

Investigation of the Social Studies Curricula in Turkey (1968-2018) with Regards to the Climate Literacy Principles

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Abstract In Turkey, Social Studies lesson in which the main climate issues are thought has come until today passing through several stages and processes. This study aims to reveal the role of Social Studies curriculum in terms of climate literacy principles. Accordingly, data resources of the study are the curricula that became prominent with their some specific features throughout the period of fifty years (1968-2018). The data were collected by the document analysis technique. The curricula obtained according to criteria determined before were analyzed in terms of climate literacy by the method of content analysis. As a result of the study, it was found that the Social Studies curricula in Turkey are different from each other in terms of climate literacy principles. The secondary school curriculum in 1973 was the one in which the climate literacy principles were mostly emphasized. 19 subtopics in this curriculum were related to the climate literacy principles. In 1998, the curriculum included only 2 subtopics dealing with the issue. With respect to the categories of climate literacy principles, the greatest contribution of the curricula was observed within the dimensions of “variability and change”. However, it was determined that the curricula didn’t provide any contribution to the category of “decision making”.

Keywords Climate Literacy, Social Studies, Climate Literacy Principles, Document Analysis

1. Introduction

Just as all over the world, in Turkey, the Social Studies curricula are very essential for citizenship and democracy education. In the Republic Period, the 1926, 1930, 1936 and 1948 curricula included the subjects of History, Geography and Citizenship according to the approach of

single disciplined program [24]. Social Studies lesson having a significant place in raising efficient citizens in Turkey was first stated in the 1968 Curriculum. In the preceding periods, the topics under the scope of Social Studies were dealt within the lessons of History, Geography, Civics and Country and Society Studies [6]. The Social Studies lesson was annulled by a change made in 1985 and replaced with National History and National Geography. In 1993, the former understanding and system were adopted again. Social Studies kept its place in the program developing studies carried out in 1998 and 2005. Considerable changes were made in the Social Studies curriculum in Turkey with the regulations made in 2005 [11]. In 2017, the Ministry of National Education (MEB) published some draft curricula. As of 2017-2018, the Social Studies curriculum was updated again because of the changes in the individuals’ and society’s needs based on the fast change and development of socio-cultural life, science and technology [29].

All the people as the world citizens, need a developed science and climate literacy (CL) in order to be able to understand the climate changes and the feedbacks of climate system in general [8]. On this basis, it is seen that climate literacy and citizenship education match up with each other in terms of their ultimate goals. As a part of science literacy, climate literacy is very important for citizenship and democracy education. The concept of “climate literacy” requires the people to understand three main issues. These are: a-) climate scientists carry out their studies on the assumption that the climate system of the world is understandable and thus foreseeable, b-) the field of climatology is progressive and cumulative so the efforts of understanding the world’s climate system continue increasingly and c-) climate scientists trust empirical evident that can be enlarged and approved via similar surveys [22].

As climate change will affect the future, the need to equip today’s students and citizens with the knowledge and

skills needed to understand and address climate change is becoming increasingly imperative [12]. Turkey is one of the countries most affected by global climate change due to the geographical conditions and their relations with global weather systems [1]. Therefore it should be revealed clearly, whether there is enough in terms of climate literacy curricula in Turkey. In the educational system, to achieve the desired level in the teaching of geography-related issues in Turkey, it is necessary to organize the curriculum in schools [27]. Climate literacy is a coordinative effort to make people more aware of natural environment and its components and to help them use their knowledge about climate in a more efficient way. As a component of the USA National Weather Service, the concept of climate literacy is accepted as a structural part of a big practical earth sciences program [26]. Encouraging the society to improve its climate literacy is a significant objective of the climate change education [28]. Determination of the basic principles related to climate literacy is considerably essential. Within this framework, many initiatives and efforts led to the specification of climate literacy principles. The initiatives such as The Criteria of Science Literacy [2], Earth Science Literacy [7], Ocean Literacy [23], Atmospheric Literacy [3] and Climate Literacy [30] became effective in forming the principles and main concepts of climate literacy. The main principles and concepts of climate literacy specified in 2009 provided a general frame for the supportive concepts and explanations that the people may need to improve their climate literacy [11]. The main climate literacy principles determined

according to its categories are shown in the following Table 1.

The category of “Life and Climate” comprises the arguments stating that the climate elements affect the life on earth, climate changes affect the ecosystem, social life depends on climate and life on earth affects the climate as well. Forming the technical dimension of climate and suggesting a meteorological approach to the issue, the category of “How do we know?” includes the matters stating that climatic events can be foreseen, weather forecast devices can be developed and climate prediction will be possible in the future. In the category of “The Power Source of the Earth”, it is seen that the Sun is centered with regards to climatic events and the effects of climate. Among the principles of climate, the category of “Complex Interaction” constitutes of the matters related to the complexity of atmospheric events, water cycle and its effects, global warming and the influence of ocean cycle on climate. Emphasizing that the climate and weather condition change according to time and place, the category of “Variability and Change” identifies the concepts of climate, weather condition and season with regards to the principle of variability and suggests that climate change is globally inevitable. Asserting that human activities affect the climate change, the category of “Human Activities” explains the human factors causing global warming. As the last category of climate literacy, “Making Decisions” include the matters related to the general effects of human decisions on climatic events and global climate change [30].

Table 1. The main climate literacy principles

Categories	Main Principles
1. Life and Climate	Life on earth is formed by the climate.
2. How do we know?	We understand the climate system through observations and modeling.
3. The Power Source of the Earth	The Sun is the main energy source of the Earth.
4. Complex Interaction	The weather condition and climate system of the Earth are the results of the complex interaction among soil, oceans, glaciers and atmosphere.
5. Variability and Change	The weather condition and climate of the Earth may change according to time and place.
6. Human Activities	Human activities cause the recent climate changes.
7. Making Decisions	The climate system of the Earth is affected by the complex human decisions consisting of economic costs and social values.

Resource: US Global Change Research Program, 2009.

Social Studies lesson is formed by the integration of human sciences and social sciences in order to provide the attainment of civic competencies. The main purpose of this lesson is to raise good citizens who are aware of their cultural differences and who can make reasonable decisions in a democratic society and an independent world [21]. The concepts of “awareness” and “decision making” coming to the forefront within the mentioned purposes of Social Studies are considerably significant. Today, these concepts are closely related to multiliteracy. Therefore, Social Studies curricula should provide various and efficient opportunities for developing the students’ literacy [32]. This study in which the Social Studies curricula in Turkey were analyzed in terms of climate literacy principles seeks answers to the following questions.

- How does the issue of climate literacy take place in the Social Studies curricula whose content and scope change from time to time?
- Which aspects of the climate literacy principles come to the fore in the Social Studies curricula?
- In what ways do the Social Sciences curricula differ from each other with regards the climate literacy categories?

2. Methods

Since the study aimed to determine an existing situation, it was carried out by a descriptive survey method. Data were obtained by the means of document analysis technique, one of the qualitative researches. Document

analysis is identified as “the analysis of written texts containing information about the fact or facts that are aimed to be searched” [30]. Moreover, this method is described as document survey and used to analyze some kind of written texts such as books, magazines, etc. carrying the traces of the past facts [10].

2.1. Data Sources of the Research

Under the scope of the study’s sub-problems, the Social Studies curricula having been applied until today since 1968 were used as the data sources of the study in order to reveal how the principles of climate literacy took place in them. Data sources are divided into two groups as “public records” and “individual documents” for document analysis [20]. Since the Social Studies curricula were used as the data source in this study, data type depends on the official public records. Besides, most of the documents forming the data sources of the study are based on archival resources. Only the 2005 and 2018 Curricula are considered as internet resources. The acquirements, units, topics, explanations, activities, skills, and values in the Social Studies curricula are the sub-dimensions of the data sources. In Turkey, since a curriculum called as “Social Studies” was first applied in 1968 within a primary school curriculum, the analysis started with the 1968 Curriculum. The curricula of “Civics”, “Citizenship” and “Country and Society Studies” thought before the 1968 Social Studies Curriculum were excluded from the scope of the study. The documents analyzed and the related information are shown in Table 2.

Table 2. Information Related to the Documents Analyzed in the Study

Number	Year	Document Name	Document Feature	Source Information
1	1968	Primary School Curriculum	The first primary school curriculum applied by the name of “Social Studies”. Interdisciplinary approach was adopted. Prepared according to topics and subtopics.	Obtained from the Ministry of National Education (MEB) Archive [12].
2	1970	Secondary School Curriculum	Organized separately according to different disciplines at the secondary school level. Prepared in accordance with topics and subtopics.	Obtained from the Ministry of National Education Archive [13].
3	1973	Secondary School Curriculum	The first secondary school curriculum, which was applied by the name of “Social Studies” and adopted interdisciplinary approach. Organized in accordance with topics and subtopics.	Obtained from the Ministry of National Education Archive [14].
4	1985	National History, National Geography and Citizenship Curriculum	The curriculum at the primary school level in which single disciplined approach was adopted again and the name of “Social Studies” wasn’t used. Organized in accordance with topics and subtopics.	Obtained from the Ministry of National Education Archive [15].
5	1998	Social Studies Lesson Curriculum	The curriculum at the primary school level in which interdisciplinary approach was adopted and the name of “Social Studies” was used. Organized in accordance with topics and subtopics.	Obtained from the Journal of Announcements, dated April 1998 and numbered 62 [16].
6	2005	Social Studies Curriculum	Based on constructivism. Prepared in accordance with the learning domains and attainments.	Obtained from the official website of the Board of Education [17].
7	2018	Social Studies Curriculum	Currently used one within which the 2005 Social Studies Curriculum was updated. Prepared in accordance with the learning domains and attainments.	Obtained from the official website of The Board of Education [18].

3. Findings

The findings of the study in which the climate literacy principles were analyzed in terms of Social Studies curricula are given as follows.

In Table 3, the state of the 1968 Primary School Social Studies Curriculum is presented in terms of climate literacy principles. Accordingly, it is seen that the climate literacy principles were stated in only two different units at the 4th grade level in the 1968 curriculum. Considering these topics, it was found that the climate literacy principles were included under the framework of “our city-our region-our country” in accordance with the proximodistal principle. The topics and subtopics in these units were reflected in the curriculum as “a natural state”. It is seen that these topics match up with two different climate literacy principles. The principles of “variability and change” are related to two different subtopics and the principle of “complex interaction” is associated with one subtopic.

In Table 4, the state of climate literacy principles in the

1970 Secondary School Curriculum is shown. Accordingly, the climate literacy principles took place only in two different units at the 1st and 3rd grades. It was found that the climate literacy topics at both grades were reflected in the curriculum by being handled across Turkey. It is seen that these topics match up with two different climate literacy principles. In this Curriculum, the principle of “variability and change” is related to four different subtopics and the principle of “complex interaction” is associated with only two subtopics. Here, it is understood that climate literacy contributed to the students’ education mostly in terms of “*variability and change*”. This principle was stated in the curriculum with regards to the state of climate elements forming Turkey’s climate (temperature, precipitation and winds) and the distribution of climatic zones in Turkey and in the world. The principle of *complex interaction* was included at the 1st grade within the context of the relations between climate and plants-animals-living beings and at the 3rd grade in terms of the relations between climate and rivers-lakes-plants-animals.

Table 3. The state of climate literacy principles in 1968 Social Studies curriculum

Grade	Unit	Topic	Subtopics	Principles of CL
4	1 st Unit : Our City and Region	Natural State of Our City and Region	1. The Weather Condition of Our City and Region. (Temperature and precipitation of every season-should be analyzed and the concepts related to climate should be attained.)	<i>Variability and Change</i>
	2 nd Unit: Our Turkey	Natural State of Our Country	1. Floods, earthquakes and erosions in our country. 2. Climate. (Turkey’s climate and climatic zones should be introduced by concentrating on especially the seasons of winter and summer in terms of only temperature and precipitation.)	<i>Complex Interaction</i> <i>Variability and Change</i>

Table 4. The state of climate literacy principles in the 1970 Social Studies Curriculum

Grade	Topic	Subtopics	Principles of CL
1	The Climate of Turkey	1. The distribution of temperature in Turkey and its factors. Parallel and latitude, Equator, tropics, polar circles and polar points. 2. The Winds in Turkey, the distribution of winds on the earth, the influences of winds on land forms. 3. Precipitation in Turkey, the distribution of precipitation on the earth. 4. The climate and climatic zones in Turkey and on the earth. 5. The distribution of plants and animals in Turkey and on the earth and strong dependence between climate and living beings.	<i>Variability and Change</i> <i>Complex Interaction</i>
3	General Approach to Turkey	1. The climate, rivers, lakes, plants and animals of Turkey.	<i>Complex Interaction</i>

Table 5. The State of Climate Literacy Principles in the 1973 Social Studies Curriculum

Grade	Unit	Topic	Subtopics	Principles of CL			
1	<u>2nd Unit:</u> What kind of a place are our village, city and town located in?	In terms of Climate	1. The daily course of temperature where we are (Introduction to weather and observations) and its reasons, analysis of the observations made in the past years (if available), evaluation of the observations made in our meteorological stations; measurement of weather temperature.	<i>How do we know?</i>			
			2. Calculation of the temperature averages on daily, monthly and annual basis. The coldest and hottest months of the year. Annual temperature differences and seasons.	<i>Variability and Change</i>			
			3. The effects of temperature changes on animals and plants.	<i>Life and Climate</i>			
			4. How and why the seasons change, what is the heat source of the earth, the change in the incidence angles of the sun rays throughout the year and its effects on the temperature of the weather and the earth, (observation of the changes in the sunrise and sunset points at regular intervals), diurnal and annual motions of the world and their results.	<i>The Power Source of the World</i>			
			5. Winds. How does a wind occur? Cool, hot, moist and dry winds. The winds bringing cloud and rain. What is a cloud, how does it form? (According to the observation at school or at the meteorological station-if available)	<i>Variability and Change</i>			
			6. Precipitation: Rain, dew, hail, snow and hoar frost. How is precipitation rate measured? Monthly and annual distribution of precipitation in our surroundings. The months and seasons with the highest and lowest precipitation rates (according to the observations)				
			7. What is climate? The climatic characteristics of our surroundings. Other types of climate (to be dealt with during the analysis of the regions and countries).				
			8. The view of the gardens, forests and prairies in four seasons.		<i>Life and Climate</i>		
						9. Vegetation: steppe, moorland, maquis, forest. Major plants forming these communities. The closest forests. How do we make use of the forests? Production preservation of the economically valuable plants. The importance and value of the forests.	<i>Complex Interaction</i>
					10. Water: The wells and cisterns in our surrounding environment. Spring water. The places where rivers rise and flow into. Floods, spates, erosion.		
		Central Anatolia Region	1. The reasons for the scarcity of trees (deforestation) in the region (annual precipitation seasonal distribution) and its results, the efforts and opportunities for afforestation.	<i>Variability and Change</i>			
		Marmara Region	1. Climatic Characteristics				
		Western Black Sea	1. Climate Conditions.				
		Eastern Anatolia Region	1. Summer rain and long winter				
		Mediterranean Region	1. Hot climate fruits.		<i>Complex Interaction</i>		
		Overall Turkey	1. The climate of Turkey and the effects of mountain ranges and uplands on the climate; climatic differences between the hinterlands and coastlands, the effects of climate on natural plants and agriculture.	<i>Life and Climate</i>			
		Prehistoric Anatolia	1. Living conditions in the Paleolithic Age (...cool climate, glaciers on the mountains; larger forests...)				
3	<u>8th Unit:</u> Power Sources in Turkey	Water Power	1. The climate conditions and our rivers' regimes.	<i>Complex Interaction</i>			
		Wind Power	1. Windmills, Windsocks...				

The state of climate literacy principles in the 1973 Social Studies Curriculum is shown in Table 5. Accordingly, four different units at the 1st and 3rd grades included the principles. It is understood that three of those units are related to *Geography* and one of them is about *history*. The topics of climate literacy are dealt with under the framework of proximodistal principle (village-town-city-region-country) in the units about Geography. Moreover, in this Curriculum, the climate literacy principles were dealt with in terms of teaching energy topics. In the unit related to History, the topic of climate was stated in association with the living conditions in prehistoric Anatolia. Among the Social Studies curricula in Turkey, it was the 1973 Secondary School Curriculum that made the greatest contribution in terms of climate literacy principles with 19 subtopics. In this curriculum, five different climate literacy principles took place. It was revealed that the 1973 Secondary School Curriculum provided the maximum contribution with regards to the principles of *variability and change* (7 subtopics), *complex interaction* (6 subtopics), *life and climate* (4 subtopics). However, considering the principles of *the power source of the earth* (1 subtopic) and *how do we know?* (1 subtopic), this contribution was at the minimum level.

A multidisciplinary approach was adopted in 1985 when the Social Studies curriculum was replaced with the curricula of “National History”, “National Geography” and “Citizenship”. Therefore, in this program, the climate literacy topics were stated within the curriculum of “National Geography”. It was found that other lessons do

not involve the climate literacy principles. The state of climate literacy principles in the 1985 Secondary School Curriculum is shown in Table 6.

According to Table 6, it is clearly seen that the climate literacy principles are stated only at the first grade of the secondary school in two different units. In this curriculum, the topics related to the climate literacy principles were dealt in terms of physical and human geography and countries’ geography. With regards to countries’ geography, only Asia and Europe continents were mentioned. Here, it is really remarkable to see how climate literacy principles are associated with the topic of *human geography*. Finally, it was found that the 1985 Secondary School Curriculum made the most extensive contribution to the climate literacy of the students in terms of the principles of *variability and change* (3 subtopics) and the least in terms of *life and climate* (1 subtopic).

In 1998, multidisciplinary approach was adopted again in social studies teaching. Accordingly, the state of climate literacy principles in the 1998 Social Studies Curriculum is shown in Table 7. Within this context, it is seen that those principles took place in two different units at the 4th and 5th grades. In this curriculum, the climate literacy principles were dealt in terms of the city-region-country where lived under the framework of proximodistal principle. The curriculum contributed to the climate literacy of the students mostly with regards to *variability and change* (2 subtopics). It is understood that other climate literacy principles were not included in the curriculum at the degree of topics and subtopics.

Table 6. The State of Climate Literacy Principles in the 1985 National Geography Curriculum

Grade	Unit	Topic	Subtopics	Principles of CL
1	2 nd Unit: Turkish People in the World and on the Earth	Asia	1. Climate, rivers and vegetation	<i>Variability and Change</i>
		Europe	1. Climate, rivers and vegetation.	
	3 rd Unit: Our Turkey	General Approach to Turkey The Conditions Effecting Turkey’s Economy	1. Climatic Zones 1. Climate	<i>Life and Climate</i>

Table 7. The State of Climate Literacy Principles in the 1998 Social Studies Curriculum

Grade	Unit	Topic	Subtopics	Principles of CL
4	3 rd Unit: Let’s Know Our City and Region	Natural Features of our City and Region	1.The Climate and Natural Vegetation In Our City and Region	<i>Variability and Change</i>
5	3 rd Unit: Our Beautiful Country Turkey	Natural State of Our Country	1. Climate and its circle	

The Social Studies Curriculum was updated with fundamental changes on the basis of constructivism in 2005. The climate literacy principles were presented in the 2005 Curriculum within the frame of “learning domains”, “topics” and “attainments”. The state of climate literacy principles in this Curriculum is shown in Table 8. Accordingly, these principles were stated within four different units at all grades. When evaluated in terms of learning domains, it is seen that the climate literacy principles took place within two different learning domains (*People, Places and Environments and Global Contacts*). In this curriculum, the climate literacy competencies were included within 3 attainments at the 5th and 6th grades and two attainments at the 4th and 7th grades. It can be deduced that the 2005 Curriculum contributed to the climate literacy of the students in terms of five different categories. Within this context, it was determined that the 2005 Curriculum contributed to the climate literacy of the students mostly in terms of *human activities* (5 attainments) and *life and climate* (2 attainments). As in the former curriculums, the 2005 primary school Social Studies Curriculum gave place

to the climate literacy principles within the frame of proximodistal principle.

The state of climate literacy principles in the 2018 Social Studies Curriculum is shown in Table 9. Accordingly, it was found that the climate literacy principles were included within two different learning domains at the 6th and 7th grades in this curriculum. When considered in terms of learning domains, as in the 2005 Curriculum, these principles took place within the domains of “People, Places and Environments” and “Global Contacts” in the 2018 Curriculum. The climate literacy competencies were stated in the curriculum within three attainments at the 5th grade, two at the 6th and one at the 5th. It is seen that the 2018 Curriculum contributed to the climate literacy of the students in three different categories. Within this context, it was revealed that that the curriculum contributed mostly in terms of “*human activities*” (3 attainments) and “*life and climate*” (2 attainments). In the category of *Variability and Change*, only one of the principles was included. In this curriculum, the climate literacy principles were dealt mostly with regards to “natural disasters”.

Table 8. State of Climate Literacy Principles in the 2005 Social Studies Curriculum

Grade	Learning Domain	Unit	Attainments	Principles of CL
4	People, Places and Environments	The Place We Live	1. He/she can transfer his/her observations on the weather events in the surroundings into pictures and graphics.	<i>How do we Know?</i>
			2. He/she can be ready for the natural disasters.	<i>Human Resources</i>
5	People, Places and Environments	Let's Know Our Region	1. He/she can explain the influences of the climate in the place where he/she lives on human activities by giving examples from his/her daily life.	<i>Life and Climate</i>
			2. He/she can exemplify the effects of natural disasters on social life on the basis of the oral and written elements of our culture.	<i>Human Resources</i>
			3. He/she is aware of the human activities increasing the damages of the natural disasters in the region where he/she lives.	
6	People, Places and Environments	Life on the Earth	1. He/she can make inferences from different natural environments in the world about the climatic features on the basis of human experiences.	<i>Life and Climate</i>
			2. He/she can make inferences from the maps and visual materials about the features of climate types in Turkey.	<i>Variability and Change</i>
			3. He/she can explain the roles of Turkey's location and geographical formations in the distribution of climate types by the help of the maps and visual materials.	<i>Complex Interaction</i>
7	Global Contacts	Intercountry Bridges	1. He/she can associate the global problems with the founding purposes of the international organizations.	<i>Human Activities</i>
			2. He/she is aware of his/her individual responsibility in realizing the solutions of the global problems.	

Table 9. The State of Climate Literacy Principles in the 2018 Social Studies Curriculum

Grade	Learning Field	Unit	Attainments	Principles of CL
5	People, Places and Environments	The Effects of Climate on Human Activities	1. He can explain the effects of the climate in the surrounding environment on human activities with examples from his/her daily life.	<i>Life and Climate</i>
		Disasters and Environmental Problems	2. He/she can question the reasons of the environmental problems and disasters in the place where he/she lives.	<i>Human Activities</i>
		The Effects of Natural Disasters on Our Life	3. He/she can explain the effects of natural disasters on social life with examples.	
6	People, Places and Environments	The Beauties of Our Country in The Map	1. He/she can examine the geographical formations, climatic characteristics and vegetation of Turkey on the maps.	<i>Variability and Change</i>
		Who Live in Our Surroundings?	2. He/she can make inferences about the climatic characteristics by examining the human experiences in different environments of the world.	<i>Life and Climate</i>
7	Global Contacts	I am Solving the Global Problems	1. He/she can develop ideas for the solution of the global problems with his/her friends.	<i>Human Activities</i>

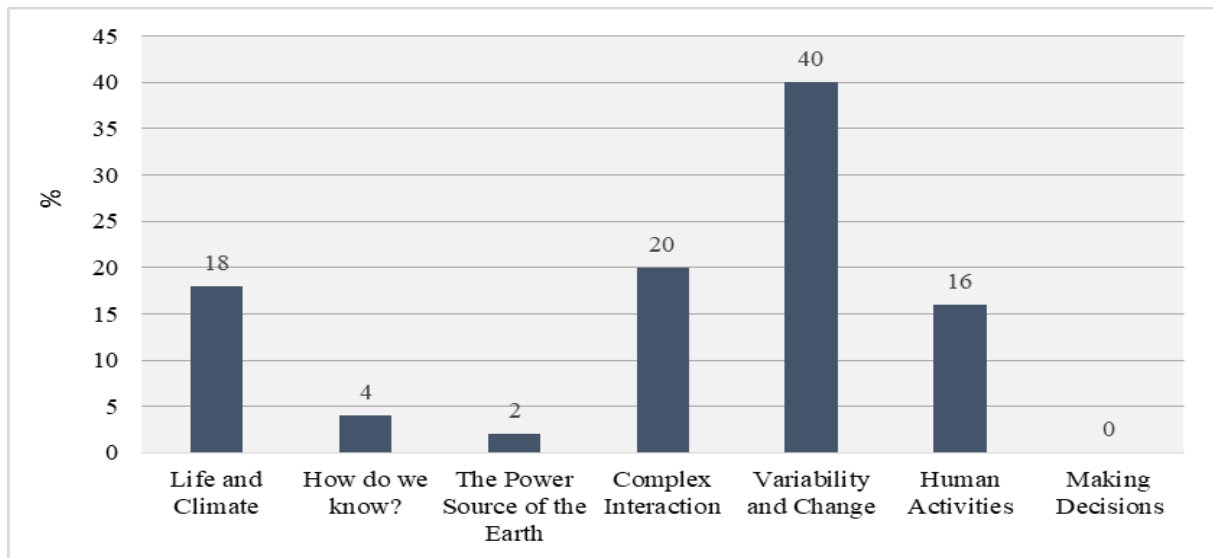


Figure 1. The state of Climate Literacy Principles in the Social Studies Curricula

With respect to the climate literacy principles, there is not a balanced and stable distribution among the Social Studies curriculums. It was determined that some categories of the principles were more remarkable in certain curriculums. The distribution of categories of climate literacy principles in Social Studies curriculums is shown in Figure 1.

When Figure 1 is examined, it can be stated that mostly the categories of “variability and change” (40%), “complex interaction” (20%) and “human activities” (16%) were stated in the Social Studies curriculums. However the categories of “the power source of the Earth” (2%) and “How do we know?” (4%) were the least dealt ones in the curriculums.

4. Discussion and Conclusions

The climate literacy competencies comprise the

categories of “Life and Climate”, “How Do We Know?”, “The Power Source of the Earth”, “Complex Interaction”, “Variability and Change”, “Human Activities” and “Decision-making”. Under the scope of each category, there are sub-matters related to the main climate literacy principles [30]. These seven categories are stated in different ways in the Social Studies curriculums. In the education system of Turkey, the geography topics related to climate literacy are thought within the Social Studies lesson starting from the 4th grade until the end of the 7th. During this period, the information given is preparatory for the Geography lessons at the grades of secondary education [9]. Therefore, the Social Studies curriculum has a significant role in teaching the topics related to climate literacy. Thus, the Social Studies curricula are very essential in helping the students attain the climate literacy principles.

The Social Studies curricula were applied within different features coming to the forefront in different

periods. In this process, the 1968 Social Studies Curriculum including the topics related to only two categories of the climate literacy principles played an important role since the teaching of a lesson called Social Studies in Turkey started within this curriculum [24]. However, these topics were limited to those territorial and regional ones concerning climate. With this aspect, it is understood that the 1968 Social Studies Curriculum was insufficient for the attainment of climate literacy principles.

Prepared under the framework of single-disciplined approach, the 1970 Secondary School Curriculum constituted of the units and topics of History, Geography and Citizenship lessons [14]. In this curriculum, as in that of 1968, the climate literacy principles were quite constrictedly stated. The 1973 Secondary School Social Studies Curriculum is the one in which the climate literacy principles were dealt mostly, multidisciplinary approach was reflected at the secondary school level and different lessons were combined under the name of "Social Studies". Since the former curriculum approach was adopted again with the change in the 1985 Curriculum, the climate literacy principles were thought under the scope of "National Geography" lesson. However, in this curriculum, it is seen that the principles were included rather inadequately when compared with that of 1973. The topics related to only two categories of the climate literacy principles were stated in the 1985 Curriculum. The similar situation can be observed in the 1998 Social Studies Curriculum including only one climate literacy category. That was the Curriculum of 1998, which adopted a similar view with the "Social Studies approach" for the first time [5]. In spite of this fact, the Curriculum was quite insufficient for the attainment of climate literacy principles by the students.

In 2005, the Social Studies Curriculum was fundamentally changed since the research findings on different scientific areas and the reflections of the world's fast scientific and technological changes in Turkey should be essentially transferred into the curricula. [18]. The purpose of the 2005 Curriculum based on constructivism was the attainment of necessary knowledge, skills, values and attitudes through the lesson of Social Studies by the students. [25]. It was remarkably determined that the climate literacy principles were concentrated within the learning domain of "People, Places and Environments" in this curriculum. It was found out that the attainments of the 2005 Curriculum were related to five categories of the climate literacy principles. In this curriculum, it was really striking to observe the presence of the category of "How do we know?" which establishes especially the technical dimensions of climate literacy and relates to meteorological issues. After all, the absence of the category of "Decision-making" in this curriculum was considered as a major deficiency. However, the skill of "decision making" takes place within the list of 9 main

skills in the 2005 Curriculum [18].

In 2018, the Social Studies Curriculum was updated again. In terms of climate literacy principles, similarly to the previous one, The 2018 Curriculum contributed to the climate literacy of the students with the attainments in the learning domains of "People, Places and Environments" and "Global Contacts". The absence of decision making as one of the dimensions of climate literacy was interpreted as a remarkable deficiency. In the report called "Climate Services Vision: The First Steps Towards Future" and published by the US National Sciences Academy in 2001, it was suggested that the support for interdisciplinary climate studies, implementations and educations should be increased, education on climate policy should be encouraged and a sense of climate should be developed through common-public education [26]. The curricula play a critical role in the attainment of climate literacy principles. With this aspect, more tasks should be taken under the scope of the Social Studies curriculum. The concepts of "awareness" and "decision making" come to the fore within the main purposes Social Studies [21]. In this context, more topics and attainments related to climate literacy should be stated in the Social Studies curriculum. Especially the category of decision making which puts forward the effects of the people's decisions on climate changes can be efficiently attained by the students with the help of Social Studies teaching. The climate literacy topics are limited to some narrow-scoped issues such as the state of climate elements, regional climatic indicators and the relationship between climate and other geographic events. Besides, the topics such as global climate change, climate and life, meteorological implementations as a dimension of climate and the structure and features of the atmosphere should be included into the curriculum.

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