162 değerlendirme sorusunun SOLO taksonomisine göre analiz süreci tek yönlü yapı, çok yönlü yapı, ilişkisel yapı ve soyutlanmış yapı düşünme seviyeleri kriter alınarak gerçekleştirilmiştir. Kazanım ve değerlendirme sorularının hangi düşünme seviyesine denk geldiğini belirlemek için gösterge fiillerden ve öğretmen kılavuz kitabındaki açıklamalardan yararlanılmıştır. Kazanım ve değerlendirme sorularının değerlendirme süreci iki araştırmacı tarafından önce kazanımlar daha sonra ise değerlendirme soruları ele alınarak her bir araştırmacı tarafından bağımsız olarak SOLO taksonomisine göre incelenmiş; hangi düşünme seviyesine denk geliyorsa karşısına işlenmiştir. Daha sonraki süreçte araştırmacıların işaretlemeleri karşılaştırılarak uyum yüzdelerine bakılmıştır. Hesaplama sonucunda, araştırmacılar arasında 11. sınıf Sosyoloji Dersi kazanımlarına ilişkin 5 kazanımda; değerlendirme sorularında ise 14 soruda görüş ayrılığı olduğu görülmüştür. Görüş ayrılığının

yaşandığı kazanım ve değerlendirme soruları için üçüncü uzmanının görüşüne başvurulmuştur. Uyum güvenirlik hesaplanmasında; [Güvenirlik = Görüş Birliği / (Görüş Birliği + Görüş Ayrılığı)] formülü kullanılmıştır.

Bulgular: Araştırmanın birinci alt problemine ilişkin elde edilen bulgulara göre; SOLO taksonomisi üniteler bazında incelendiğinde sosyolojiye giriş ünitesinde yer alan 5 kazanımın 3'ünün tekli yapı, 1'inin çoklu yapı, 1'inin ise ilişkisel yapıda olduğu; birey ve toplum ünitesinde yer alan 10 kazanımın 4'ünün tekli yapı, 2'sinin çoklu yapıda, 4'ünün ise ilişkisel yapıda olduğu; toplumsal yapı ünitesinde yer alan 5 kazanımın 2'sinin çoklu yapı, 3'ünün ise ilişkisel yapıda olduğu; toplumsal değişme ve gelişme ünitesinde yer alan 10 kazanımın 3'ünün tekli yapı, 2'sinin çoklu yapı, 4'ünün ilişkisel yapı, 1'inin ise soyutlanmış yapıda olduğu tespit edilmiştir. Yine toplum ve kültür ünitesinde yer alan 8 kazanımın 1'inin tekli yapı, 6'sının ilişkisel yapı, 1'inin ise soyutlanmış yapıda olduğu; toplumsal kurumlar ünitesinde yer alan 22 kazanımın 4'ünün tekli yapı, 7'sinin çoklu yapı, 10'unun ilişkisel yapı, 1'inin ise soyutlanmış yapıda yer aldığı tespit edilmiştir. Araştırmanın ikinci alt problemine ilişkin elde edilen bulgulara göre; sosyoloji ders kitabında toplam 162 değerlendirme sorusunun 70'i (%43) tek yönlü yapı, 44'ü (%27) çok yönlü yapı, 36'sı (%22) ilişkisel yapı, 12'si (8) ise soyutlanmış yapı düzeyinde olduğu tespit edilmiştir.

Araştırmanın Sonuçları ve Önerileri: Araştırma sonuçları kendi içerisinde değerlendirildiğinde toplam 60 kazanımdan 15 (%25) kazanımın tek yönlü yapıda olduğu tespit edilirken; değerlendirme soruları içerinde ise tek yönlü yapıya yönelik 70'i (%43) sorunun yer aldığı tespit edilmiştir. Bu sonuçtan yola çıkarak tek yönlü yapı açısından kazanım sayısı ile değerlendirme soruları arasında önemli bir fark olmadığı söylenebilir. İlişkisel yapıya yönelik öğretim programında 28 (%46) kazanım mevcut iken; değerlendirme soruları içerisinde 36 (%22) sorunun ilişkisel yapıda olduğu tespit edilmiştir. Öğretim programları içerinde kazanımlar içerinde 3 (%5) soru soyutlanmış yapıda bulunurken; değerlendirme soruları içerinde ise 12 (%7) soru soyutlanmış yapıda yer almaktadır. Genel olarak 11. sınıf Sosyoloji Dersi öğretim programındaki kazanımlarla, değerlendirme soruları arasında tek yönlü yapı ve ilişkisel yapıya yönelik bir tutarsızlıktan söz edilebilirken; çok yönlü yapı ve soyutlanmış yapıya yönelik ise bir tutarlılık olduğu söylenebilir. Üniteler bazında SOLO taksonomisine yönelik farklı düşünme düzeylerinin dengeli bir şekilde dağılımının sağlanması öğrencilerin farklı şekillerde düşünme seviyesinin kazanımına katkı sağlayacaktır. Diğer taraftan hem kazanımların hem de değerlendirme sorularının hazırlanmasında gerek üniteler bazında gerekse de düşünme seviyeleri açısından dengeli dağılımın yapılmasının önemli olduğu düşünülmektedir. Değerlendirme sorularının hazırlanmasında kazanımların rehber olarak kullanılması kazanımlar ile sorular arasında tutarlılığın sağlanmasına katkı sağlayacaktır.

Anahtar Kelimeler: Sosyoloji Dersi, Öğretim programı, SOLO taksonomisi analizi.