

Examination of Skill-Based Questions in the Subject Area of the Science Course “Living Things and Life” in Terms of Root Values

Nesibe Özkan¹, Burcu Anılan²

ARTICLE INFO

Article History:

Received 14.05.2024

Received in revised form
09.09.2024

Accepted Available online
01.10.2024

ABSTRACT

Presenting skill-based questions to students in a way that is associated with daily life can enable students to acquire values implicitly through questions. This study aims to examine the skill-based questions in the subject area of ‘Living Things and Life’ at the 5th, 6th, and 7th-grade levels of the science course in terms of root values. The research was conducted by document analysis, which is a qualitative research method. The 124 skill-based questions in the subject area were analyzed descriptively by the deductive analysis method in terms of both visual and content. When the skill-based questions in the subject area of Living Things and Life were analyzed based on units, it was seen that there was not a balanced distribution in terms of root values and while the root value of responsibility was mostly included, the root value of honesty was not sufficiently included. In addition, it was concluded that patriotism, benevolence, respect, self-control, justice, patience, love, and friendship were the root values identified from most to least.

©TUARA Journal. All rights reserved

Keywords:

Skill-based questions, living things and life, root values, science education

INTRODUCTION

Living in a world where how and for what purpose information is used is more important than knowledge brings along several problems and responsibilities. In a global sense, the transformation of these problems and responsibilities into consciousness in the individual; the process of growth, development, and recovery begins with the individual's self-knowledge within himself/herself. Within each individual, a butterfly's power of influence is hidden, just waiting for the time when it will be revealed.

Every individual on the journey of self-actualization has certain priorities and strives to move forward in line with their goals. What guides the individual in intellectual and behavioral dimensions and determines his/her direction (Ersoy, 2018) are the values that he/she can internalize and reflect in his/her life. What values mean may vary depending on how each individual makes sense of value in his/her nature (Güngör, 2010).

The meaningfulness of living and existing in social life becomes possible with the ability of values to fulfill their functions and to ensure social solidarity (Yazıcı, 2016). Although each society may have its values, the principles that the individuals who make up the society attribute to values express a reflection of the roles of individuals in social life (Özensel, 2003). In interaction with society and the environment, the individual experiences certain values (Gökalp, 2014). At this point, it is of great importance that the experienced value is first made sense of, analyzed, and then passed through the process of moral reasoning (Akbaş, 2008; Carr, 1998), and therefore, it is of great importance to provide individuals with critical and independent thinking skills (Holmes, 1976; Çepni, Bacanak, & Küçük, 2003; Kwak, 2008). One of the ways of providing metacognitive skills as critical and independent thinking skills to students in the education process is skill-based questions. Skill-based questions are prepared in the context of daily life and present 21st-century skills to the evaluation of students with appropriate subjects and acquisitions (Şan & İlhan, 2022). In this context, the fact that skill-based questions have a life-based approach allows values to be presented to students implicitly and integrated with critical and independent thinking skills.

Values education has gained a new meaning with the ‘root values’ in the ‘our values’ section added to the renewed curriculum in 2018 (MoNE, 2018). In this context, reconciling the metacognitive

¹Eskisehir Osmangazi University, nesibeoan@gmail.com, orcid.org/0009-0002-5539-525X

²Eskisehir Osmangazi University, anilan.burcu@gmail.com, orcid.org/0000-0002-4153-1866

skills that the science course aims to provide to individuals with values education should be one of the primary goals of teachers in educational institutions, which are a strong representative of the social structure.

In the studies in the literature on the extent to which values can be integrated into education;

- Textbooks (Özdemir, 2023; Yılmaz & Yıldırım, 2023; Kemiksiz, 2021a; Turan & Duman, 2023; Köksal et al, 2022; Maviş Sevim & Gül, 2021; Türker, Dünder, & Sözcü, 2023; Kav & Kav, 2023; Çiçek & Asar, 2022; Durhat & Ökten, 2020; Aydın, 2021; Tarakcı & Kalenderoğlu, 2022; Divrik & Aydoğdu, 2023; Şahin & Yaman, 2023)
- Curriculums (Değirmenci, 2018; Karasu Avcı & Ketenoğlu Kayabaşı, 2018; Gökçe Tekin & Bedir, 2019; Üreyen Çimen & Özmantar, 2023; Esemem, 2020)
- Animation films (Şentürk & Keskin, 2019; Hakkoymaz, 2021; Kaymak & Öğretir Özçelik, 2020; Albayrak & Kartal, 2020; Ufak & Yorulmaz, 2022)
- Children's literature works (Özbaşı, 2020; Kaplan & Peker, 2022; Kaya & Gül, 2023; Kıymaz & Altay, 2021; Yıldız, 2023; Korkutan & Kaplan, 2022; Abdullatif & Kırkkılıç, 2021; Bulut, 2021; Calp & Kaplan, 2021; Geçgel & Durak, 2020)
- Theatre texts (Şar, 2021; Türkan & Türkan, 2018)
- Novels (Kaplan & Arıc, 2022; Musuloğlu et al., 2023; Sayır, 2022; Tozlu & Yüce, 2020)
- Magazines (Ekizce, 2023; Alabay et al., 2018; Yılmaz & Duman, 2018; Orhan, 2021; Tekin Bahrilli & Göloğlu Demir, 2021)
- Turkish films (Ünal, 2020)
- The Turkish National Anthem (Tay & Nalçacı, 2020)
- The first Turkish Islamic works (Soyuçok, 2022; Şehitoğlu, 2021)
- Turkish proverbs (Kemiksiz, 2021b)
- Songs (Coşkun Keskin & Akyıldız, 2021; Aksoy, 2023; Yolasiğmazoğlu, 2022; Kara & Emirhan, 2020; Karagözoğlu, 2020)
- Children's calendar (Çimen, Solmaz, & Biricik, 2022)
- Advertisements (Yıldız, 2023)
- Holy books (Gündüz, 2018).

However, it was observed that the number of studies in the literature on root values in the field of science was limited and no study examining skill-based questions in terms of root values was found. Therefore, it is thought that this study will contribute to the literature with a unique perspective on the extent to which it is reflected in the skills-based sciences course questions and in which the integration of core values into the science course is provided.

In addition, in the 2024 Turkish Century Education Model Science course 5th, 6th, 7th, and 8th-grade draft curriculum, an understanding of science teaching that covers 21st-century skills is targeted by taking into account the Turkish Qualifications Framework. In this direction, it is aimed that students use literacy skills with a holistic perspective in problem-solving and informed decision-making. Values are explicitly included in teaching-learning practices by integrating them with other skills and inter-programme relationships (MoNE, 2024). The fact that values are at the basis of the new curriculum in this sense shows the importance of our study. After the formalization of the curriculum, students will no longer encounter skill-based questions only in the measurement and evaluation dimension, but the implementation of the lessons will be within the framework of these skills and values.

Skill Based Questions were published by the General Directorate of Measurement, Assessment and Examination Services on 07.10.2019. Presenting skill-based questions to students in a way that is associated with daily life can enable students to acquire values implicitly through questions. In our research, it was aimed to examine the skill-based questions in the subject area of 'Living Things and Life' in the science course in terms of root values. For this purpose, the problem statement is as follows:

- How are the root values of 'justice, friendship, honesty, self-control, patience, respect, love, responsibility, patriotism, benevolence' included in the skill-based questions at the 5th, 6th, and 7th-grade levels of the science course?

METHOD

Research Design

This research was conducted with document analysis, which is a qualitative research method. Document analysis refers to the analysis of written sources containing the existence of facts or phenomena in the direction of the researcher's goal, and which document can be used as a data source varies according to the problem of the research (Yıldırım & Şimşek, 2021).

Data Collection and Analysis

The data source of the study consists of Skill-Based Questions published by the General Directorate of Measurement, Assessment and Examination Services on 07.10.2019 (MoNE, 2019). The 124 skill-based questions in the subject area of Living Things and Life at the 5th, 6th, and 7th-grade levels were examined in terms of both visual and content, taking into account the ten root values in the Secondary Science curriculum. The Values Education Activity Book published by the General Directorate of Secondary Education on 19.11.2022, which is thought to facilitate the analysis of the meanings of the root values in terms of the validity and reliability of the study, was examined in detail (MoNE, 2022). The root value relationship contained in the skill-based questions was analyzed descriptively with the deductive analysis method in terms of both visual and content. According to this analysis method, the data are summarised and interpreted in line with predetermined themes according to the problem situation (Yıldırım & Şimşek, 2021). In the process of conducting the research, the analyzed data were continuously submitted to the evaluation of three experts, one academician and two science teachers, and validity and reliability were tried to be ensured by taking into account the feedback.

Limitations of the Study

When the studies on root values for science courses were analyzed, it was seen that the most values were identified in the subject area of Living Things and Life (Özdemir, 2023; Yılmaz & Yıldırım, 2023). It was seen that the skill-based questions published by the General Directorate of Measurement, Evaluation, and Examination Services were not available for the 8th-grade level, and for this reason, the skill-based questions at the 5th, 6th and 7th-grade levels were limited to the tests in the subject area of Living Things and Life as data sources.

FINDINGS

In line with the purpose of the study, the inclusion of the root values of justice, friendship, honesty, self-control, patience, respect, love, responsibility, patriotism, and benevolence in the skill-based questions in the subject area of "Living Things and Life" at the 5th, 6th and 7th-grade levels of the science course is presented in Table 1 as a general framework.

Table 1. The Inclusion of Root Values in the Skill-Based Questions of the Units in the Subject Area of Living Things and Life

Living Things and Life Units in the Subject Area	Justice	Friendship	Honesty	Self-control	Patience	Respect	Love	Responsibility	Patriotism	Benevolence	f
	S.5.2. World of Living Things	6	2	1	6	8	8	2	9	11	4
S.5.6. Human and Environment	9	7	2	5	2	15	7	18	18	3	86
S.6.2. Systems in Our Body	2	2	2	6	2	3	2	18	5	16	58
S.6.6. Systems in Our Body and Health	5	7	5	14	5	7	6	16	10	16	91
S.7.2. Cell and Divisions	2	2	-	5	4	6	-	13	5	11	48
S.7.6. Reproduction, Growth, and Development in Living Things	10	5	4	6	12	12	14	13	8	6	90
Total	34	25	14	42	33	51	31	87	57	56	430

The findings on how the root values identified in the questions in the relevant units were handled in the association of skill-based questions with root values in the units specified in Table 1 are given below for each root value.

The root value of *justice* was addressed in skill-based questions by applying the same or different conditions to the experimental groups and emphasizing equality, sensitizing to the right to life of all living things, creating unity against oppression through social media sharing, using power and resources fairly, valuing all living things regardless of religion, language, race, and gender, and ensuring equal opportunities for all.

In skill-based questions, the root value of *friendship* was evaluated as being interested in living things, playing games together and being friends, being understanding of differences, greeting and caring for each other, being selfless in a situation that requires volunteering, altruism, and mutual labor.

The root value of *honesty* was found in skill-based questions such as sharing accurate information in a news article and informing the public, being truthful, and feeling the conscientious responsibility of behaviors in situations requiring volunteerism and labor.

The root value of *self-control* was addressed in skill-based questions as giving importance to self-care, protecting the self, being conscious and at peace with oneself in one's actions and words, making decisions by thinking about the consequences of one's actions, adopting rules, setting priorities and goals, controlling one's thoughts and behaviors, and being solution-oriented.

The root value of *patience* is found in skill-based questions, such as waiting for the outcome of an experiment, being hopeful in a situation where help is needed, enduring the difficulties and hardships encountered, being calm, maintaining courage, being resilient and durable, being persevering, being determined and determined.

In skill-based questions, the root value of *respect* was evaluated as developing solutions to protect natural beauties and protecting all living things, valuing all living things and being aware that their lives are valuable, valuing the differences between living things that can show different characteristics, realizing that the country's resources are valuable, avoiding interventions that will disrupt the balance of nature, valuing and respecting elders.

In the skill-based questions, the root value of *love* was addressed as protecting and caring for nature and living things, caring for offspring and feeding them with milk, loving and being loved, ensuring social peace, commitment to life, being compassionate, and giving importance to family unity.

The root value of *responsibility* is included in skill-based questions as being responsible for oneself and all living and non-living beings in the environment, striving for the good and welfare of

others, taking responsibility for the consequences caused, fulfilling one's duties, and taking responsibility.

The root value of *patriotism* can be seen in skill-based questions; the necessity of obeying rules and laws, the prominence of the motives of productivity and diligence during the conduct of an experiment or research, a student's contribution to the functioning of the classroom, and trying to maintain his/her student status in the best way possible, sensitivity to natural heritage, caring for the community and being a participant.

For the root value of *benevolence*, trying to be useful to the environment, emphasizing cooperation, being sensitive to the problems and needs of others, supporting teachers or friends, solidarity, and volunteering activities are emphasized.

The findings regarding the examination of the skill-based questions in the subject area of "Living Things and Life" at the 5th, 6th, and 7th-grade levels of the science course in terms of root values are presented under the 6 unit titles specified in Table 1, respectively.

Findings Related to the World of Living Things Unit

The distribution of the root values identified in 20 skill-based questions in the World of Living Things unit is given in the graph below.

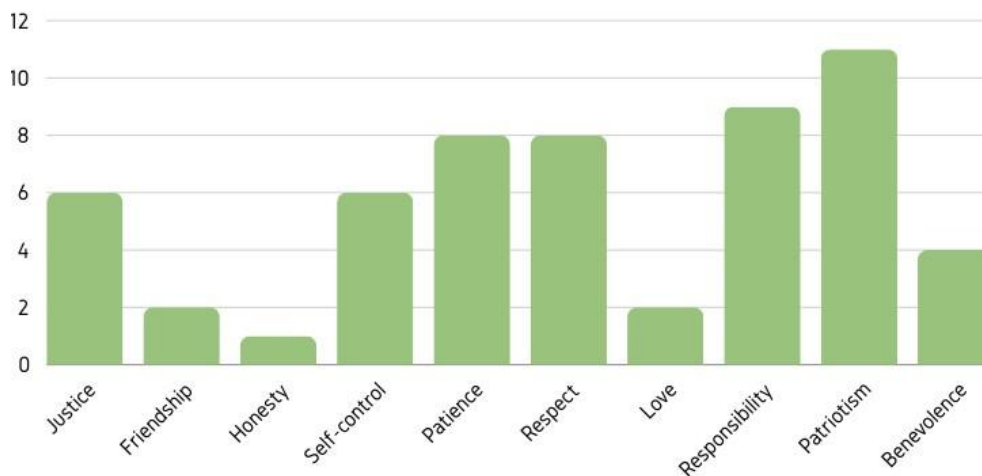


Figure 1. Root Values Identified in Skill-Based Questions in the World of Living Things Unit

According to the graph, patriotism ($f=11$) was the most frequently found root value in the skill-based questions in the unit, while honesty ($f=1$) was the least frequently found root value. In addition, justice ($f=6$), friendship ($f=2$), self-control ($f=6$), patience ($f=8$), respect ($f=8$), love ($f=2$), responsibility ($f=9$), benevolence ($f=4$) were also included in the questions and a total of 57 root values were found in 20 questions. Examples of the associations of the most and least common root values in the skill-based questions in the unit are given in Table 2.

Table 2. Examples of Skill-Based Questions Associated with Root Values in the World of Living Things Unit

Skill-Based Question Sample	Association with Root Value
<p>12. Geç kalmış hafif don olayları yalnız ürüne zarar verdiği hâlede, bitkilerin erken uyanmalarının arkasından gelen şiddetli don olayları çiçekleri veya tomurcukları yakıtkları gibi, ağaçların ince hatta kalın dallarına da zarar verir.</p> <p>Iznik Ovasını Don Vurdu</p> <p>"Bursa'nın Iznik ilçesinde meyve bahçelerini don vurdu. 23 Mart Cumartesi gecesi ve 26 Mart Salı sabahı bölgede yaşanan hafif ve orta kuvvetli don sebebiyle erken çiçek açan meyve bahçelerinin ilkbaharda oluşan geç don olaylarından etkilendiği ve çiçeklerin zarar gördüğü tespit edildi."</p> <p>Verilen habere göre çiçekleri don olaylarından zarar görmüş meyve ağaçlarında aşağıdakilerden hangisinin görülmesi beklenmez?</p> <p>A) Solunum B) Besin üretimi C) Tohum ve meyve oluşumu D) Toprakta su ve mineral alma</p>	<p>Sharing accurate information in the news and informing the public emphasizes being responsible towards people (<i>responsibility</i>) and being truthful (<i>honesty</i>).</p>
<p>16.</p> <p>Balın Son Kullanma Tarihi Geçer mi?</p> <p>Balın en eski örneklerinden bazıları eski Mısır mezarlarında bulundu. Bulunan bal hâlâ yenilebilir durumdaydı. Bu da akıllara balın neden bozulmadığı sorusunu getirir. Bunun nedeni balın çok az su içmesidir. Mikroskopik canlıların gelişebilmesi için belli bir düzeyde su gerekmektedir. Buna bir maddenin su etkinliği ismi verilir. %17 su içeren balın su etkinliği 0,6'dır. Oysa bu değerin bakterilerin yaşaması için 0,91; mantarların yaşaması için ise 0,7 olması gerekmektedir.</p> <p>Bu parçadan hareketle,</p> <p>I. Bakteriler her yerde, her koşulda yaşayabilirler. II. Balın içerisine sonradan su katılırsa balın bir süre sonra bozulması beklenir. III. Bakterilerin yaşaması için gerekli su miktarı mantarların yaşaması için gerekenden daha fazladır.</p> <p>çıkanlarından hangilerine ulaşılabilir?</p> <p>A) Yalnız II B) I ve II C) II ve III D) I, II ve III</p>	<p>The discovery of the oldest examples of honey in ancient Egyptian tombs highlights the importance of being sensitive to natural heritage (<i>patriotism</i>) and recognizing the value of the country's resources (<i>respect</i>).</p>

Findings Related to the Human and Environment Unit

The distribution of the root values identified in 20 skill-based questions in the Human and Environment unit is given in the graph below.

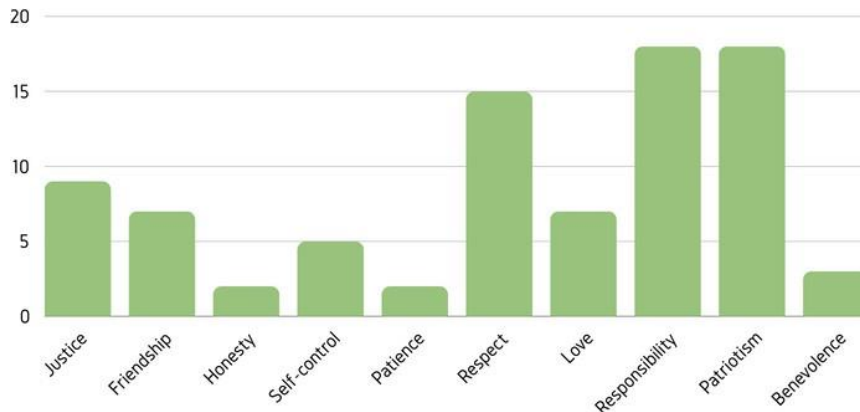

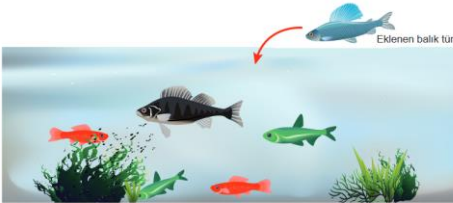


Figure 2. Root Values Identified in Skill-Based Questions in Human and Environment Unit

According to the graph, the most common root values found in the skill-based questions in the unit were responsibility and patriotism ($f=18$), while the least common root values were honesty and patience ($f=2$). In addition, justice ($f=9$), friendship ($f=7$), self-control ($f=5$), respect ($f=15$), love ($f=7$), and benevolence ($f=3$) were also included in the questions and a total of 86 root values were found in 20 questions. Examples of the association of the most and least common root values in the skill-based questions in the unit are given in Table 3.

Table 3. Examples of Skill-Based Questions Associated with Root Values in Human and Environment Unit

Skill Based Question Sample	Association with Root Value																																				
<p>1. Dünya'da tek kalan, özel bakıma alınmış Sudan isimli erkek kuzey beyaz gergedanı 45 yaşında yaşam mücadelesini kaybetmiştir. Bu haberi sosyal medyadan paylaşan bir kişi "Bugün, milyonlarca yıl hayatta kalmayı başarmış ama insandan kurtulamamış bir türün yok oluşuna tanık oluyoruz" demiştir.</p>  <p>Metne göre insanın canlılar üzerinde,</p> <ol style="list-style-type: none"> İnsan faaliyetleri biyoçeşitliliği tehdit etmektedir. İnsanlar doğadaki tüm canlıların ölümünden sorumludur. Tedavisi yapılsaydı, kuzey beyaz gergedanın nesli kurtulabilirdi. <p>etkilerinden hangileri vardır?</p> <p>A) Yalnız I B) Yalnız II C) I ve III D) II ve III</p>	<p>The person is aware that the life of the northern white rhino is valuable (<i>respect</i>), expresses the reason for its loss of life with honesty without hesitation (<i>honesty</i>), and takes responsibility for the consequences caused by his generation (<i>responsibility</i>). The person said, "We are witnessing the extinction of a species that could not be saved from human beings" and emphasized the motive of unity against oppression (<i>justice</i>) by sharing it on social media. In addition, he/she exhibited the attitudes of protecting nature and living creatures, showing compassion, caring, being interested in all living things (<i>friendship and love</i>), and sensitivity to natural heritage (<i>patriotism</i>) was developed.</p>																																				
<p>6. Araştırmacılar tarafından bir göldeki balık çeşidini artırmak amacıyla o göle mavi balık türü eklenmiştir.</p>  <p>Mavi balık türünün kırmızı ve yeşil balıkları besin olarak kullandığı fark edilmiş ve gölde bulunan balık sayısının zamanla değişimi aşağıdaki tabloya kaydedilmiştir.</p> <table border="1" data-bbox="359 1216 746 1317"> <thead> <tr> <th></th> <th>Siyah balık</th> <th>Kırmızı balık</th> <th>Yeşil balık</th> <th>Mavi balık</th> <th>Toplam balık sayısı</th> </tr> </thead> <tbody> <tr> <td>Aralık</td> <td>200</td> <td>350</td> <td>300</td> <td>0</td> <td>850</td> </tr> <tr> <td>Ocak</td> <td>200</td> <td>350</td> <td>300</td> <td>50</td> <td>900</td> </tr> <tr> <td>Şubat</td> <td>180</td> <td>300</td> <td>250</td> <td>200</td> <td>930</td> </tr> <tr> <td>Mart</td> <td>150</td> <td>200</td> <td>100</td> <td>500</td> <td>950</td> </tr> <tr> <td>Nisan</td> <td>120</td> <td>0</td> <td>0</td> <td>950</td> <td>1070</td> </tr> </tbody> </table> <p>(Yalnızca tabloda belirtilen türlerin değişikliğinden etkilenmiştir.)</p> <p>Verilen tablo incelendiğinde,</p> <ol style="list-style-type: none"> Mavi balık göle ocak ayında eklenmiştir. Balık sayısının artması biyoçeşitliliğin arttığını gösterir. İnsan davranışları biyoçeşitliliği etkileyen faktörlerdendir. <p>çıkarımlarından hangileri yapılabilir?</p> <p>A) Yalnız I B) I ve II C) I ve III D) II ve III</p>		Siyah balık	Kırmızı balık	Yeşil balık	Mavi balık	Toplam balık sayısı	Aralık	200	350	300	0	850	Ocak	200	350	300	50	900	Şubat	180	300	250	200	930	Mart	150	200	100	500	950	Nisan	120	0	0	950	1070	<p>The researchers observed the number of fish in the lake by waiting for 5 months to see the results of the process they applied (<i>patience</i>), they fulfilled their duties by recording the change data (<i>responsibility</i>), and two or more people continued the study in cooperation (<i>benevolence</i>) in line with the expression "researchers". The fact that the researchers conducted such research emphasized being productive and hardworking (<i>patriotism</i>).</p>
	Siyah balık	Kırmızı balık	Yeşil balık	Mavi balık	Toplam balık sayısı																																
Aralık	200	350	300	0	850																																
Ocak	200	350	300	50	900																																
Şubat	180	300	250	200	930																																
Mart	150	200	100	500	950																																
Nisan	120	0	0	950	1070																																

Findings Related to the Systems in Our Body Unit

The distribution of the root values identified in 20 skill-based questions in the Systems in Our Body unit is given in the graph below.

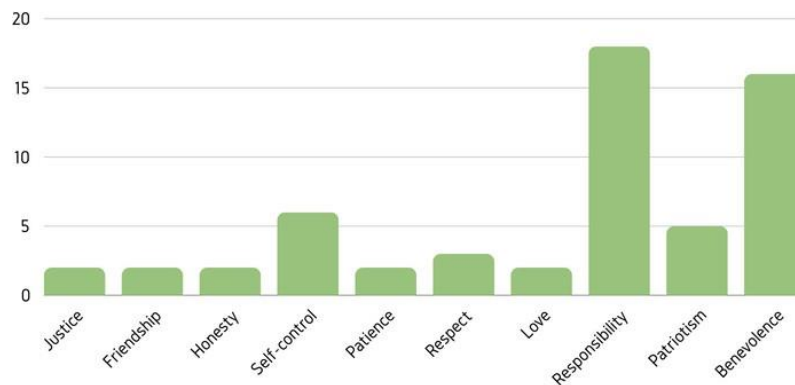



Figure 3. Root Values Identified in Skill-Based Questions in the Systems in Our Body Unit

According to the graph above, the most common root value found in the skill-based questions in the unit was responsibility (f=18), while the least common root values were justice, friendship, honesty, patience, and love (f=2). In addition, self-control (f=6), respect (f=3), patriotism (f=5), and benevolence (f=16) were also included in the questions and a total of 58 root values were found in 20 questions. An example of the association of all root values in skill-based questions in the unit is given in Table 4.

Table 4. Skill-Based Question Sample Associated with Root Values in the Systems in Our Body Unit

Skill-Based Question Sample	Association with Root Value
<p>13. T.C. Sağlık Bakanlığı tarafından geliştirilen e-Nabız, sağlık kuruluşlarından toplanan sağlık verilerine vatandaşların ve sağlık profesyonellerinin internet ve mobil cihazlar üzerinden erişebilecekleri bir uygulamadır. Uygulamada tıbbi özgeçmişle ilgili birçok verinin yanında Türk Kızılayı'na ait kan bağışi noktaları, kan bağışi geçmişi ve ne zaman kan bağışi yapılabileceğine ait bilgilere de ulaşılabilir. Ayrıca e-Nabız üzerinden gönüllü kan bağışçısı olduğunuzda belirlemiş olduğunuz il ve ilçelerde acil kan ihtiyacı olması halinde Türk Kızılayı sizinle mesaj yoluyla iletişime geçebilmektedir.</p>  <p>Buna göre, aşağıdakilerden hangisi e-Nabız uygulamasının sağlayacağı avantajlardan biri olamaz?</p> <p>A) Kan bağışi işlemlerinin ihtiyaca göre ve sistematik yapılmasını sağlar. B) Bağışlanan kanın hasta bireye ulaştırılmasıyla toplumsal dayanışmaya katkı sağlar. C) Kan bağışi noktalarının sistem üzerinden görüntülenebilmesi bağışi sürecinin hızlanmasını sağlar. D) Tıbbi özgeçmişleri de görüntüleyebildiğinden hiçbir tetkike gerek kalmadan bireylerin kan bağışi yapabilmesini sağlar.</p>	<p>The Red Crescent's direct operation as a charity organization through e-Nabız and the emphasis on blood donation; being sensitive to the problems and needs of others and volunteering activities (<i>benevolence</i>); caring for society and being a participant (<i>patriotism</i>); altruism, solidarity and caring for all living beings (<i>friendship</i>); valuing all living beings regardless of religion, language, race, and gender and sensitivity to the right to life (<i>justice</i>); taking care of one's own health at the same time as giving blood (<i>self-control</i>); empathy and being able to endure the difficulties and hardships encountered while donating blood and knowing how to wait (<i>patience</i>); compassion and social peace (<i>love</i>); valuing oneself and all living beings (<i>respect</i>); striving for the well-being and welfare of others and being responsible towards others (<i>responsibility</i>); and feeling conscientious responsibility for one's actions (<i>honesty</i>).</p>

Findings Related to the Systems in Our Body and Health Unit

The distribution of the root values identified in 21 skill-based questions in the Systems in Our Body and Health unit is given in the graph below.

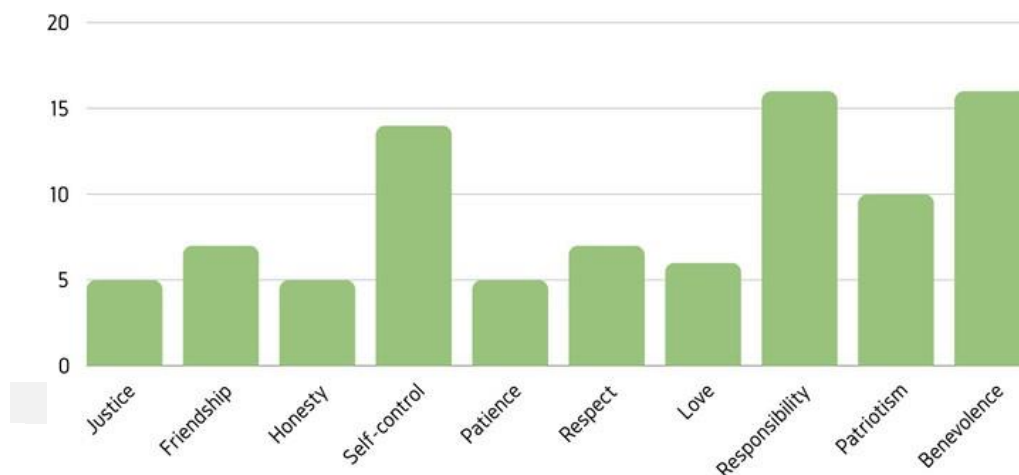



Figure 4. Root Values Identified in Skill-Based Questions in the Systems in Our Body and Health Unit

According to the graph above, the most common root values found in the skill-based questions in the unit were responsibility and benevolence (f=16), while the least common root values were justice, honesty, and patience (f=5). In addition, friendship (f=7), self-control (f=14), respect (f=7), love (f=6), and patriotism (f=10) were also included in the questions and a total of 91 root values were found in 21 questions. An example of the association of all root values in skill-based questions in the unit is given in Table 5.

Table 5. Skill-Based Question Sample Associated with Root Values in the Systems in Our Body and Health Unit

Skill-Based Question Sample	Association with Root Value
<p>21. Türkiye’de yapılan son araştırmalara göre organ bağışı ile ilgili veriler aşağıdaki gibidir.</p>  <p>Bu tabloya göre aşağıdaki çıkarımlardan hangisi kesinlikle doğrudur?</p> <p>A) En az nakli beklenen organ akciğerdir. B) Türkiye’de pankreas nakli yapılamamaktadır. C) Böbrek nakli bekleyen hastalar çoğunluktadır. D) Organ bağışına en fazla ihtiyacı olan il İzmir’dir.</p>	<p>In the explanations and data related to organ donation, it is seen that being sensitive to the right to life of all living beings (<i>justice</i>); being caring and altruistic (<i>friendship</i>); feeling conscientious responsibility for one's actions (<i>honesty</i>); being conscious in one's actions and words (<i>self-control</i>); being persevering, enduring hardships and difficulties, knowing how to wait, being hopeful and empathizing (<i>patience</i>); valuing all people (<i>respect</i>); ensuring social peace, being supportive, sensitive, caring and compassionate towards all living beings (<i>love</i>); striving for the well-being and welfare of others, being responsible towards all people (<i>responsibility</i>); caring for society (<i>patriotism</i>); solidarity, trying to be useful to people, being sensitive to the problems and needs of others (<i>benevolence</i>).</p>

Findings Related to the Cell and Divisions Unit

The distribution of the root values identified in 20 skill-based questions in the Cell and Divisions unit is given in the graph below.

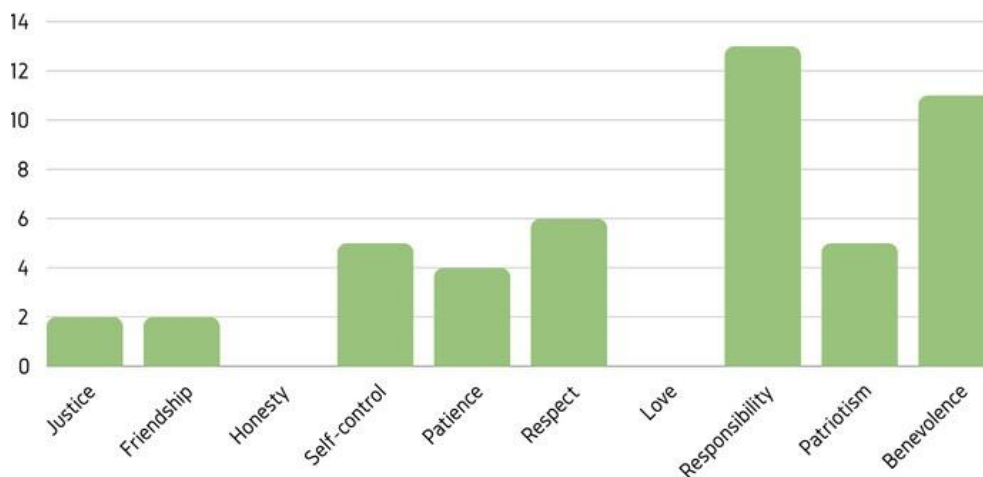


Figure 5. Root Values Identified in Skill-Based Questions in Cell and Divisions Unit

According to the graph, the most common root value found in the skill-based questions in the unit was responsibility (f=13), while the least common root values were justice and friendship (f=2).

(f=2). In addition, self-control (f=5), patience (f=4), respect (f=6), patriotism (f=5), and benevolence (f=11) were also included in the questions, but honesty and love were not included. A total of 48 root values were found in 20 questions. Examples of the association of the most and least common root values in the skill-based questions in the unit are given in Table 6.

Table 6. Examples of Skill-Based Questions Associated with Root Values in Cell and Divisions Unit

Skill-Based Question Sample	Association with Root Value
<p>14. Mehmet ve Demet üzerinde mayoz ve mitoz bölünmenin özelliklerinin yazılı olduğu pulları eşit olarak paylaşmış aşağıdaki oyunu oynamaktadırlar. Oyunun amacı şekilde gösterilen örneklerde olduğu gibi aynı bölünme çeşidine ait özelliklerin yazılı olduğu pulları yatay, dikey ya da çapraz olarak aynı doğrultu oluşturmalarını sağlayıp oyunu kazanmaktır. Aşağıda oyunun belli bir anındaki durumu gösterilmiştir.</p> <p>Buna göre, hamle sırası gelen oyuncuyla ilgili aşağıdaki ifadelerden hangisi kesinlikle doğrudur?</p> <p>A) Mehmet kalan herhangi bir pullunu 1. hazneye bıraktığı zaman oyunu kazanır. B) Demet kalan herhangi bir pullunu 2. hazneye bıraktığında oyunu kazanır. C) Mehmet kalan herhangi bir pullunu 3. hazneye bıraktığı zaman oyunu kazanır. D) Demet kalan herhangi bir pullunu 4. hazneye bıraktığında oyunu kazanır.</p>	<p>Mehmet and Demet's playing together emphasizes friendship and caring for each other (<i>friendship</i>), sharing the stamps equally emphasizes equality (<i>justice</i>), the desire to reach the goal of the game emphasizes setting goals and making decisions by thinking about the consequences of their behaviors (<i>self-control</i>), and the expression of hereditary diversity emphasizes valuing differences (<i>respect</i>).</p>
<p>3. Lizozom, sindirim enzimleri içeren ve bulunduğu hücredeki organellerin geri dönüşüm tesisi olarak görev yapan bir organeldir. Lizozom, alyuvarlar hariç bütün hayvansal hücrelerde ve sıvı ortamda yaşayan tek hücreli canlılarda bulunur.</p> <p>Yukarıdaki şekilde akyuvar hücrelerinde bir mikroskobik canlının lizozomla etkisiz hâle getirilmesi gösterilmektedir. Buna göre lizozomlar doğru şekilde çalışmazsa,</p> <p>I. Hücrenin ölümü II. Daha hızlı büyüme III. Hastalıkların yayılması IV. İstenmeyen maddelerin birikimi</p> <p>durumlarından hangileri gerçekleşebilir?</p> <p>A) I ve II B) I ve IV C) I, III ve IV D) II, III ve IV</p>	<p>Descriptions of the lysosome emphasize fulfilling one's duty (<i>responsibility</i>) and the work of the organelles in the cell as a recycling plant emphasizes providing support (<i>benevolence</i>).</p>

Findings Related to the Reproduction, Growth, and Development in Living Things Unit

The distribution of the root values identified in 23 skill-based questions in the unit on Reproduction, Growth, and Development in Living Things is given in the graph below.

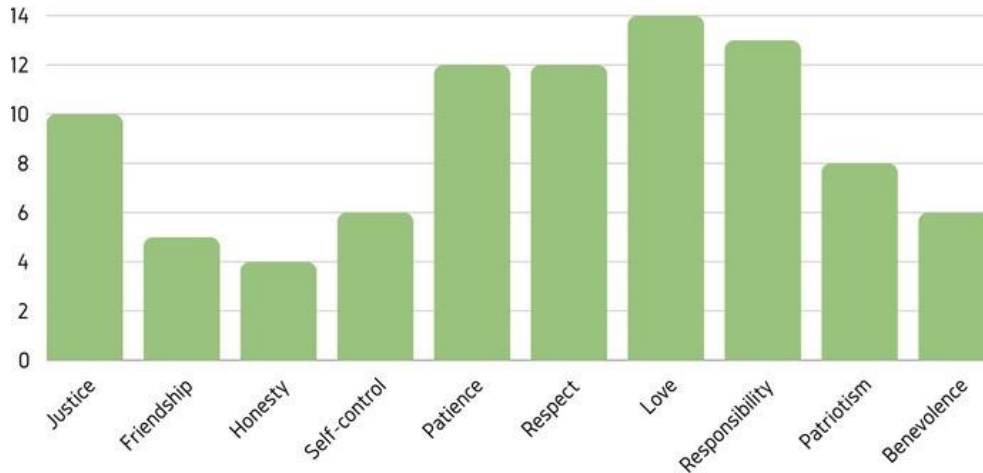



Figure 6. Root Values Identified in Skill-Based Questions in the Unit of Reproduction, Growth, and Development in Living Things

According to the graph above, the most frequently found root value in the skill-based questions in the unit was love ($f=14$), while the least frequently found root value was honesty ($f=4$). In addition, justice ($f=10$), friendship ($f=5$), self-control ($f=6$), patience ($f=12$), respect ($f=12$), responsibility ($f=13$), patriotism ($f=8$), and benevolence ($f=6$) were also included in the questions and a total of 90 root values were found in 23 questions. An example of the association of the most and least common root values in the skill-based questions in the unit is given in Table 7.

Table 7. Skill-Based Question Sample Associated with Root Values in the Unit of Reproduction, Growth, and Development in Living Things

Skill-Based Question Sample	Association with Root Value
<p>22. Ayşe'nin annesi bakımını üstlenmesi için Ayşe'ye bir bitki almış, bitkinin özellikleri ve bakımıyla ilgili bilgileri içeren bilgi kartını da vermiştir.</p>  <p>Türkçe ismi: Gözyaşı Çiçeği Bakımı: Havadar ve güneşli yerleri sever. Kaktüs toprakları gelişimi için daha uygundur. Toprak tamamen kuruduktan sonra sulanmalıdır. Üremesi: Yapraklarındaki küçük filizler toprağa düştüğünde, yaprak ve dalından parçalar toprağa düştüğünde veya çiçeklerindeki tohumlar ile üreyebilmektedir.</p> <p>Bitki ile ilgili yapılan yorumlardan hangisi yanlıştır?</p> <p>A) Çiçek açıp tohum üretmesi eşeyli üreme yaptığını kanıtlar. B) Dallarıyla yeni bitki oluşması vejetatif üremeye örnektir. C) Yapraklarında küçük filizlerin oluşması tomurcuklanmaya örnektir. D) Meydana gelen eşeysiz üreme çeşidi menekşe bitkisinde de görülmektedir.</p>	<p>Information about her mother buying a plant for Ayşe, Ayşe taking care of a plant, and the care and reproduction of the teardrop flower; being sensitive to the rights of all living things (<i>justice</i>); caring for each other, protection of nature and living creatures, and compassion (<i>friendship</i>); feeling conscientious responsibility for one's actions (<i>honesty</i>); being conscious of one's actions and taking responsibility for one's actions (<i>self-control</i>); being determined and persevering as the care process requires effort (<i>patience</i>); valuing all living things (<i>respect</i>); protecting and caring for nature and its inhabitants (<i>love</i>); being responsible for all living things and taking responsibility for the consequences of one's actions (<i>responsibility</i>).</p>

Accordingly, when the findings of the study are considered in general, it can be stated that the 124 skill-based questions examined in detail in the subject area of Living Things and Life in the Science course contain a total of 430 root values, including justice (f=34), friendship (f=25), honesty (f=14), self-control (f=42), patience (f=33), respect (f=51), love (f=31), responsibility (f=87), patriotism (f=57) and benevolence (f=56).

RESULTS, DISCUSSION, and SUGGESTIONS

In the study, the skill-based questions in the subject area of "Living Things and Life" at the 5th, 6th, and 7th grade levels of the science course were analyzed under 6 unit titles in terms of root values. As a result, the unit with the highest number of root values was Systems in Our Body and Health, while the unit with the lowest number of root values was Cell and Divisions. The other units are listed as Reproduction, Growth, and Development in Living Things; Human and Environment; Systems in Our Body; and World of Living Things from most to least according to their root value content.

When the units in the subject area of Living Things and Life are examined within themselves, it is seen that in the World of Living Things unit, the root values of patriotism and honesty are the most and the least; in the Human and Environment unit, the root values of responsibility and patriotism, honesty and patience are the most; in the Systems in Our Body unit, the root values of responsibility and justice, friendship, honesty, patience, and love are the most and the least; In the Systems in Our Body and Health unit, most responsibility and benevolence, least justice, honesty, and patience root values; in the Cell and Divisions unit, most responsibility, least justice and friendship root values; in the Reproduction, Growth and Development in Living Things unit, most responsibility and least honesty root values. In addition, it was determined that the root values of honesty and love were not included at all in the Cell and Divisions unit.

When the skill-based questions in the subject area of Living Things and Life were analyzed based on units, it was seen that there was not a balanced distribution in terms of root values and while the root value of responsibility was given the most space, the root value of honesty was not given enough space. Apart from these, it was concluded that patriotism, benevolence, respect, self-control, justice, patience, love, and friendship were the root values identified from most to least.

Özdemir (2023) and Yılmaz and Yıldırım (2023) concluded in their studies that the subject area containing the highest number of root values among the subject areas of the science course was Living Things and Life. For this reason, considering these studies, we tried to determine the presence of root values in the units related to this subject area in our study. In the study conducted by Özdemir (2023), in which science textbooks were examined, it was stated that there was almost no place for root values in the measurement and evaluation sections of the textbooks, and in general, the value of responsibility and honesty were given the most and least place, respectively, and the value of justice was not included, and the distribution was not equal. Similarly, in the study conducted by Yılmaz and Yıldırım (2023), in which science textbooks and curriculum objectives were examined, the results showed that responsibility value and honesty value were mostly included in the textbooks and least in the curriculum objectives, while responsibility value was mostly included in the objectives, honesty value was not included at all, and the distribution of root values to grade levels and subject areas was not equal. The studies conducted by Ekizce (2023) and Alabay, Can, Kandemir, and Güney (2018) by examining science journals also support the results of this study.

In terms of measurement and evaluation, it was concluded that root values were included in skill-based questions, although there was not a balanced distribution in our study. Teachers are responsible for helping students acquire the implicitly given root values. For this reason, it is important that teachers have knowledge and experience about the acquisition of root values.

In the study of Gündüz and Bağcı (2019), in which the opinions of science teachers on root values were taken, teachers expressed positive opinions about the integration of values education into their lessons and stated that the most important root value desired to be given to students and

associated with the achievements was responsibility. Similarly, in another study in which the views of secondary school teachers and academics on root values were taken, Erbaş et al. (2022) found that the majority of academics did not know the root values, whereas secondary school teachers' knowledge of root values was at a good level, but academics, mostly academics, found the programs insufficient in terms of root values. In the study conducted by Topal (2019), teachers stated that values education activities could not be carried out at a sufficient level and that the value of honesty could be partially given to students. Also, it is among the results obtained in Gündüz and Bağcı's (2019) study that teachers cannot perceive the root values in the achievements and have problems associating them. In this context, as a first step in reconciling the metacognitive skills that the science course aims to provide to individuals with values education, it should be ensured that teachers master values education.

In addition, in the 2024 Turkish Century Education Model Science course draft curriculum values are explicitly included in teaching-learning practices by integrating them with other skills and inter-program relationships (MoNE, 2024). It is thought that the fact that values are at the basis of the new program in the following process, our study will guide how values will be used in science in the process of creating textbooks and implementing programs.

Declarations

Conflict of Interest

No potential conflicts of interest were disclosed by the author(s) with respect to the research, authorship, or publication of this article.

Ethics Approval

As this research was conducted using the document analysis method, it is not one of the studies that requires ethics committee approval.

Funding

No specific grant was given to this research by funding organizations in the public, commercial, or not-for-profit sectors.

Research and Publication Ethics Statement

Hereby, we as the authors consciously assure that for the manuscript "Examination of Skill-Based Questions in the Subject Area of the Science Course 'Living Things and Life' in Terms of Root Values" the following is fulfilled:

- This material is the authors' own original work, which has not been previously published elsewhere. Just, this study was presented as an oral presentation of the conference "11th International Başkent Congress On Social, Humanities, Administrative and Educational Sciences, 8-10 February 2024".

- The paper reflects the authors' own research and analysis in a truthful and complete manner.
- The results are appropriately placed in the context of prior and existing research.
- All sources used are properly disclosed.

Contribution Rates of Authors to the Article

The authors provide equal contribution to this work.

REFERENCES

- Abdullatif, H. B., & Kırkkılıç, H. A. (2021). Examination of Yeşim Saygın Armutak's children's novel "the house on the shore of the swamp" in terms of root values. *Journal of Ağrı İbrahim Çeçen University Institute of Social Sciences*, 7(2), 110-128. <https://doi.org/10.31463/aicusbed.987829>
- Aksoy, Y. (2023). Examining the lyrics of the songs listened to by middle school students in terms of values education. *Journal of Ahmet Keleşoğlu Faculty of Education*, 5(3), 679-693. <https://doi.org/10.38151/akef.2023.78>
- Alabay, E., Can, B. H., Kandemir, A. B., Güney, K. (2018). Examining the curious little children's magazine published by TUBITAK in terms of values. *Journal of Values Education*, 16(35), 7-26.

- Albayrak, B. M., & Kartal, A. (2020). Animations in the context of values education: kung fu panda 3 movie review. *Turkish Journal of Education*, 5(2), 268-284.
- Aydın, E. (2021). Examination of seven climate Turkish teaching set textbooks in terms of root values. *Journal of Social Sciences in Theory and Practice*, 5(2), 185-195. <https://doi.org/10.48066/10.48066/kusob.1006260>
- Bulut, K. (2021). Examination of Ayla Kutlu's children's novel 'hello love' in terms of values education and ten root values. *Mehmet Akif Ersoy University Faculty of Education Journal*, 57, 248-272.
- Calp, M., & Kaplan, C. (2021). Investigation of Samed Behrengi's stories named love tale, bir peachi bin peachi, and bald pigeoncinci in terms of root values. *Journal of Values Education*, 19(42), 39-72. <https://doi.org/10.34234/ded.910908>
- Carr, D. (1998). Common and personal values in moral education. *Studies in Philosophy and Education*, 17, 303-312. <https://doi.org/10.1023/A:1005155500923>
- Coşkun Keskin, S., & Akyıldız, M. (2021). Values in Barış Manço songs. *Journal of Values Education*, 19(42), 153-186. <https://doi.org/10.34234/ded.936570>
- Çepni, S., Bacanak, A., & Küçük, M. (2003). Changing values in the aims of science education: science-technology-society. *Journal of Values Education*, 1(4), 7-29.
- Çiçek, S., & Asar, A. (2022). Before and after constructivist approach: root values in middle school Turkish textbooks. *RumeliDE Journal of Language and Literature Studies*, (S11), 312-322. <https://doi.org/10.29000/rumelide.1146606>
- Çimen, B., Solmaz, N., & Biricik, D. R. (2022). Analyzing the leafy children's calendar in terms of values education and ten root values. *PESA International Journal of Social Research*, 8(1), 1-16.
- Değirmenci, Y. (2018). Values in the geography course curriculum. *Journal of History Culture and Art Research*, 7(1), 429-450. doi: <http://dx.doi.org/10.7596/taksad.v7i1.1311>
- Divrik, R., & Aydoğdu, M. Z. (2023). Examination of primary and secondary school mathematics textbooks in terms of root values. *Necatibey Faculty of Education Electronic Journal of Science and Mathematics Education*, 17, 398-430. <https://doi.org/10.17522/balikesirnef.1348469>
- Durhat, G., & Ökten, C. (2020). The relationship of root values with the theme of virtues in middle school Turkish textbooks. *Journal of Mother Tongue Education*, 8(3), 675-693. <https://doi.org/10.16916/aded.678498>
- Ekizce, H. N. (2023). *Investigation of the root values in science children's magazines according to the gains in the science teaching program* (Thesis No. 821902) [Master's thesis, Eskişehir Osmangazi University]. YÖK Thesis Center.
- Erbaş, S., Kılcan, B., Yel, Ü., Yaylacı Kılıç, Z., et al. (2022). The views of teacher training academicians and secondary school teachers on core values: a qualitative study. *Journal of Ahmet Keleşoğlu Faculty of Education*, 4(2), 360-375.
- Ersoy, E. (2018). Values and value research in sociology. *International Journal of Social Research*, 11(56), 356-366. <https://doi.org/10.17719/jjsr.20185639009>
- Esemen, A. (2020). Evaluation of the relationship between life science curriculum outcomes and root values. *Maarif Mektepleri International Journal of Educational Sciences*, 4(1), 16-29. <https://doi.org/10.46762/mamulebd.741720>
- Geçgel, H., & Durak, E. (2020). Analyzing the work *Güliver's Travels* in terms of values education. *RumeliDE Journal of Language and Literature Studies*, 19, 204-219. <https://doi.org/10.29000/rumelide.752277>
- Gökalp, N. (2014). The value of being a person and the place of values in being a person. *Journal of Values Education*, 12(27), 123-134.
- Gökçe Tekin, Ö. & Bedir, G. (2019). Character education analysis of achievements in secondary school curricula. *Journal of Values Education*, 17(38), 139-169. <https://doi.org/10.34234/ded.492505>

- Gündüz, M. (2018). Value-oriented analysis of the index of the Holy Qur'an. *Journal of Values Education*, 16(35), 159-182.
- Gündüz, M., & Bağcı, M. (2019). Science teachers' awareness of root values and their methods of teaching values. *International Journal of Social Sciences Education*, 5(2), 184-197.
- Güngör, E. (2010). *Research on the Psychology of Values*. Ötüken Publications, Istanbul.
- Hakkoymaz, S. (2021). Investigation of the root values in animated films released in Turkey between 2015-2020. *Neveşehir Hacı Bektaş Veli University SBE Journal*, 11(4), 1717-1731. <https://doi.org/10.30783/nevsosbilen.914920>
- Holmes, M. (1976). Moral education- What can schools do?. *Interchange*, 7, 1-10. <https://doi.org/10.1007/BF02145249>
- Kaplan, H., & Peker, S. (2022). Uzbek fairy tales in terms of root values. *Journal of Ahmet Keleşoğlu Faculty of Education*, 4(2), 426-444.
- Kaplan, K., & Aric, Ş. (2022). Osman Çeviksoy's novels in terms of root values. *International Journal of Turkish Literature Culture Education (TEKE)*, 11(4), 1531-1546.
- Kara, M., & Emirhan, T. (2020). Children's songs in music lesson books in terms of values education. *Ondokuz Mayıs University Journal of Education Faculty*, 39(2), 153-178. <https://doi.org/10.7822/omuefd.742422>
- Karagözoğlu, N. (2020). Examining the lyrics of the songs listened to by primary school 4th grade students in terms of values education. *Journal of Eurasian Social and Economic Research*, 7(8), 56-78.
- Karasu Avcı, E., & Ketenoğlu Kayabaşı, Z. E. (2018). Content analysis of values in the objectives of life science curricula (1936-2018). *Journal of Values Education*, 16(35), 27-56.
- Kav, A., & Kav, C. (2023). Examination of open education middle school Turkish textbooks in terms of root values. *RumeliDE Journal of Language and Literature Studies*, 35, 232-249. <https://doi.org/10.29000/rumelide.1346202>
- Kaya, M., & Gül, B. (2023). Analyzing children's books named Adam Blade's monster chasing in terms of ten root values. *Trakya Education Journal*, 13(2), 1234-1258. <https://doi.org/10.24315/tred.1133403>
- Kaymak, N., & Öğretir Özçelik, A. D. (2020). A review on universal values: vikings cartoon example. *Atatürk University Kazım Karabekir Education Faculty Journal*, 41, 26-43. <https://doi.org/10.33418/ataunikkefd.733890>
- Kemiksiz, Ö. (2021a). "Root values" in the texts on the theme of "virtues" in secondary school Turkish textbooks. *Kahramanmaraş Sütçü İmam University Journal of Social Sciences*, 18(3), 1602-1627. <https://doi.org/10.33437/ksusbd.727783>
- Kemiksiz, Ö. (2021b). Turkish proverbs in terms of root values. *Kırıkkale University Journal of Social Sciences*, 11(2), 495-518.
- Kıymaz, M. S., & Altay, E. (2021). An analysis of Behiç Ak's children's novel named notes of a rabbit-toothed observer in terms of root values. *Eurasian Journal of Language Education and Research*, 5(2), 27-61.
- Korkutan, K., & Kaplan, K. (2022). Examination of the children's novel named Çocuk kalbi in terms of the root values in the Turkish lesson curriculum. *Gaziantep University Journal of Social Sciences*, 21(1), 545-563. <https://doi.org/10.21547/jss.1013898>
- Köksal, K., Yaylacı Kılıç, Z., Yel, Ü., Erbaş, S., & Kılcan, B. (2022). Analyzing social studies textbooks in terms of root values. *Bayterek International Journal of Academic Research*, 5(2), 74-87. <https://doi.org/10.48174/buaad.52.1>
- Kwak, D. J. (2008). Critical thinking, education, and postmodernity: Possibilities and limitations for moral education. *Asia Pacific Education Review*, (9), 127-135. <https://doi.org/10.1007/BF03026493>

- MoNE. (2018). Primary Education Institutions (Primary and Secondary Schools) Science Course (Grades 3, 4, 5, 6, 7 and 8) Curriculum, Ankara.
- MoNE. (2019). *Skill-based questions at 5th, 6th, and 7th grade levels*. General Directorate of Measurement, Assessment and Examination Services: Retrieved from <https://odsgm.meb.gov.tr/www/5-6-ve-7-sinif-duzeylerinde-beceri-temelli-sorular-yayimlanmistir/icerik/491> on 10.11.2023.
- MoNE. (2022). *Activity book with the theme of root values in the curriculum*. General Directorate of Secondary Education: Retrieved from <https://ogm.meb.gov.tr/www/genel-mudurlugumuzce-hazirlanan-degerler-egitimi-etkinlik-kitabi-yayimlandi/icerik/1665> on 10.11.2023.
- MoNE. (2024). *Turkey century maarif model science course new curriculum draft*. Presidency of Board of Education and Discipline: Retrieved from <https://ttkb.meb.gov.tr/www/turkiye-yuzyili-maarif-modeli-yeni-mufredat-taslagi-kamuoyunun-gorusune-acildi/icerik/598> on 7.05.2024.
- Musuloglu, B. N., Celik, B., Sezgin, E., Daltaban, T. (2023). Examining the sugar orange series within the scope of ten root values. *Journal of Education and Society Research*, 10(1), 54-80. <https://doi.org/10.51725/etad.1256396>
- Orhan, M. (2021). The way values are handled in preschool period TÜBİTAK 6 age group popular children's science books. *Korkut Ata Journal of Turkic Studies*, 4, 130-156. <https://doi.org/10.51531/korkutataturkiyat.884525>
- Özbaşı, S. (2020). Examination of Aytül Akal fairy tales within the framework of root values in the Turkish lesson curriculum. *IBAD Journal of Social Sciences*, 8, 178-192. <https://doi.org/10.21733/ibad.715132>
- Özdemir, E. (2023). Analyzing science textbooks in terms of the root values they contain. *Dokuz Eylül University Buca Education Faculty Journal*, 56, 504-528. <https://doi.org/10.53444/deubefd.1211295>
- Özensel, E. (2003). Value as a sociological phenomenon. *Journal of Values Education*, 1(3), 217-240.
- Sayır, M. F. (2022). Root values in works published on migration and immigration. *İçtimaiyat*, 6(Migration and Refugee Special Issue), 556-564. <https://doi.org/10.33709/ictimaiyat.1120288>
- Soyuçok, M. (2022). The origins of root values: a divanü lûgat-it türk review. *Folklore Academy Journal*, 5(1), 101-113. <https://doi.org/10.55666/folklor.1079659>
- Şahin, M., & Yaman, İ. (2023). Investigating the integration of the key values into english language textbooks used in public primary and middle schools. *International Journal of Textbooks and Educational Materials*, 6(1), 41-88. <https://doi.org/10.53046/ijotem.1247024>
- Şan, S., & İlhan, N. (2022). Theoretical and conceptual framework for science course skill-based questions (new generation). *Journal of İnönü University Graduate School of Educational Sciences*, 9(17), 17-36. <https://doi.org/10.29129/inuigse.1089655>
- Şar, M. (2021). Ten root values in traditional Turkish theater: the example of ortaoyunu. *Fikriyat*, 1(2), 105-125.
- Şehitoğlu, M. (2021). An evaluation of the root values in Atebetü'l hakayık. *Mustafa Kemal University Journal of Faculty of Education*, 5(8), 69-84.
- Şentürk, Ş., & Keskin, A. (2019). Evaluation of Rafadan Tayfa cartoon movie in terms of national and universal values. *Eskişehir Osmangazi University Journal of Social Sciences*, 20, 143-157. <https://doi.org/10.17494/ogusbd.548307>
- Tarakcı, R., & Kalenderoğlu, İ. (2022). Narrative texts in middle school Turkish textbooks in terms of root values. *Journal of Education and New Approaches*, 5(1), 139-157. <https://doi.org/10.52974/jena.1133254>
- Tay, B., & Nalçacı, A. (2020). Values in our National Anthem. *Journal of Values Education*, 18(40), 243-275. <https://doi.org/10.34234/ded.753516>

- Tekin Bahrilli, C., & Göloğlu Demir, C. (2021). Examining the children's magazine "Sevgi bir kuş" in terms of values. *Cumhuriyet International Journal of Education*, 10(2), 738-761. <https://doi.org/10.30703/cije.755312>
- Topal, Y. (2019). Values education and ten root values. *Blue Atlas*, 7(1), 245-254. <https://doi.org/10.18795/gumusmaviatlas.543521>
- Tozlu, N., & Yüce, B. N. (2020). Analyzing Hamdi Ülker's works in terms of root values. *RumeliDE Journal of Language and Literature Studies*, 21, 575-597. <https://doi.org/10.29000/rumelide.843597>
- Turan, O., & Duman, B. (2023). Analyzing the instructive texts in secondary Turkish language and literature textbooks in the context of root values. *RumeliDE Journal of Language and Literature Studies*, 35, 265-287. <https://doi.org/10.29000/rumelide.1346206>
- Türkan, Ç. Ç., & Türkan, S. (2018). Values transferred in Mümtaz Zeki Taşkın's theater works. *Journal of Eurasian Social and Economic Research*, 5(10), 49-59.
- Türker, A., DüNDAR, E. & Sözcü, U. (2023). Root values in geography textbooks. *E-International Journal of Educational Research*, 14(4), 90-107. <https://doi.org/10.19160/e-ijer.1278950>
- Ufak, K., & Yorulmaz, B. (2022). Examining Niloya cartoon movie in terms of the values it contains. *Journal of Media and Religion Research*, 5(1), 99-112. <https://doi.org/10.47951/mediad.991146>
- Ünal, O. (2020). Examination of values in Turkish movies. *Anadolu Journal of Educational Sciences International*, 10(2), 910-929. <https://doi.org/10.18039/ajesi.759910>
- Üreyen Çimen, Ö., & Özmantar, M. F. (2023). Investigation of primary school mathematics textbooks in terms of root values. *Journal of Educational Science and Research*, 4(2), 337-371. <https://doi.org/10.54637/ebad.1309397>
- Yazıcı, M. (2016). Values and the place of social values in social structure. *Fırat University Journal of Social Sciences*, 24(1), 209-223. <https://doi.org/10.18069/fusbed.10221>
- Yıldırım, A., & Şimşek, H. (2021). *Qualitative research methods in social sciences*. Ankara: Seçkin Publishing.
- Yıldız, B. (2023). A philosophical examination of the root values in Serhan Kansu's children's books. *Journal of Inonu University Faculty of Education*, 24(2), 1195-1221. <https://doi.org/10.17679/inuefd.1226869>
- Yıldız, H. N. (2023). Examination of children's advertisements in the context of root values. *EKEV Academy Journal*, 94, 141-153. <https://doi.org/10.17753/sosekev.1247214>
- Yılmaz, M., & Duman, T. (2018). The value of "homeland - patriotism" as a national value in TRT Children's Magazine. *Journal of Human and Social Sciences Research*, 7(2), 639-657. <https://doi.org/10.15869/itobiad.394045>
- Yılmaz, Z., & Yıldırım, H. İ. (2023). Research on examining science textbooks in terms of values. *Turkish Journal of Educational Sciences*, 21(2), 933-958. <https://doi.org/10.37217/tebd.1267044>
- Yolasığmazoğlu, H. (2022). Value transfer through cartoon songs: the example of niloya. *Journal of Folklore Academy*, 5(3), 859-871. <https://doi.org/10.55666/folklor.1176963>