AN EXAMINATION OF SOCIAL GENDER EQUALITY AND SOCIAL GENDER ROLES IN FIFTH GRADE MATHEMATICS TEXTBOOK AND SOCIAL SCIENCES TEXTBOOK

THESIS SUBMITTED TO
THE GRADUATE SCHOOL OF SOCIAL SCIENCES
OF
MIDDLE EAST TECHNICAL UNIVERSITY

BY
ECE KANDİLLİ

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR
THE DEGREE OF MASTER OF SCIENCE
IN
THE DEPARTMENT OF EDUCATIONAL ADMINISTRATION AND PLANNING EDUCATION

JANUARY 2020

Approval of the Graduate School of Social Sciences

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ABSTRACT

AN EXAMINATION OF SOCIAL GENDER EQUALITY AND SOCIAL GENDER ROLES IN FIFTH GRADE MATHEMATICS TEXTBOOK AND SOCIAL SCIENCES TEXTBOOK

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January 2020, 165 Pages

The purpose of this study is to examine social gender equality and social gender roles in 5th grade mathematics and social sciences textbooks. Specifically what extend gender equality is included in 5th grade mathematics and social sciences textbooks, how gender roles is addressed in textbooks, how gender equality indicated are in the education programs in 5th grade textbooks and how these textbooks are differed in terms of showing gender equality were examined. The study was designed as a multiple case study in qualitative research with content analysis. The study was conducted with mathematics and social sciences textbooks used in the 2018-2019 academic years in Turkey. The results of the study reveal that mathematics textbook showed equality in numbers of illustrations and texts between different genders but this book had inequalities in terms of texts and illustrations showing gendered roles. This exemplified that gender stereotypes continue to be communicated to young learners through the use of illustrations and text which include traditional gender roles in mathematics textbook. On the other

hand, social sciences textbook displayed inequalities in numbers of illustrations and texts between different genders and this book had gendered view in stereotypes. The social sciences textbook played roles in reproducing and in carrying gender stereotypes for learners. Additionally, social sciences textbook reflected Turkish society and culture as traditional.

Keywords: social gender roles, traditional roles, social gender equality, middle school mathematics textbook, social sciences textbook.

ÖZ

BEŞİNCİ SINIF MATEMATİK DERS KİTABINDAKİ VE SOSYAL BİLGİLER DERS KİTABINDAKİ TOPLUMSAL CİNSİYET EŞİTLİĞİ VE TOPLUMSAL CİNSİYET ROLLERİNİN İNCELENMESİ

Kandilli, Ece

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Ocak 2020, 165 Sayfa

Bu çalışmanın amacı, matematik ve sosyal bilgiler ders kitabındaki toplumsal cinsiyet eşitliği ve toplumsal cinsiyet rollerini incelemektir. Bu bağlamda, 5. sınıf matematik ve sosyal bilimler ders kitaplarında cinsiyet eşitliğinin ne ölçüde yer aldığı, ders kitaplarında hangi cinsiyet rollerinin (nasıl) ele alındığı, 5. sınıf ders kitaplarındaki eğitim programlarında cinsiyet eşitliğinin nasıl olduğu ve 5. sınıf matematik ve sosyal bilgiler ders kitaplarının toplumsal cinsiyet eşitliğini gösterme açısından nasıl farklılık gösterdiğini ortaya koymaktır. Araştırma, nitel araştırma tekniklerinden çoklu durum çalışması olarak tasarlanmış ve çalışma sonuçları içerik analizi ile elde edilmiştir. Araştırma, Türkiye'de 2018-2019 eğitim-öğretim yılında kullanılan matematik ve sosyal bilimler ders kitaplarıyla yapılmıştır. Çalışmanın sonuçları, matematik ders kitabının, görsel ve metinlerde cinsiyetler arasındaki eşitliği gösterdiğini, ancak rollerin gösterilmesinde eşitsizliklerin olduğunu ortaya koymaktadır. Bu, matematik ders kitabında geleneksel cinsiyet rollerini içeren görsel ve metinlerin kullanılarak, toplumsal cinsiyet

yaklaşımlarının öğrencilere iletilmeye devam ettiğini göstermektedir. Sosyal bilgiler ders kitabı, görsel ve metinlerde cinsiyetler arasındaki eşitsizlikleri sergilemektedir ve kalıplaşmış cinsiyetçi bakış açısına sahiptir. Sosyal bilgiler ders kitabı, öğrenciler için kalıplaşmış cinsiyet rollerinin çoğaltılmasında ve taşınmasında rol oynamaktadır. Ayrıca, sosyal bilgiler ders kitabının Türk toplumunu ve kültürünü geleneksel olarak yansıttığına ulaşılmıştır.

Anahtar Sözcükler: sosyal cinsiyet rolleri, geleneksel roller, toplumsal cinsiyet eşitliği, ortaokul matematik ders kitabı, sosyal bilgiler ders kitabı

To My Parents and To Memory of My Grandmother

ACKNOWLEDGMENTS

I would express my deepest gratitude to my supervisor Assist. Prof. Dr. Gökçe Gökalp since she kept contact with me throughout the whole thesis writing process with her endless guidance, encouragement, insight and deep knowledge. She always believes in me and she tried to make me believe to finish the research.

I would like to thank Great Leader Mustafa Kemal ATATÜRK for what he did for Turkish society, although words are not enough.

I also would like to thank to my committee members Assist. Prof. Dr. Şerife Sevinç and Prof. Dr. Murat Özdemir for their suggestions.

I dedicate this study to my lovely mother and father. Furthermore, my grandmother was gratefully acknowledged. I always feel their supports all my life and all my decisions. They always motivated me to conduct this study.

I would thank to my friend Hilal Gül for her endless encouragement, patience, friendship and sensibility. Whenever I need help, she motivated me and her friendship made easier to conduct this study.

I would thank to my friends Hacer Elif Cavlak and Büşra Kulakoğlu for their supports and friendships.

Lastly, I would also thank to my school principal for his supports, kindness and sensibility. Also, I would also like to thank my workmates for their kindness, friendships and sensibility.

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LIST OF ABBREVIATIONS

CEDAW:	The Convention on the Elimination of All Forms of Discrimination Against Women
EC:	European Commission
EDF:	Economic Development Foundation
EFA:	Education For All
EFL:	English Foreign Language
ERI:	Education Reform Initiative
EU:	European Union
GDSW:	General Directorate on the Status of Women
GREVIO:	Group of Experts on Action against Violence against Women and Domestic Violence
HEC:	Higher Education Council
ILO:	International Labor Organization
MEAS:	Monitoring and Evaluation of Academic Skills
MoNE:	Ministry of National Education
MT:	Mathematics Textbook
NPE:	National Policy on Education
OECD:	The Organization for Economic Cooperation and Development
PGEEP:	Promotion of Gender Equality in Education Project
PISA:	Program for International Student Assessment
SADEV:	Swedish Agency for Development Evaluation
SST:	Social Sciences Textbook
STEM:	Science, Technology, Engineering, and Mathematics
TIMSS:	Trends in International Mathematics and Science Study
TSI:	Turkish Statistical Institute
UNCED:	United Nations Conference on Environment and Development
UNESCO:	United Nations Education, Scientific and Cultural Organization

UNGEI:	The United Nation's Girl Education Initiative
UNICEF:	United Nations International Children's Emergency Fund
USAID:	United States Agency for International Development
WILLA:	Women in Literacy and Life Assembly

CHAPTER 1

INTRODUCTION

In societies, individuals play different roles, take different responsibilities and have different opportunities. While these roles, responsibilities and opportunities are defined in social context, female and male individuals show their roles and responsibilities and encounter opportunities with respect to their gender based on this context.

Gender is defined as a social construct which represents the roles, responsibilities, constraints, opportunities and needs of women and men in any given social context. When society with its own prejudices determines the roles of individuals, these roles and division of roles traditionally change with respect to gender. This refers to gender stereotyping (Haryana & Pradesh, n.d.). Gender stereotyping is a part of culture to define characteristics and roles of women and men. In other words, gender stereotyping is a generalization of what men and women should do according to their gender roles. In this case, women and men are differentiated in household responsibilities. While females work inside the house cooking, cleaning and taking care of the children, males perform activities outside the house in gardening (Mkuchu, 2004).

According to Eckert and McConnell-Ginet (2003), some of these differences are part of individuals' sociolinguistic life in use of language and in gender ideology. Language is a system of communication to express the culture of a society which contains norms, beliefs, attitudes, values and interpersonal relationships from generation to generation (Mills & Mullany, 2011). Also, it is constructed with social and cultural worlds by bringing individuals to them (Baxter, 2003). In other words, language is a key factor in affecting individuals' perception, behavior, communication patterns or knowledge transfer (Claes, 1995;

Piekkari, 2006; Welch & Welch, 2008). In this case, this language can contain gender bias and gendered items. According to Guidelines on Gender-Neutral Language (Desprez-Bouanchaub, Doolaege & Ruprecht, 1999), use of alternative words was suggested to avoid gendered language and to prevent the moral and social exclusion of women (Mose, 2013). Also, in Guidelines for Gender-Fair Use of Language (Women in Literacy and Life Assembly (WILLA), 2002), use of inclusionary alternatives and gender-neutral and non-stereotypical language was preferred. However, if this were not preferred, this could lead to inequality between female and male individuals.

In United States Agency for International Development's report (USAID's report) (2008), gender equality means that females and males have equality in both opportunities and human rights, and they have equal opportunities to develop themselves in every area. If women and men have equal value, same rights and opportunities in all sectors of society through economic participation and decision-making, the concept of gender equality proves its existence in the society. However, this concept is not enough, and factors contributing to the implementation of the concept include the roles of schools, teachers and peers, curricula and textbooks (Thiyagu, 2015). In this case, although schools are one of the sources of transmitting social knowledge and attitudes by providing social change (Nonaka et al., 2012), these cannot be suitable with social attitudes in favor of women. In this case, institutional education may not meet the opportunities to change gender attitudes and define gender stereotypes. Although the schooling of young women can change their status within the family, a gender insensitive school curriculum may harm the role of education in supporting gender equality (Londergan, 2013). According to The United Nation's Girls' Education Initiative (UNGEI, 2010), there are five challenges in enhancing gender equality in education. One of these challenges is biased textbook contents which restricts women's worldviews and career choices and draws different images for themselves and opposite gender group (Britton & Lumpkin, 1977). This is defined as one of the most challenging rocks on the road by Blumberg (2007). Hence, in order to

develop gender awareness, elementary and middle school are perceived as the ideal stage with appropriate curriculum, teachers' approaches, and content of textbooks or tools and materials. In other words, use of gender-biased curriculum could result in inequality between boys and girls. Hence, the materials without gender bias are necessary to provide children with equitable learning environment and with socializing gender roles (Darni & Abida, 2017). Since textbooks as materials are one of the factors shaping the gender roles of students, the content of visuals, expressions and messages in textbooks is important.

1.1 Background of the Study

In sociology, gender and sex are different from each other. While Moose (1996) mentioned that gender emerges as a result of matching women and men to their specific roles in social classification, Humm (2002) explained that sex is natural, and gender is a social construction. In other words, in society, gender and sex can be used interchangeably but these are different from each other. While gender is expressed with biological concept and as psychological, social, and cultural differences between the male and the female, sex is evaluated in the psychological or behavioral concept (United Nations Educational, Scientific and Cultural Organization (UNESCO), 2000; Mukherjee, 2015). Although there is a clear distinction between these two terms, male and female characteristics are shaped in line with the social culture (Desheng, 2009). Also, individuals can be classified as woman and man in the society, so their stereotypes are developed by other members of the society (Tarrayo, 2014). These stereotypes are culturally described for girls and boys about how to think, how to act or how to feel (Myers, 2005). In social culture, this shaping is expressed with language. According to Wood (2005), gender definitions, classification of ideas of gender ideas or gender evaluations are made by this language. For instance, use of this language can be observed in defining characteristics of male and female individuals or in defining their social roles or in deciding their color of dress (Runte & Mills, 2006; McCormic, 1994, as cited in Esen, 2013). Additionally, these have effect on

children's choice of occupation, clothes, hairstyles or materials used in games. Also, while women were presented as housekeepers, men were showed outside the home (Tarrayo, 2014). For instance, it is exemplified as a discourse that the best suitable occupation for females is teaching (Esen & Bağlı, 2003; Esen, 2007). Because of these, individuals might be exposed to gender bias or gender discrimination. When these terms are mentioned, this is not an advantage for woman since these terms discriminate individuals as female and male in society. As a result, gendered discourses are observed. Gender-biased language or gendered discourse is used to make females powerless, and according to feminists, the source of this idea is that "*females are male dependent*" (Desheng, 2009). For instance, in some Islamic countries, females get deprived of some rights such as right to receiving education, working in public areas, or using public transportation vehicles. In these countries, males are perceived as guardians for females. Although some of these countries signed the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), some of the items in this agreement were not accepted in these countries, and thus making the convention valid only on paper (Kaymaz, 2010). In order to overcome this differentiation, individuals make an effort to provide women with social, political and economic equality by denying gender difference between female and male produced by society (Mukherjee, 2015).

Gender bias is a kind of behavior that shows favoritism towards one gender. In this case, individuals make assumptions with respect to characteristics, abilities or choices of other individuals (Thiyagu, 2015). In the social perspective, individuals have been conscious of their gender differences since their childhood (Mukherjee, 2015). During these years, children can learn gender stereotypes either through their own rationalization (Jackson, 2007) or their own exploration in imaginative plays (Chick, Heilman-Houser & Hunter, 2002). Then, if they classify themselves as boys or girls, they choose gendered plays and materials (Freeman, 2007). Moreover, the growth and development of children are restricted by stereotypes because of their negative effects on self-esteem and academic

performance (Narahara, 1998), and so children in adolescence years encounter with long-term influences (Carlson, Egeland & Sroufe, 2004). For this reason, gender bias is neutralized in classroom environments in preschool years, and children are supported to improve positive sense for their own gender (Zaman, 2007).

In creating a positive learning environment for children in order to support their cognitive, social, emotional, and physical development with a moral context, families and teachers shape them with global, multicultural, anti-biased world view (Aina & Cameron, 2011). While children construct meaning of gender with social cues of the adults, environments, and media around them, adults provide them with healthy understanding about being female and male by taking responsibility (Derman- Sparks, 2001). During this period, families and teachers introduce children to positive messages of empowerment regardless of gender and to critical thinking skills to identify stereotypes (Small, 2003). In social cognitive theory, gender conceptions, role development and functioning are seen as the results of social influences of family and other systems (Bussey & Bandura, 1999). In this case, modeling is the result of observational learning by means of physical demonstrations, pictorial representations or verbal descriptions and transmission of information to organize different components into new behaviors even if these are unfavorable (Bandura, 1971). Furthermore, gender stereotypes are presented in different ways such as actions, expectations or language, literature and fiction (Macaulay, 1996). For instance, when some novels were analyzed by Macaulay (1996), some differences in dialogues between women and men were found. While men spoke coldly, firmly or smugly, women talked quietly, loyally or innocently. Also, priority was given to the use of masculine nouns or pronouns. West, Lazar, and Kramarae (1997) asked whether there was a difference in use of language between females and males. According to them, gendered language was constructed by discourses in the social area. In other words, there was no gender of behavior or language.

According to Welch and Welch (2008), activities or behaviors were shaped by language. In this case, discourses form the power of language (Cammack & Philips, 2002) because individuals can determine their attitudes, beliefs, or an ideology of their community through these discourses (Göregenli, 2013). In this case, discourses are defined as reflection of ideas, talk or silence in society (Johannesson, 1998). During communication, discourses are at the forefront. Discourse can be perceived as practice of language and communication (Alp, 2016) or as a kind of tool for social construction (Volman, Dam & Eck, 1995). According to Watson (1995), people's understandings of the world are shaped and reflected with respect to these discourses. In reflecting or showing these, some ideas or activities could be perceived as normal instead of not normal. In this case, hate speech could appear, and it could be used against individuals of a particular group, race, ethnicity, religion or gender (Alp, 2016). According to Binark and Çomu (2012), there were six different kinds of hate speech such as political hate speech, hate speech for foreigners and immigrants, hate speech based on sexual identity, hate speech based on faith and denomination, hate speech for disabled individuals and various disasters and hate speech for woman. The last one, hate speech for woman, is caused by traditional values or morality by using humiliating and sexist expressions (Binark & Çomu, 2012; Alp, 2016). Here, females can be exposed to gendered language more than males, which could be called verbal harassment (Lee, Croninger, Linn & Chen, 1996).

In discourses, there are differences between males and females' language. Although there is no biological behavior as womanly and manly, gender is socially constructed with language, (West, Kramarae & Lazar, 1997) and some changes in discourses lead to gender equality or gender inequality (Jenson, de Castell & Bryson, 2003). Despite this, Duncan (2004) highlighted that males could have same experiences as females. For instance, in society, gendered discourses including color of dresses, distribution of roles, future plans are observed during communication. Since schools are part of the society, these discourses can be seen in school or classrooms. For example, male students might criticize another male

for his color of pants if the color is red. Hence, according to these students, males do not wear outfits in this color. Also, similar sayings might be observed among female students. If this is evaluated in terms of media, individuals, especially females, encountered masculinity as power, violence or domination in horror movies and female and male children could be affected differently (Allen, 2012; Cherry, 1999). Besides, when Henward and MacGillivray (2014) aimed to investigate the effect of the horror media talk of a preschool girl in a poor and working-class preschool program in a conservative Christian area, they found out that stories for children are multilayered, and adults pay attention to them. Children can change gender stereotypes, which may seem complex for themselves, supported by the media. Moreover, society provides socialization of individuals by teaching social rules, role-learning, and role-playing and gender roles (Mora, 2005). In the socializing process, the relationships and interactions between and among individuals support or change gender dynamics, which are found in every society as a significant part of human experience. Additionally, these dynamics affect the accessibility and participation of learners in education (Thiyagu, 2015). While socializing, family, environment, peers, media and schools have some roles (İşçi, 2000). In this case, although education gains importance according to the expectations of the society, the state and the country, it also plays a role in the formation of gender stereotypes.

In the pedagogical aspect, since the language plays a main role about socialization of children, it can be perceived as a source of gendered biases (McClure, 1992; as cited in Mineshima, 2008). In this case, gendered biases can be transferred to gendered language and gender roles. While socialization occurs in many places, the first environment is family. For instance, girls and boys have different toys or clothes in different colors. Also, peer groups provide children with socialization since they choose different activities or play different games in line with their own gender roles in early years (Fenyes, 2014). Additionally, although schools or the education system constitute one of the basic tools of socialization for individuals, they are perceived as a secondary socialization tool.

For example, the hidden curriculum in education affects the interaction of teachers and students and affects the socialization of students formally and informally (Szabo, 1988; Fenyes, 2014). In this case, hidden curriculum might be defined as an identity which forms roles by regulating the gender-specific expectations, norms and behaviors (Kereszty, 2009). However, if the effect of schools on gender role is smaller, the effect of family and peers is bigger (Esen, 2013; Fenyes, 2014).

Another socializing tool in education is books for children. Books have enabled traditional values to be transmitted to new generations in society since early 1500s (Gooden & Gooden, 2001). Additionally, these books offer an opportunity to change children's perception and lives. In altering their perception, their identity and self-esteem are affected by their gender role stereotypes. This effect could be negative or positive (Narahara, 1998). According to the level of children's interaction with books, construction of gender stereotypes is affected by not only the language of the books (Turner-Bowker, 1996), but also the illustrations in them (Narahara, 1998). In children's literature, children find role models about defining feminine and masculine behaviors in picture books (Tsao, 2008). Moreover, books influence masculinity or femininity of children since they include cultural and social norms (Narahara, 1998; Jackson, 2007). It is stated that nonsexist books affect children positively in improving self-concept, attitudes and behavior as a result of reading children's literature suitable for their age groups and other book-related activities (Blumberg, 2008). Moreover, textbooks which are expected to enhance children's creativity and critical thinking abilities are perceived as one of the significant sources of knowledge (Haryana & Pradesh, n.d.). Besides, the task of the textbooks is to ensure the realization of the teaching as well as the development of students or development of some sensitivity in students. In addition, the text and images in the textbooks contain clear and covert messages to convey the culture of society (Kırbaşoğlu- Kılıç & Eyüp, 2011; Tietz, 2007). One of these messages is the socialization of the individual. While the family, environment and school have an important role in the socialization of the individual, textbooks become important during the learning of social roles and

gender roles. The textbooks have contributions to the reproduction of traditional gender roles (Kırbaşoğlu- Kılıç & Eyüp, 2011). In some case, these might lead to gender bias. According to Blumberg (2008), textbooks contain gender in with varying degrees. In the studies about gender biases, the frequency of representation of women in context, visuals and illustrations are at the forefront. Although there is a narrow sense in the term equality, the construction of link between policy and reality about gender equality could be provided, and this could be reflected in textbooks.

1.2 Statement of Problem

Gender discrimination is the negative attitudes and behaviors to which individuals are exposed because of their gender. While gender discrimination starts in family, it is consciously or unconsciously continued with the context of classrooms activities or practices of gender biases and gendered stereotypes. As a result, the textbooks and other materials have significant roles in enhancing gender harmony by improving the status of women through changing current value systems. Additionally, these textbooks support cooperation between sexes by teaching how to live together, promote self-esteem and self-confidence by giving value for equal participation (Haryana & Pradesh, n.d.). However, although females might be underrepresented in textbooks, the status of women can be improved within the existing value system through the hidden curriculum. Although it is perceived that only females are exposed to gender bias, males experience similar bias. In other words, gender bias is valid not only for females but also for males (Siren, 2018). Additionally, textbooks are accepted as trustable by teachers and students, and they provide social realities in different disciplines. While boundaries of disciplines for different levels of education are defined by textbooks, content of disciplines are limited by experts in terms of age, ability or understanding level of students. Moreover, these materials contain issues of equity and equality among society and gender. Hence, selection of illustrations, theme and content are important issues in textbooks (Haryana & Pradesh, n.d.).

In Turkey, according to Constitution of the Republic of Turkey, everyone is equal before the law without distinction of language, race, color, sex, political opinion, philosophical belief, religion and sect, or any such grounds (Constitution of Turkey, 1982; Article 10). Also, in Turkey, the foundations of gender equality policies were constructed in the early years of Republican era. While a modern state structure and a great social change were created, the belief that there must be full equality between men and women came out. These reforms provided woman with advantages in gaining a significant place in society (Çabuk-Kaya, 2013). Moreover, Dedeoğlu (2009) stated that the bylaws supporting discrimination against women by the new Civil Code was abolished in 2002. Despite this, while improvement in gender equality was not supported with these changes, women have continued to be seen as mothers and spouses.

In Turkish education, Promotion of Gender Equality in Education Project (PGEEP), which was funded by the European Union and Turkey and the Ministry of National Education (MoNE), was carried out between the years 2014 and 2016 in order to enhance gender equality in the education system in the content of school curricula and textbooks (Engin-Demir et. al., 2016). In Turkey, the gender equality is realized in numbers, but it should not be perceived as a true indication of equality (Aydagül, 2019). According to him, The Ministry of National Education, MoNE, has to enhance the quality of gender equality and to provide girls with 12 years of compulsory schooling as active citizens and lifelong learners at a policy level. However, in 2018, the gender equality context got narrowed down with gender-sensitive school action plan. Gender roles, women's rights and concept of equality were not included adequately in new curriculums, and women's roles are minimally included in the new textbooks (Education Reform Initiative (ERI), 2017).

For this, materials which are used in education gain importance in terms of gender equality. In textbooks, in the seminal study conducted by Helvacıoğlu (1996) with a large collection of 1000 course books in different subjects between 1928-1995, while women were portrayed as educated, standing on their own feet

and active participants of labor force in the very early years of the Republic of Turkey, women representations seemed to have changed strikingly from the 1940s on. According to UNICEF (2003)'s study about gender issues in education in Turkey, men had active roles, and they were in the public areas, but women had passive roles, and their limits were defined within the house in course books. Also, Diktaş (2011) mentioned that women were represented as passive individuals, and they were busy with domestic works all the time. Moreover, the history of research on course books has not reflected the fair practice of gender-neutral representation of men and women (Demir & Yavuz, 2017). Additionally, 5th grade level is like the bridge between elementary school and middle school. Hence, students can encounter different perspectives about roles and equality. Within this scope, gender equality and gender roles in textbooks as teaching materials were studied in the current study.

1.3 Purpose of the Study

According to the aim of the study, the illustrations and texts in books are investigated through content analysis in terms of social gender equality and social gender roles. Hence, the purpose of this study is to examine social gender equality and social gender roles in the middle school 5th grade mathematics and social sciences textbooks. The primary research questions that this study will aim to answer are as follow:

1. To what extend is gender equality included in 5th grade mathematics and social sciences textbooks?
2. How are gender roles addressed in textbooks?
    a. How is gender equality shown in illustrations and texts of textbooks?
    b. How are gender roles shown in illustrations and texts of textbooks?
    c. How are gender roles exemplified?
    d. Which gender is prioritized in illustrations and texts?

3. How is gender equality indicated in the education programs in 5th grade textbooks?
4. How do mathematics and social sciences textbooks differ in terms of showing gender equality?

1.4 Significance of the Study

Gender is defined as the roles and responsibilities of men and women which are created in families, societies and cultures by including the expectations related to the characteristics, aptitudes and likely behaviors of both female and male. Hence, different social systems such as education systems, political and economic systems, legislation, and culture and traditions in the environment of individual teach and modify these gender roles and expectations during socialization processes of individuals (Thiyagu, 2015). Traditional gender roles can be defined as the fact that individuals are expected behave in line with their own sexes (Blackstone, 2003). According to gender roles, generation and community management activities are reflected in women and community policy activities in men. Both men and women are involved in productive roles and multiple roles. However, while in multiple roles, it is stated that men perform single productive roles and women perform different roles at the same time (International Labor Organization (ILO), 1998). In reproductive roles, females take care of children, do domestic tasks, and they ensure sustainability of different resources such as water, health care and education in community managing activities. On the other hand, males are in paid employment at the formal political level, in which they are shaped by national politics. Also, in multicultural societies, power relations construct the issues about women or people in order to include diversities and differences. In addition to them, interactions between children and their friends make up the gender identities of children (Thorne, 1993), and family culture and ethnicity are another way to construct gender (Robeson, Marshall & Keefe, 1999). Also, language is a part of this culture.

Language is a powerful tool in order to shape its users and listeners. To illustrate its power, Bolinger (1980) defined that language is a kind of weapon. Also, Cameron (1992) used speech and writing together in order to explain power of rhetoric. Despite different aims of language in use, language has a role in social functions with gender based approaches (Cameron, 1985). In sociolinguistic studies, although the relationship between language and gender and their form of representations emerged in 1960s, it was clear that there were inequalities between women and men in presentation (Hall, 2014). These representations can be the reason why students perceive inequality between women and men as normal (Gharbavi & Mousavi, 2012). Gender discrimination was shown not only in children's games, their attitudes and expectation but also in the images used in classroom materials such as textbooks. Stereotypical images and roles were reinforced in those materials, and so females were expected to smile and be sensible while males were expected to be brave in masculine roles (Darni & Abida, 2017). In published course books, it is commonly possible to encounter lack of equality in gender representations (Graci, 1989). In course books, females were displayed less than males in nurturing professions (Gupta & Lee, 1990) and subordinate jobs (Sakita, 1995). On the other hand, males were represented more than females (Mineshima, 2008) in illustrations and texts (Mukundan & Nimehchisalem, 2008).

Gendered items might appear in learning courses because of gendered perception of individuals. For instance, while the number of female students decreases in reaching higher level in mathematics (Eisenberg, Martin & Fabes, 1996), gender differences in mathematics achievement did not favor females in achievement, interest, and placement in advanced mathematics courses (Koller, Baumert & Schnabel, 2001). Also, according to one meta-analysis between the periods 1974 – 1987 on mathematics and gender in STEM education (Science, Technology, Engineering, and Mathematics education), the gender gap was statistically not significant and differences decreased in time (Friedman, 1989). However, differences in high school years about complex problem-solving could

result in less representation of women in STEM career (Hyde et al., 2008). Furthermore, in a German university, there was a study about the learning effects of a male and female narrator on probability in a multimedia lesson (Linek, Gerjets & Scheiter, 2010). While students displayed better problem-solving performance in female-narrated lessons, the research team advised the use of female narrators in mathematical subjects. In other words, although mathematics is perceived as a gendered domain, a male narrator was less effective than a female narrator (Clark & Mayer, 2016). Additionally, both mathematics and computer-based learning are perceived as male dominant. When McLaren, Adams, Mayer and Forlizzi (2017) investigated whether computed based games promotes mathematics learning, they found out that there was no significant difference between males and females in learning under game and non-game conditions in terms of gender differences. Moreover, when the effectiveness of learning a hand-manipulative task with respect to different conditions such as gender, spatial ability and instructional visualization were analyzed, male performance of males in spatial ability was different from those of females (Wong, Castro-Alonso, Ayres & Paas, 2018).

According to the report published by European Commission (EC) (2010), international studies showed some differences or similarities among countries in defined topics such as gender difference in achievement. According to the results of the Trends in International Mathematics and Science Study (TIMSS) from 1995 to 2007, significant gender differences were not observed in the success of boys and girls in mathematics. In the last year of secondary education, boys might be quite successful on average than girls. According to the results of the Programme for International Student Assessment (PISA) from 2000 to 2006, gender differences might be observed in some countries. In PISA 2000, males had higher scores than females in mathematics. Despite the approximate equality between genders, girls had little interest in mathematics, and on average, men had higher self-efficacy in PISA 2003. Also, the PISA 2006 showed that there were male advantages in about half of the European countries. Additionally, in the results of

the PISA 2006, differences between girls and boys were presented in terms of attitudes and performances. In this case, the necessity of gender equality emerges. According to students' attitudes to mathematics, while girls had lower interests, less confidence and less motivation to use mathematics in the future and greater anxiety in learning mathematics, boys were more confident and less anxious about learning mathematics (Schleicher, 2007). In this case, evaluating children's learning environment, their limitations or opportunities and understanding their classroom dynamics are significant. Hence, test scores cannot reflect equality between girls and boys. In these studies, significant gender differences were not observed in Turkey for mathematics (European Commission, 2010). Additionally, for science achievement in the same years, while TIMSS studies showed gender difference in favor of male students, PISA results did not mention a significant difference between genders. According to TIMSS results, girls may be more successful than boys in PISA results because PISA focuses on human sciences (OECD, 2001).

In Turkey, achievement between female and male students might be different from each other. For example, according to PISA 2015, data using gender differences in student achievement in Turkey, it is understood that female students were at least 25 points ahead in reading in comparison to male students while they were at least seven points behind in mathematics, and they had the same performance in science (ERI, 2017). According to TIMSS 2015, the difference between genders in mathematics scores in fourth and eighth grade was statistically insignificant. Clearly, there was no difference in mathematics and science between the genders in fourth grade. In the eighth grade, while there was no difference in mathematics, female students had 18 points more than male students in the field of science (Batyra, 2017). In PISA 2018, while female students showed better performance than male students in the field of reading skills and science, male students performed better than female students in the field of mathematics. In detail, female students were approximately 25 points in in the field of reading skills and approximately 8 points in the field of science ahead of male students.

However, male students were approximately 6 points ahead of female students in the field of mathematics (MoNE, 2019). When findings of Monitoring and Evaluation of Academic Skills (MEAS) which was applied on students in 4th and 8th grade levels were evaluated, it was found out that those findings overlapped with the findings of MEAS 2016 and with the findings in educational studies such as PISA and TIMSS (MoNE, 2019). In the 8th grade mathematics results, the percentage of male students at the baseline and advanced levels (at two extreme levels) was higher. Moreover, it is seen that the percentage of female students is higher in the basic and intermediate levels (at middle levels). At the upper-middle level, it is seen that the percentage of male and female students is approximately equal. In the 8th grade science results, it was found that the percentage of male students was higher in sub-baseline and basic levels, the percentage of female students is higher in middle, upper-middle and advanced levels. Based on this, it might be said that female students have higher academic skills. Additionally, in the MEAS study, when characteristics of students affecting their success were examined, the level of mother education at 4th grade level was seen as an important variable to affect student achievement (MoNE, 2019). In this case, education of women gains importance both for themselves and their children and future of the society.

As a result of these, some differences between female and male students can be seen in learning mathematics. The reason of this trend can be related to individuals' consciousness since they can perceive mathematics as a subject for males (Li, 2001). Additionally, as well as learning mathematics, academic success of students in mathematics is affected by the gender of students since gender differences are perceived as one of the affective and cognitive predictor variables for mathematical achievement (Carvalho, 2016; MZ, 2013). The reason for gender differences in mathematics is self-esteem of students, which has a positive relationship with their achievement (Fisher & Kusumah, 2018). In their study conducted by Fisher and Kusumah (2018), male students had higher levels of mathematical self-esteem. According to Bandura (1986), self-reflection and self-

assessment support performance better with self-confidence. In addition to self-esteem, Ndura (2004) highlighted the importance of the contents of instructional materials in terms of their effects on students' attitudes and belief towards the other sections of society. Furthermore, attitudes in textbooks which might lead to damages in the personality of students are sources of concern for educators (Gharbavi & Mousavi, 2012). According to Blumberg (2008), school textbooks were used in approximately 80% of classroom time. In this case, they might convey some messages about societies. These messages could be about gender roles, which shape perception of students by means of gender-biased language (Hall, 2014). The textbooks have effect on shaping the future attitude of students towards gender stereotypes. For instance, Lesikin (2001) explained that female students are negatively affected from writings and drawing which include gender bias and gender stereotypes. Additionally, in the study conducted by Tang, Chen and Zhang (2010), mathematics textbooks can explicitly or implicitly set the stage for the assumption that males are more skilled in learning mathematics. Despite this, when compared with previous book contents, it was seen that gender equality was included in the books although there were some shortcomings.

In Turkey, a study carried out by İstanbul Bilgi University's Sociology and Education Studies Unit (SEÇBİR, 2012) aimed to investigate the course books of life sciences, social studies, and citizenship and democracy education courses in Turkey with respect to gender ideology. The results of the study revealed improvements in dealing with gender, presentation of women in active and successful roles, elimination of sexist language and equality in family members' role division and democratic family environment. However, in some textbooks, it is seen that no effort has been made for these developments. Also, in 2012, a system was developed in order to evaluate the books electronically in formal and informal education institutions in terms of elements of discrimination such as expressions and illustrations. Additionally, after adopting The Regulation on Textbooks and Educational Tools in 2012, textbooks and instructional materials were prepared by the MoNE in order to support fundamental human rights and

freedoms without including discriminating items. According to this regulation, the number of female and male students used in the textbooks, texts and visual elements was tried to be equal, and the structure and functioning of the roles of parents were carefully expressed by drawing attention to equality between men and women in the books (General Directorate on the Status of Women (GDSW), 2019).

According to data from Turkish Statistical Institute (TSI), 2018), in the last 10 years, the proportion of illiterate women dropped to 6.1 percent from 14.7 percent in Turkey. As of last year, 85.2% of the illiterate 2.197.257 people were women. While 80.4% of the illiterate population was women in 2009, this ratio rose to 85.2% in 2018. Additionally, in 25 and over aged, the proportion of women who were primary school graduates declined from 44.3% to 30.6% while the proportion of secondary and equivalent school graduates increased by 2.3% to 7.2%. The proportion of women who graduated from high school and equivalent school increased from 3.8% to 16.4%. The proportion of women who graduated from college and faculty increased from 7.3% to 15.3%. Also, the proportion of women with a master's degree increased from 0.5% to 1.7% in 10 years while the proportion of doctoral graduates rose from 0.2% to 0.3% (TSI, 2018). However, as of 2017 in Turkey, the proportion of women who are neither in education nor in employment is 34% of the young population in the 15-24 age range. Additionally, 20 million women did not participate in the workforce, and 11 million women were in the labor force due to housework (Economic Development Foundation (EDF), 2019). In the light of these statistics, the education might provide students with balanced and equal health and mental, social, cultural and scientific growth, and content of textbooks might support some part of these improvements. Moreover, one of the evaluation criteria determined by the Board of Education and Training is to maintain a reasonable balance in terms of gender in the examples and characters used (GDSW, 2019). Although the gender distributions in the books are tried to be balanced after the regulations, some studies related to gendered items in textbooks presented that this balance was not at the desired level in 2013

(Esen, 2013). Since mathematics are at the forefront in terms of gendered perception of individuals in learning mathematics and achievement, the current study aims to contribute to the literature about perception of gender roles in the middle school 5th grade level mathematics textbook in Turkey. Also, social sciences course provides information about society, society's culture, norm, value and gender perception directly or indirectly. Another aim of this study is to contribute to the literature about the perception of gender roles in the middle school 5th grade level social sciences textbook in Turkey. Thus, the content of illustrations and texts both textbooks are examined in the in terms of gender equality, gender stereotypes and messages about policies related to gender. Moreover, how both mathematics and social sciences textbooks differ in terms of showing gender equality is examined. Additionally, the current study aims to investigate this situation not only for females but also for males.

1.5 Definition of Important Terms

Gender bias/ discrimination is defined as individuals' getting differentiated based on their gender or gender functions (Mukherjee, 2015) or invisibility of one gender in any content (Haryana & Pradesh, n.d.).

Gendered discourse is a form of interaction that shapes speech through gender (Case & Oetama-Paul, 2015).

Gender equity refers to the process of treating females and males fairly by removing historical and social disadvantages (Subrahmanian, 2005).

Gender equality means that both sexes have equal rights and opportunities (USAID, 2008).

Gender inclusive is the term which is used *for* activities done by both females and males (Haryana & Pradesh, n.d.).

Gender neutral approaches means that there is no femininity or masculinity in social and cultural associations (Haryana & Pradesh, n.d.).

Gender parity refers to equal representation in numbers among female and males (Baily & Holmarsdottir, 2015).

Gender (role) stereotypes are shaped by society's expectation of males' and females' behaviors and traits (Dökmen, 2015).

Traditional genders roles are a set of societal norms which emphasize the types of behaviors depending on individuals' actual sex or sexuality (Thiyagu, 2015).

CHAPTER 2

LITERATURE REVIEW

Although the gender is not created by biologically, historical, cultural and psychological processes lead to its construction (Kaya, 2003). Hence, sex differences and gender differences are different from each other (Garrett, 1987). According to Basow (1992), gender is related to being female and male or being feminine and masculine, which refers to gender roles. Because of these roles or definition of gender according to society, children encounter some restrictions in every area of their lives. Additionally, these affect their career choices or quality of life. In order to prevent these, governments take some precautions by improving gender equality by means of education and its materials.

2.1 Theories related to Gender (Development) and Gender Equality

According to cognitive developmental theory, children explore their gender identities based on their biological maturation and environmental experience. While they categorize themselves as female and male when they are between 18 months and 3 years old, they gain gender constancy later at the age of 4 years age (Mussen et al., 1990). Social learning theory posits that children learn their gender roles by means of observation, imitation and rewards and punishment (Matlin, 1987). However, gender identity does not develop before gender role behavior is established, and there is no particular age for this (Heward & Bunwaree, 1999). Moreover, gender schema theory which combines cognitive developmental theory and social learning theory explains how individuals get gendered in society (Bem, 1981). In gender schema theory, children form gender-related networks, and then they make sense of it. Later, they reconstruct it with new knowledge and organize it in terms of society's gender definition (Bem, 1983). Also, in functionalism,

intellectual, political, social and economic purposes of education are argued. By means of education, individuals get socialized. In this case, various roles, behaviors, skills, knowledge, norms and values that shape the roles and status of individuals in society perform this socialization process (Feinberg & Soltis, 2004; Strawn, 2009).

According to Garland-Thomson (2002), feminist theory is defined as a collaborative and interdisciplinary inquiry which examines how the representational systems of gender, race, ethnicity, ability, sexuality, and class mutually construct, transform, and contradict each other. Although the reason for differentiation of society is explained in the concept of gender, removing gender inequalities is aimed for women and whole society in liberal feminism (Çak, 2010). According to liberal feminists, the most powerful means of social change in providing gender equality is education (Saulnier, 1996). In the socialist feminist perspective related to women's status in the family and in the capitalist economy (Acker, 1987), women are limited to the capitalist patriarchal family and labor market conditions. As a result, their free labor supports the capitalist patriarchy depending on female labor and massive distribution of wealth (Stromquist, Lee & Brock-Utne, 1998, as cited in Küçükakın-Mercan, 2017). In this perspective, schools can support social classes and gender judgments of society with inequalities in society (Thompson, 2001). In radical feminism, if the male dominance and patriarchal structure change, social structure changes radically (Acker, 1987). While education system supports the patriarchal system of the society with discriminatory and pressurizing practices and male-dominant policies, domestic responsibilities are represented for females as a career (Stromquist, Lee & Brock-Utne, 1998, as cited in Küçükakın-Mercan, 2017).

Feminist theory, especially, aims to develop critical understanding of society in improving the women of the changing social world, its place and status in society by analyzing and understanding gender (Sithole, n.d.). On the other hand, it is possible to encounter different definitions of feminism since individuals interpret it as being suitable with their understanding (Amazon Castle, 2004).

According to Ebunoluwa (2015), feminism emerged as a result of the struggle for women's rights during the early ages since women had discovered their own power in Europe and America from the late eighteenth century. Since feminism was shaped in historically diverse cultures as a part of day-to-day thinking, it cannot reach a universal definition.

There are three waves related to equality between sexes. First one is equal treatment perspective which has supported the promotion of human rights with formal equality to women from the early 1900s. The second one is the empowerment of women and men with the politics of difference in the 1960s. The last one is gender perspective which has aimed to enhance gender equality to all possible fields, policies, projects and processes from the early 1980s (Horelli & Wallin, n.d.).

According to Transforming Our World: The 2030 Agenda for Sustainable Development, there are 17 goals about gender equality which is one of the basic human rights, and they aim to enhance participation of women in every area such as education, health care, politics, economics and decision making process (Desa, 2016). Gender equality is emphasized and encouraged by governments in every aspect of life. Although gender definition of gender of children starts from the early ages, this concept is shared at the school levels by generating positive view of women and gender (Darni & Abida, 2017). Different developments and applications are provided by governments and organizations in order to enhance gender equality or female visibility.

2.1.1 Developments about Gender Equality in Turkish Society in Republican Era

During the early Republican Era, Mustafa Kemal Atatürk supported the idea that women should have equal status with men and should have individual freedom in society. He believed that the new era complies with the requirements of intellect, science and age. Hence, it was based on radical changes affecting secular, education, law, economics, politics and every aspect of society, and the status of

women was central to the establishment of this order (Kaymaz, 2010). Hence, in Turkey, thanks to Mustafa Kemal Atatürk, the foundations of gender equality policies were constructed in early years of the Republican era. While a modern state structure and a great social change were created, the belief that there must be full equality between men and women appeared. These reforms provided woman with advantages in gaining significant places in society (Çabuk-Kaya, 2013).

In 1924, The Law of Tevhid-i Tedrisat (The Law of Unity of Education) which had one of the most direct influences on Turkish women provided equal educational opportunities for women by gathering education under one roof. According to this law, catching up with the developed countries and ensuring the continuity and success of the youth development was aimed. Before this, there was a dual system in education, which was constructed by traditional schools and western style schools. These schools led to differences between children's developments and different segments of society in terms of their worldview (Ergün, 1982). Madrasas were not affiliated with the Ministry of National Education. As a result of the law, both the traditional-style schools and the western-style schools were connected to the Ministry of National Education. Later, all educational institutions were unified under the Ministry of Education with the unification law, which eventually led to the closing of madrasas. By means of this law, not only female students but also male students had opportunity to get quality and equal education. Also, schooling rate of girls increased since female students had not gone to these schools, and they had not been educated (Arı, 2002; Erdem, 2015). In schools affiliated with the Ministry of National Education, girls and boys would be educated with modern and secular education (Kaymaz, 2010). Hence, while this law achieved the unity in education, it started mixed education. In other words, boys and girls benefited from education at all levels of education without any discrimination (Erdem, 2015). Additionally, curricula aimed at giving girls the consciousness of act of freedom. Hence, women were encouraged to be active in every aspect of community life (Kaymaz, 2010). Hence, while schooling rate of girls rose, they were educated in the same educational institutions and under equal

conditions with boys. Moreover, education programs were reestablished within the framework of national and secular principles. All foreign and Turkish schools were under the control of the Turkish Ministry in order to provide unity in teaching (Arı, 2002).

In 1926, The Turkish Civil Code provided equal rights both within the family and as an individual by changing the legal status of women in its entirety. According to this, women and men obtained equal rights in marriage, divorce, custody, inheritance law and testimony (Öztürk, 2019). As a result, women and men are equal in laws (Kaymaz, 2010). Gender policy in family shows the significant measure of equality, and over time, the Civil Code enabled women's place in the family to be strengthened by changes in the social order (Müftüler-Baç, 2012). Moreover, Turkish women were given the right to vote and be elected in the local elections in 1930, in elections of mukhtar and in general elections in 1934 (GDSW, 2019). Although Turkish women gained different positions in these elections, it wasn't until 1993 that a woman was elected as the Prime Minister (Skliar, 2007). In 1935, at the Beylerbeyi Palace in Istanbul, International Women's Congress was held thanks to the international contributions of Mustafa Kemal Atatürk in order to give women individual freedom and to raise their social status (Kaymaz, 2010). On the other hand, gender inequalities were observed about the status of woman in society after early republican era (Çabuk-Kaya, 2013; Kaymaz, 2010).

In addition, during the early Republican era, Atatürk aimed to provide women with social gender equality in every area of work life. Also, this was supported with dress code since Turkish women had to gain a modern appearance. As a result, women tried to have roles in different areas despite being insufficient (Kaymaz, 2010). Then, between 1940 and 1960, while there were not any significant developments related to women (Öztürk, 2017), a reverse movement on women's rights started (Kaymaz, 2010).

In 1960s, both in Turkey and in the world, the women's movement displayed its power. In other words, national and international organization studied

to make women strong. While 1975 was declared as World Women's Year, First World Women's Conference was held in the same year by United Nations. In the second part of 1970s, in Turkey, Turkey Women's Year Congress was held at the initiative of women's associations, and Women in Turkish Society conference was organized by Turkish Social Sciences Association. In 1979, CEDAW was constructed and opened for signature. Then, in 1985 Turkey signed CEDAW with some reservations, but it was put into effect in 2002 (Kaymaz, 2010).

The scope of CEDAW which is an international convention is formed by guaranteeing women's equal enjoyment of human rights to support every research that addresses women's education, political decision-making, social, cultural, personal development and economic support, opposing negative cultural attitudes, and strengthening women's status (Gedik, 2015; Kükrer & Kıbrıs, 2017). Thus, gender mainstreaming in Turkey was also put on the agenda (Gedik, 2015). In addition to these, The General Directorate for the Status of Women (GDSW) was established in 1990 under the Prime Ministry, and today, it is restructured under the Ministry of Family and Social Policies (GDSW, 2019). According to Acuner (2002), despite changing political balances, the creation of gender equality and the issue of the basis for equality between women and men in Turkey made important contributions to ensure that it remains on the agenda.

In 1995, after Turkey signed the Beijing Declaration the Fourth World Conference on Women, Turkey established the basic structure of gender equality, and then Turkey played a role in developing the Action Plan (Müftüler-Baç, 2012; Gedik, 2015). Also, the legal reforms about removing gender inequality have been done since 1998 in Turkey (Gedik, 2015). In 2002, the new Turkish Civilization, the new Labor Law in 2003, and the new Turkish Penal Code in 2005 were enacted in order to provide women and men with equality legally by stating in Articles 5 and 122 that *no discrimination shall be made between persons regardless of sex* (Müftüler-Baç, 2012; Odyakmaz & Keskin, 2017). Moreover, in 2003, Family Courts were established in order to apply The Civil Code, to enhance gender equality and to protect families. While The National Action Plan includes

gender equality in education, economy, poverty, power and decision-making, health, media, and environment, The Turkish Government's 9th Development Plan for the period of 2007-2013 aims to increase participation of women in labor force by decreasing gender inequalities (Müftüler-Baç, 2012).

Furthermore, in 2005, Turkey made efforts for more equal, modern, democratic, and constitutional state, with a commitment to the principles of secularism because of EU accession negotiations (Güner, 2017). Moreover, Istanbul Convention was opened for signature in 2011, and it was put into practice in 2012 in Turkey and in 2014 in Europe. According to it, legal and actual equality between women and men is achieved and violence against women is eliminated. Also, it aims to protect aggrieved women and children (Bakırcı, 2015). The convention aimed to prevent violence against women in Turkey, protect victims, punish the guilty, and both make and encourage policies to prevent violence. This convention has an independent expert body. It is called Group of Experts on Action against Violence against Women and Domestic Violence (GREVIO) in which Feride Acar had the role as the CEDAW committee chairman for two terms in order to represent Turkey (Güner, 2017).

In order to achieve social gender equality in every area, National Action Plan on Gender Equality for 2008-2013 was prepared. In educational aspect, some strategies were defined (Grand National Assembly of Turkey Women and Men Equal Opportunities Commission, 2011):

> 1. At all levels of education within the objectives of the Development Plan enrollment rates of girls (enrollment, attendance and completion) will be increased.
> 2. Physical and technical capacity at all levels of education will be increased.
> 3. Women's Literacy among adults will be increased.
> 4. Educators, training programs and materials will be made sensitive to Gender Equality. (p. 34-36).

Hence, the implementation of policies and strategies to promote gender equality in education and to access equal and effective education for all are important issues.

2.1.2 Gender (In)Equality for Turkish Women in Different Areas

Although the legal basis of equality between women and men is strengthened, there are problems in practice in terms of realizing rights in Turkey (Çabuk-Kaya, 2013). According to Akgeyik (2017), change in education profile, rising of the age of marriage, increase in divorce tendency and decrease in fertility rate had positive effects on women's labor participation. To illustrate, when the employment data are examined with respect to the education level in our country, it is observed that the employment rates increase with the increase in the education level of women (EDF, 2019). On the other hand, in Turkey, women encountered different problems in some rights such as using civil rights, using political rights, working rights, and right to receiving education. According to Kaymaz (2010), reasons for this situation can be social culture, violence and discrimination, religionization of society, urbanization and dis-identification, and globalization. For instance, according to 2014 World Development Indicators, Acar and Fraker in 2016 explained the effect of traditional values on women's labor force. It was shown that religion is an effective factor in limiting women's labor force participation in Turkey, but this was much more limited than in similar countries. Furthermore, women in Turkey had some barriers in participating in labor such as gender-based wage gap, education, the phenomenon of male-female work, patriarchal thinking, family responsibilities, child / elderly care and marriage (Önder, 2013).

The report of EDF (2019) presented Turkey's female employment title with female employment outcomes in different areas in the EU accession process. According to the recent data, there are 29.649.000 men and 30.244.000 women who are older than 15 years of age living in Turkey. While 21.484.000 men are in the labor force, this figure is 10.159.000 for women. In other words, according to ILO data, Turkish women among OECD countries had lowest labor force participation rate in the years 2015, 2016 and 2017. In different business lines, although the labor force participation rate of rural women has decreased in recent years, the labor force participation rate of urban women has been increasing. Also,

while gender-based discrimination in construction area has not been prevented yet, executive women is at the bottom with respect to female employment according to occupational groups. Because of the glass ceiling syndrome, women can reach a certain level in business, but they are prevented from progressing further.

These situations might be sourced by outside effects. For instance, in popular culture, gender stereotypes are reinforced by the media (Saltmarsh, 2009). Also, movies have messages about gender roles (Derman-Sparks, 2001). Moreover, in advertisements, males are matched with active and professional roles, but females are presented as passive observers (McNair, Kirova- Petrova & Bhargava, 2001). According to Taylor and Setters (2011), the beliefs and expectations of viewers might be affected from gender stereotypical or counter-stereotypical behavior in media. According to Collins' study (2011), women had a circumscribed and negative manner and underrepresentation in media, and they were represented in low positions by gender-specific roles.

While women are perceived as dependent and obedient as homemakers, and they dedicate themselves to family members in Turkish culture (Ersoy 2009), traditional values about gender roles are represented in Turkish media, too (Arslan & Koca, 2007). For instance, female athletes are represented with gendered roles with respect to their areas (Bakan, 2014), or they are shown less in media. In a study carried out by Arslan and Koca (2007), they aimed to compare the number of sports articles about female and male athletes in Turkish daily newspapers to examine the gender stereotypes and differences in gender stereotypes in both written and visual texts about female athletes in different newspapers. Results indicated that male athletes were included approximately 15 times more than females in sports articles, only 6.93% of articles included both males and females, and the number of articles on female athletes alone was 6.05% of all. Also, articles had gendered stereotypes in both written and visual texts. Furthermore, the portrayal of female athletes with disabilities in a Turkish daily sports newspaper on 486 articles published in a popular sports newspaper between the years of 2007 and 2011 was analyzed by Ayvazoğlu (2015). The results showed that females

were represented less than males, and they competed individually in masculine sports. Also, articles talked about the achievements of athletes and preferred to show their disability through a wheelchair. In addition to this, Ayvazoğlu (2017) examined 1001 articles covering the 2012 London Olympic and Paralympic Games in two Turkish sports newspapers in terms of gender-role portrayals of female athletes. While female athletes mostly participated in individual sports in both kinds of games, male athletes were the favorites of the media. Also, both females and males were shown as active in the Olympic Games and as passive in the Paralympic Games. Although gendered items are at the forefront, gender equality is valid for every area. One of these areas is education because education plays a role in the continuation of or changing the society.

2.2 Gender (In)Equality in Education

The Eight Millennium Development Goal of The United Nations aims to promote gender equality and empower women. Also, since education is a basic human right, a gender equality perspective in education is provided. Hence, according to the Article 26 in the Universal Declaration of Human Rights (1946):

> 1. Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory. Technical and professional education shall be made generally available and higher education shall be equally accessible to all on the basis of merit.
> 2. Education shall be directed to the full development of the human personality and to the strengthening of respect for human rights and fundamental freedoms. It shall promote understanding, tolerance and friendship among all nations, racial or religious groups, and shall further the activities of the United Nations for the maintenance of peace.
> 3. Parents have a prior right to choose the kind of education that shall be given to their children. (p. 54).

Education is a human right that provides girls and boys, women and men the right to participate in social, economic and political life and with constructing a democratic society. In this case, it is seen that especially girls and women gain advantages and social and economic benefits with education (Swedish Agency for

Development Evaluation (SADEV), 2010). This is supported by the increased cooperation between quality of education and gender equality. Moreover, it aims to enhance women's quality of life, employment and income prospects as well as participation in social and democratic life by means of education under the scope of Education for All: a Human Right and a Basic Need. In addition to this, the Sida Handbook for the Integration of a Gender Perspective in the Education Sector gives importance to supporting the goal of gender equality through curriculum and teaching practices since education is the tool which is used in socialization and transmission of norms and values. Despite this, some interventions prevent gender equality. In other words, in education, the structure and management of the education system, the practices and attitudes of teachers, learning materials and the content of the curriculum are affected by gender inequalities. Hence, education plays an important role about the acceptance of gender equality as a fundamental social value by changing attitudes (SADEV, 2010).

In educational process, schools are part of society, and they reflect the perception of society. The centers of education, which are seen as schools, aim to socialize children, to equip them with the necessary knowledge and skills to develop productive individuals in society and to provide the cultural values of society to transfer to the newest generations (Esen & Bağlı, 2002). Moreover, schools are the key elements of construction of gender by means of classroom practices, language, expectations and behaviors, and values system and attitudes (Younger & Warrington, 2008). However, in this construction and transfer processes, education can increase gender inequality (Sadker & Sadker, 1986). In other words, cultural and traditional approaches of society can shape gender roles and expectations in favor of boys (Govinda, 2002). Despite this, it could be expected that males are less hardworking than females in some societies (Heyder & Kessels, 2015).

The Education for All (EFA) movement, which was launched first in 1990 as an international initiative, aims to ensure gender equity in primary and secondary education worldwide with the idea "*every citizen in every society*"

(UNESCO, 2012; The World Bank, 2014). According to this, individuals, especially girls and disadvantaged individuals, are supported with higher quality education from early childhood education on, and they are encouraged to learn life-long skills in line with the needs of young people and adults. Also, it is recommended to eliminate gender inequalities and to increase gender equality (The World Bank, 2014). In other words, enrollment of the number of girls and the number of boys in primary and secondary schools were equalized all around the world, and they were educated equally. With this aim, in secondary education, a general upward trend was observed globally about gender equality. On the other hand, another observation was about gender unfair at present in approximately two-thirds of the countries in the world (Fiske, 2012). For this reason, the worldwide effort should be made for educational gender equality (Lu & Lin, 2014).

Children develop their gender identity and meaning of being male and female between the ages of 3 and 5. Then, while they fairly improve understanding of stereotypes by 5, they clearly define these stereotypes between the ages of 5 and 7 (Martin & Ruble, 2004). Hence, preschool years are defined as critical years for gender stereotypes. Moreover, children have the period of intense physical change and formations of identity in secondary school years, and they need intense vibrancy and energy in this period. Furthermore, they gain the ability of abstract reasoning and logical thinking and understanding and generating knowledge (The National Curriculum Framework, 2005, as cited in Srivastava, 2014).

According to Srivastava (2014), secondary education is universalized with a bridge role in order to close gender gaps in education. Hence, participation of girls in education is enhanced, and they get well-qualified with social science, science, mathematics, languages and other emerging and applied fields of knowledge which are contained by teaching and learning materials whose content is determined by experts in line with the age, ability and level of understanding of children. In this case, these materials include equity and equality as a source of knowledge despite the increase in the use of internet for different disciplines. Since

children gain and develop personality in classroom environment, the content of different domains of knowledge and the context of gender in these domains enable children to engage in discussions, problem solving and variety of activities and to remove gender barriers (Srivastava, 2014).

In order to achieve gender equality in education, education programmers are assisted in designing, managing, and evaluating education projects, and practical framework is shown with not only clear distinctions and interrelations among the concepts of gender parity, gender equity, and gender equality but also access, quality, continuity, and relevance (USAID, 2008). According to Gender and education for all: The leap to equality, gender parity differs from the gender equality in terms of meaning. While the former is talking about the same percentage of female and male students participating in the education system or reaching their educational goals, (UNESCO, 2003), the latter is the basic principle of equity which is defined by person's talents and efforts (The World Bank 2005).

There are four main dimensions of gender equality such as equality of access, equality in the learning process, equality of educational outcomes, and equality of external results in education (Subrahmanian, 2005). In equality of access, girls and boys are expected to be given equitable opportunities and formal, informal, or alternative approaches to basic education. To ensure equality in the learning process, teaching methods and materials which are free of stereotypes and gender bias are used for all learners. In equality of educational outcomes, it is important to show fair chances for the achievement of boys and girls, which are free of any gender bias. In equality of external results, women and men have equality in career opportunities, full-time education or earning money. It is clear that each dimension has relationship with each other in their complexities. In this case, generation of new ways about education for all children is necessary in order to enhance quality of children's opportunities in education (USAID, 2008).

Practice and theory can be different from each other in education. For instance, although policies, strategies, action plans and guides aim to enhance education of girls, these cannot be applied in practice because of different reasons

such as socioeconomic status of family, social levels, cultural aspects or lack of school facilities. Hence, for some cases, Education for All: a Human Right and a Basic Need might be perceived as only primary education for all (UNESCO, 2012).

Moreover, according to the second item of Article 13 in the International Covenant on Economic, Social and Cultural Rights (1969), the obligation of education in different levels was mentioned:

> The States Parties to the present Covenant recognize that, with a view to achieving the full realization of this right:
> (a) Primary education shall be compulsory and available free to all;
> (b) Secondary education in its different forms, including technical and vocational secondary education, shall be made generally available and accessible to all by every appropriate means, and in particular by the progressive introduction of free education;
> (c) Higher education shall be made equally accessible to all, on the basis of capacity, by every appropriate means, and in particular by the progressive introduction of free education;
> (d) Fundamental education shall be encouraged or intensified as far as possible for those persons who have not received or completed the whole period of their primary education;
> (e) The development of a system of schools at all levels shall be actively pursued, an adequate fellowship system shall be established, and the material conditions of teaching staff shall be continuously improved. (p. 20-21).

Despite these, according to Wilson's report in 2004, compulsory educational legislation was not included by 40 countries out of 179. While the age limit for completing education was found in 108 of them, the compulsory education without defining any age limit was applied in ten countries.

Furthermore, despite the efforts to increase gender equality in social context, gender inequalities are observed in different aspects of education. For instance, one inequality is that females have lower rates in terms of schooling at each grade level and attending the school than males (Sayılan, 2012). The rates of school enrollment in terms of gender inequality have decreased in many developing countries in the last few decades because of international agreements and national campaigns. For instance, in developing countries among 175

countries used in the analysis, the average duration of education for women increased from 2.2 to 7.2 years between 1970 and 2009 (Gakidou et al., 2010), female net school enrollment in secondary education improved from 57% to 65% between 2006 and 2013 (The World Bank, 2015). Across the world, school life expectancy from primary to tertiary education for females increased from 6.7 years in 1971 to 12.5 years in 2017 (UNESCO, 2019). Because of some barriers, female students keep out of school. Hence, instead of enhancing the quality of female education and their rate of success, the focus is on their enrollment (Sibbons et al., 2000). This shows that, governments and donor agencies made efforts to close differences of school enrollment rates between male and female students by giving attention to gender dynamics in participation. Additionally, while it is mentioned that a relationship between gender and educational inputs such as curricula and textbooks are rarely made explicit, the relation among gender inequities, inputs, and outcomes are not sufficiently acknowledged. According to Kendall (2006, as cited in Baily & Holmarsdottir, 2015), while boys spent time on high status tasks, girls swept or arranged furniture in school. Despite education program policies and strategies, these activities lead to gender gap in education. Also, despite the enhancement in enrollment rates for school, this did not guarantee gender equality because of patriarchal customs and social norms (Islam & Asadullah, 2018). On the other hand, for instance in India, National Policy on Education (NPE) aimed to remove all discriminated items and to ensure equality by meeting special needs. NPE (1986) highlighted the importance of education in terms of status of women by redesigning curricula textbooks, training of teachers and all elements of education. After integrating gender concerns into curriculum, teacher handbooks were revisited in order to develop teaching and learning processes and activities with gender inclusion. Also, Justice Verma Committee supported the integration of gender equality at all levels of school years in a sustainable manner (Haryana & Pradesh, n.d.).

According to Esen (2013), female and male students could experience gender differentiation in different times. While males understand this at the

secondary level of the primary school, females do it at the secondary education. Also, in the education process, while females experience sexism, males face physical punishments (Esen, 2013). Thus, teachers in the education system are at the forefront since gender bias could emerge in teacher-student interaction (Zakkamaris & Balash, 2017). For instance, teachers can spend more time interacting with male students than female students (Becker, 2001). Also, in classrooms, male students are out-talked and out-participate, female students (Sadker et al., 2007). Moreover, teachers' biases also lead to unfair situations in classroom environment. For instance, their words such as honey, guys (Chick, Heilman-Houser & Hunter, 2002) or their perception that girls are more teachable than boys (Erden & Wolfgang, 2004) result in gender- stereotype issues. Furthermore, teachers' stereotypes are another issue in classroom in gender fair situations, which refers to providing an equity or equal opportunity to both genders in classroom (Hyun, 2001). Teachers can encourage female students to use technology with their words and attitudes (McNair, Kirova- Petrova & Bhargava, 2001). Besides, while male students are more demanding from teachers than females in getting feedback, females are less demanding (Erden & Wolfgang, 2004; Zaman, 2007). In this case, teacher education gains importance since novice teachers have to define gender issues and enhance equitable teaching in the learning environment of children (Fulmer, 2010). According to Sadker and his colleagues (2007), the content of textbooks and materials in teacher education might be used to remove biased attitudes and stereotyping behaviors. It is mentioned that skilled teachers choose cross-gender activities in cross-gender centers in order to enable students to play with toys without gender stereotypes and to support learning without gender stereotypes. If they continue school for 12 years, they have positive effect on female students by preventing permanent damage about gender stereotypes (Sadker & Sadker, 1994).

According to studies, learners differ from each other in terms of physical, intellectual, social, emotional, linguistic factors and gendered differences. Hence, in assessing students, teachers consider the diversities among students, and they

prefer gender neutral strategies. One of these diversities might be observed in verbal expressions. For instance, girls might display lack of self-esteem and self-confidence in socializing related to real life experiences. While gender sensitivity is experienced in in-class and out-of-class activities, students might not have opportunities to experience gender sensitivity in their family and culture. Also, this enhances the quality and nature of assessment. When printed and visual media is used as a kind of assessment, children can have an idea about equality, equity, diversity and differences used in different contexts related to family, school, work places and society and in developing their personality. Additionally, gender sensitivity is related to globalization, liberalization and enlargement in the field of information technology, which affects all people in different societies (Srivastava, 2014).

The concept of quality education is defined with different terms such as the learning content, teaching methods, assessment, student activities, peer relations or management. Thus, if education aims to enhance gender equality, it has the awareness of gender inequalities and distinguishes these in teacher training, teaching and learning practices, curriculum and textbook content and in national policies and strategies. In this case, if necessary, changes in government policies and implementation of strategies are applied for gender equality in education. In other words, barriers for girls and women in education are removed with the help of successful projects and programs (SADEV, 2010).

In classrooms, student learning, gender bias and stereotypes are shaped by classroom organization and management. Teachers' approach creates a gender-friendly environment with all contexts by improving gender relations (Srivastava, 2014). Moreover, perceptions of students towards gendered stereotypes vary according to courses such as technology, physical education or mathematics and science. This can be again related to expectations of society and also teachers. For instance, Hurlock (2001) suggested that boys are directed to do science and mathematics, and girls are skilled with languages and art. Moreover, a study on 12th grade girls in 15 countries was conducted to find their performance and

interests in mathematics courses. In 12 of 15 countries, while females had lower performance than males in mathematics classes, they took more fundamental math courses than males (Schwartz & Hanson, 1992). Additionally, Dunlap (2002) investigated the effect of single-sex math classes on math achievement and attitudes of her female students. The study was conducted with 50 5th grade students. In the study, there was no statistical significance between the girls' achievement in a single-sex classroom and in a mixed-sex classroom. Furthermore, in Pakistan, the math achievement of students can be explained with the gender of the teacher. In other words, despite other variables, the achievement scores of students of male teachers in mathematics were higher than others (Halai, 2010). In the quasi-experimental research carried out to find out differences in mathematics performance of the students, while students developed their problem-solving skills, results showed that there was no gender bias (Arhin & Offoe, 2015). Another study focused on the relationship between technology and masculinity with the relationship between history and culture (Jenson, De Castell & Bryson, 2003). Although technological skills and competencies match with masculinity, and some girls do not have any interest in, especially, using computers, school-based education can be beneficial in dealing with this masculinity and enhancing gender equity.

In the study conducted by Constantinou, Manson, and Silverman (2009), it was aimed to explore perception of middle school girls towards their physical education teachers' gender-role expectations and effect of these perceptions on the girls' participation and attitudes toward physical education. According to the results of the study, more effort and participation were expected from students. While boys were skillful, aggressive and competitive, competitive environment had positive effect on the participation and attitude of girls. However, peer behaviors had negative effect on the participation and attitude of girls. In another survey, the relationship between discursive constructs, which is sourced by parents, physical educators, and young people and students' physical activity choices with respect to their physical education participation level, gender and race

were studied (Azzarito & Solmon, 2009). In order to increase the participation rate in the courses, some different applications can be recommended. For instance, in high school, young women are not in favor of choosing advanced math courses, and this can have effect on their STEM careers (Hübner et al., 2017). According to Hübner and others (2017), after the educational reform in Germany, the gender difference in math achievement got smaller. On the other hand, gender difference got higher in students' math self-concept and vocational interests. Hence, this was not enough, but reducing the number of course selections could not automatically have effect on construction of balance gender differences.

All over the world, gender inequality is common since it is about the perceptions of societies about stereotyped gender judgments. Hence, it affects the developmental level with productivity and economic growth (Mahbub-ul-Haq, Human Development Center, 2007). According to Mirza (2004), length of schooling, relevance of curricula, learning achievement, perception and the expectations of stakeholders in schooling processes are the indicators of equality. In order to democratize education, gender debates and discourses are regulated, and gender, socio-economic and disability barriers are removed from the secondary level by developing the quality of education (Srivastava, 2014). For instance, in India, the NPE (1986) stated the importance of secondary education in providing children with opportunities to understand their constitutional duties and rights as citizens. Also, the elimination of sex stereotyping in vocational and professional courses and participation of women in non-traditional occupations and emergent technologies are supported.

The hidden curriculum gains importance in classroom environment. Hidden curriculum observed by pedagogical processes, classroom management and all curricular activities provide the transmission of norms, values, beliefs and behavior, social and cultural aspects. Children learn practices, rules, procedures unconsciously when these are placed in classroom activities in order to enable children to learn in different aspects of different types of schools. Although students have an idea about the concept of gender, in order to develop the concept

of gender equality, the theory and practice equality in education should be provided. This curriculum enhances interactions among educational administrators, teachers, peers and other factors in order to develop personality (Srivastava, 2014). One part of the curriculum is textbooks which are used in majority of classroom time (Sadker et al., 2014). For instance, in Asian countries, textbooks have an important place in education system, since everything contained in textbooks are accepted without any criticism (Chou & Ting, 2016). In other words, textbooks are thought to be so efficient in education since they include all kinds of information. They both improve the ability to read and write and provide children with critical thinking, independence and creativity (Brugeilles & Cromer, 2009). Also, according to Jones, Kitetu, and Sunderland (1997), since the dialogues in the textbook involve gender inequality, they have an impact on the cognitive and pedagogical development of students through the hidden curriculum. In those dialogues, female students were silenced, and they were displayed as passive participants and limited in language and occupation. As a result, female students were unconsciously affected in shaping their roles. In this case, women were poorly displayed in economic and political areas (Islam & Asadullah, 2018).

2.2.1 Gender (In)Equality in Turkish Education System

In Turkish education, different studies are conducted in order to provide equal participation of girls and boys in education (GDSW, 2019). For instance, boarding primary schools were opened in order to provide services to the children of families with low socioeconomic level by including students from the rural areas. Transportable Primary School, Secondary School and Secondary Education is carried out in order to provide better quality education and education opportunities for the students in primary school age without a school in a small or a scattered settlement for girls and boys. Additionally, some projects were developed in order to remove disadvantages in schooling rate or to enhance participation in schools. While Inclusive Early Childhood Education Project for Children with Disabilities aimed to increase the number of children with

disabilities participating in early childhood education, Mobile Teacher Pre-Pilot Application ensured the enrollment of children in settlements without school (GDSW, 2019). Also, some projects such as Girls, Let's Go to School, Dad! Send Me to School, Snowdrops and Support Basic Education Project were organized by civil society organizations in order to reduce drop-out rates among female students. For instance, according to the study conducted by Gümüş and Gümüş (2013), a systematic evaluation of Turkey's current efforts to increase gender parity in education was analyzed within Girls, Let's Go to School! project. Turkey made efforts with this project by promoting gender equality in Turkey in education. Hence, these efforts should continue without losing pace, especially in the most needed regions in order to increase female education. Moreover, these projects reduced school drop-out rates for girls and provided training programs for girls and women who left school early. In addition, some courses were opened by Ministry of National Education for adult education. Gender Equality and Education Course, Professional Skills Development Project 1-2 and Mother-Daughter at School Literacy Campaign were some of them. In Mother-Daughter at School Literacy Campaign, it was aimed to make illiterate women literate. These were regulated in line with Lifelong Learning Strategy of MoNE in order to support women's access to education. Moreover, while circulars were issued for the same aims, some protocols have been signed with the aim of supporting girls' qualified education in fields such as technology, agriculture or automotive (GDSW, 2019).

Despite these applications and increasing schooling rates, there were some differences in the enrollment rate of school between female and male students. According to the report presented by TSI (2018), in 2017/2018 academic year, the net enrollment rate in preschool education in the 3-5 age group is 38.5% in total, 38.1% for girls and 38.8% for boys. When the 4-5 age group is examined, the ratio is 50.4% in total, 49.9% for girls and 50.8% for boys. In terms of the schooling rate in the 5 age group, the total rate is 66.8%, 65.7% for girls and 67.9% for boys. Additionally, in the same report, for the primary school in 2017/2018 academic

year, this ratio was 91.5%. The rate for boys and for girls was 91.4% and 91.6%, respectively. In middle school, net enrollment rates are 94.4% and 94.2% for boys and 94.6% for girls. In high schools, the schooling ratio was 83.5% in total and 83.7% for boys and 83.3% for girls. Moreover, in higher education, the net enrollment rate was 45.6% in 2017/2018 academic year, and this rate was 47.4% for female and 44% for male (TSI, 2018). Besides, similar results were obtained from ERI's report for 2017/2018 (ERI, 2018). Also, 46% of students at the university are female students. Additionally, 39.34% of the students attending the master's program and 42.5% of the students attending doctoral programs were female in 2017/2018 academic year (HEC, 2018, as cited in GDSW, 2019). As a result, in Turkey, in the field of education, school enrollment rate at all levels except from the primary levels has increased. In the last four academic years, the enrollment rate of women has been higher than that of men by approximately 3-4% (EDF, 2019).

In the projects about human rights, civil society organizations supported some projects thanks to EC grants (Aydagül, 2019). The project, initially undertaken by the History Foundation between 2002 and 2004, is Human Rights in the Textbooks. As a part of this project, teachers screened human rights violations in the textbooks, including those related to gender discrimination. In addition, two follow-up projects were conducted between 2007 and 2009 and 2013-2014 to monitor progress. Despite some improvements, there were not enough enhancements in gender equality in textbooks by 2008 (ERI, 2008). Then, more progresses in textbooks were observed in gender equality by 2012 (ERI, 2012).

In 2014, EC financially supported MoNE's major project formally titled Promoting Gender Equality in Education Project in order to evaluate and improve education policy and legislation, educational settings and processes and educational materials in terms of gender inequality. This project was completed in 2016 (Engin-Demir et. al., 2016). According to Aydagül (2019), some improvements in gender equality were only limited to numbers, so no real equality could be achieved. As a result, education plays a role in defining gendered roles by

means of not only teachers' discourses and behaviors but also discourses and illustrations in textbooks.

2.2.2 Gender Representations in Textbooks

Schools and primary school curriculums play a role in the socialization of children with inequality and in the transformation of the society (Jabeen, Chaudhary & Omar, 2014). In this case, textbooks play a role in realizing changes by means of education. While classroom materials support students with cultural knowledge, this knowledge has an effect on the improvements of cultural identity and socialization process (Yılmaz, 2012). Socialization affects individuals in terms of learning their gender roles, which is connected with gender stereotypes (Eagly, 1997; Giddens, 1993). One of the carriers of cultural knowledge is textbooks (Yılmaz, 2012). Textbooks are about a topic, and authors use the newly built or existing worlds of students to improve learning. As a result, a world of stereotypical sexist judgments can be formed for boys and girls (Dean, 2007), and students' self-image is affected by this. For instance, while female images are used less, stereotypical images for women are presented in the content of textbooks (Zafar & Malick, 2006). Also, in Pakistan and other South Asian countries, current and expected stereotypes of gender are found in curricula and textbooks with greater divergence (Stromquist et al., 1998). Additionally, textbooks as a part of curriculum show the past knowledge which government and related authorities legitimatize for young learners. Since information in the textbooks is perceived as containing unquestionable reality, female characters in history textbooks were displayed as historically insignificant (Chiponda & Wassermann, 2011).

Since early childhood, students have come across books that are part of children's literature. When these books were analyzed, it was seen that they include messages, expressions or illustrations about gender stereotypes (Trepanier-Street & Romatowski, 1999; Dilek, 2014; Kaynak & Aktaş, 2017). As for school textbooks, they shape not only students' perception of cultural values, norms, and

attitudes towards social roles and identities but also gender equity (Xiong, He & Li, 2017).

In the classroom, students use textbooks in most of their class time (Blumberg, 2008). When the time spent with textbooks is considered, textbooks contain gender equality in education to improve students' identities of gender at school (Evans & Davies, 2000; Taylor, 2003). Also, since textbooks reflect the changes of society, whether there are changes about gender ideology in society could be observed. In 1960s and 1970s, the textbooks' analysis was used as an informant or constructor of minds about sexual roles or gender identities. This was a social problem of agendas and political strategies in discrimination against women (Rosemberg, Moura & Silva, 2009). Generally, since gender perception is a part of social culture, language books also play a role in carrying the gender perception of culture (Yılmaz, 2012). In 1980s and 1990s, 205 illustrations from 17 Portuguese language textbooks were analyzed, and changes in appearance, activities or clothes of women were observed (Pires, 2002; as cited in Rosemberg, Moura & Silva, 2009). When 18 math textbooks used in the 5th and 6th grades of elementary teaching were analyzed, little changes about gender representation were observed (Casagrande & Carvalho, 2006, as cited in Rosemberg, Moura & Silva, 2009). In 1990s and 2000s, in new themes focusing on heterosexuality or masculinity, including gender terms and gender bias (Evans & Davies, 2000), a change in terminology has been observed with the introduction of a theoretical reference point in cultural studies (Rosemberg, Moura & Silva, 2009). According to the declarations and agreements over the last few decades, the importance of gender gap in international education agenda was enhanced in line with Education for All-Millennium Goals. Then, at the end of the 1980s, Blumberg (2007) started the second generation of studies on gender bias in textbooks with diachronic and monitoring perspective. According to these, although gender bias was removed from textbooks explicitly, gender stereotypes are still observed in them (Rosemberg, Moura & Silva, 2009).

When 30 books which were used and recommended to be used in the State of California was analyzed, male overrepresentation (75% of the main characters), and a female in a domestic setting without any economic activities were obtained (Zimet, 1968). Besides, Tonini (2002) mentioned that there was a polarity constructed by masculinity and femininity which discriminated women and men in different areas. Also, in math books, dichotomized roles and non-incorporation existed despite the changes in gender relations (Casagrande, 2005, as cited in Rosemberg, Moura & Silva, 2009). In Amaral's study (2004), families were imaged together with modern and old values together. However, females were represented in domestic environment, and there was unequal distribution of power between females and males. In other words, underrepresentation of female characters in traditional roles continued (Amaral, 2004; Nogueira, 2001, as cited in Rosemberg, Moura & Silva, 2009).

The study conducted by Xiong, He, and Li (2017) aimed to explore the gender bias and stereotypes in a set of primary English textbooks used in schools in China. At the end of the study, they encountered stereotypes and imbalanced representation of genders and gender social roles in the textbooks. In another study, whether language of EFL textbooks in Iran contain gender bias or not was investigated (Gharbavi & Mousavi, 2012). In those textbooks, imbalanced representation of genders was displayed, too. Hence, it could be said that similar results will be obtained with similar studies (Jannati, 2015). According to the results, females were represented less than males, and males had more various occupational roles than females. Furthermore, when physical education textbooks were analyzed in terms of the images of gender differences for secondary schools in Spain, the results were not different than the results of previous studies (Taboas-Pais & Rey-Cao, 2012). In this case, males were represented more than females, and certain activities and sports were matched with gender stereotypes. In primary school mathematics textbooks of Nigeria, despite being different in numbers in 5th and 6th grade, gender bias in favor of boys was seen (Zakka & Zanzali, 2015).

Hence, they highlighted the importance of raising awareness of individuals in the field of education in terms of gender equality.

2.2.3 Gender Representations in Textbooks in Turkey

In studies on gendered approaches in textbooks in Turkey, Gümüşoğlu (1994) studied primary school textbooks published between 1928 and 1994. In books that were published between the proclamation of the Republic in 1923 to 1945, there were examples in order to strengthen solidarity within the society and the family. After the 1940s, a sharp distinction between male and female roles in family for division of labor began in textbooks, and the gendered approach had not changed in textbooks until 1994 (Gümüşoğlu, 1994). Furthermore, in early 2000s, it was observed that gender discrimination in textbooks was presented with different concepts and policies as open and covered (Arslan, 2000; Tanrıöver, 2003). Moreover, in 2006, Asan examined 28 textbooks used in 2005-2006 academic year in primary schools. In these books, while male figures are used extensively, they are shown in public spaces or outdoors. In the same study, it was stated that gender roles were internalized by female teachers more than males. Also, Esen (2007) mentioned in her article that there were two periods as before and after curriculum reform. Before the reform, textbooks contained 68 discriminatory items in the primary education textbooks, 75 in the high school textbooks, 53 discriminatory items in Turkish course books, 18 items in Life Studies textbooks and 17 items in the Social Studies textbooks. After the reform, it is possible to encounter discriminatory expressions (Esen, 2007). In addition to these, it was presented that some textbooks were prepared with a gendered view. In those textbooks, female characters are defined over male characters. For example, they are introduced as the wife of Mr. Principal. In addition, female characters have less visibility than male characters (Çubukçu & Sivaslıgil, 2007; Can, 2009, as cited in Özdemir & Karaboğa, 2019).

In 2010, Demirel studied social gender discrimination in Social Sciences textbooks used between 1928 and 2008 for 6th, 7th and 8th grade levels, and these

textbooks showed the same results as previous studies. For instance, males were overrepresented, and it was obtained that these books contain stereotyped gender judgments. Another study conducted by Güneş in 2008 investigated whether there was a relationship between the changes in government and gender-based discrimination in the school books. In this study, textbooks between 1990 and 2006 were examined, and these were compared to the ones before and after 2002 because of general elections. As a result, the number of gendered approaches was reduced in textbooks, and this was not related to the governmental change.

A study conducted by Kırbaşoğlu- Kılıç and Eyüp in 2011 examined two Turkish textbooks. In both of those textbooks, while males were illustrated with more images than females, both genders were placed in specific places with respect to their gender roles. In addition to these, there was imbalance in terms of their personality in favor of males. Gender roles reflect traditional roles and men are shown to be superior to women in personality-related roles. Similar to this, in Çeçen's study (n.d.), it was shown that males were more visible, and they had more positive roles in 8th grade Turkish textbook. Also, the visuals of the textbooks in Turkish course in 2012-2013 were analyzed. According to the results, male characters in the book are matched with gender roles and are more prominent than female characters. Women were depicted as mother, teacher, or nurse in books (Yaylı & Kitiş-Çınar, 2014). Additionally, analysis of visual components of elementary and middle school Religious Culture and Moral Knowledge textbooks in terms of gender was conducted (Yıldız, 2013). While traditional gender roles were presented in the book, women were depicted at home, and men were outside. Moreover, women were only shown while praying in visuals. Furthermore, gender equality was examined in the Citizenship and Democracy Education textbook with students' perceptions of gender equality (Kalaycı & Hayırsever, 2014). Both textbook and student perceptions support gender inequality. Hence, researchers suggested that awareness of teachers be raised, and discourses that resulted in gender inequality were removed from materials.

In another study, Kükrer and Kıbrıs (2017) compared gender equality in Turkish textbooks (used in 1977-1979 and 2013-2014) before and after CEDAW in terms of social gender equality by examining the images and texts of the textbooks. While males had more varied occupational roles than females, a positive development in social gender equality was seen in textbooks used in 2013-2014. According to ERI's report (2017), after 2016, it was observed that gender roles, women's rights and concept of equality were not included adequately in new curricula. Additionally, while new textbooks contained few women's roles, gender equality was removed from 9th grade textbooks, and more sexist approach was employed in written and visual content in 1st and 5th grade Turkish textbooks (ERI, 2017).

In one study, female images in children's pictorial books were analyzed (Çınar, 2015). For this, 30 books published in 2009 were studied. In books, while females were generally presented as mother with domestic roles, they had fewer ratios than males in illustrations. Also, in visuals, aprons, pink colors, ribbons, skirts and dresses were used for female characters. In another study, Arslan-Ozer, Karataş, and Ergun (2019) examined the books used from the 1st to the 4th grades. In this case, both females and males had both feminine and masculine roles in texts, and also all colors were used for both genders. Apart from the 2nd grade book, others had more male images than female ones.

Moreover, Söğüt (2018) investigated job and adjective attributions in gender representations in high school EFL course books. As a result of the study, despite some similarities in gender distributions in professions (teachers, doctors, architects, etc.) and adjectives (celebrity, thoughtful, successful, etc.), both the number of occupations and adjectives were different from each other for females and males. In another study, 491 undergraduate students wrote down 10 adjectives to describe how women and men were perceived (Sakallı-Uğurlu, Türkoğlu & Kuzlak, 2018). While four basic themes such as appearance, personality, gender roles and power were represented as stereotypes, sub-themes include the structure of stereotyped gender judgments in Turkish culture.

Furthermore, Tanrıöver (2003) highlighted that mathematics textbook could contain gendered discrimination. To illustrate, in some problems, lower schooling rate of girls was perceived as normal, or skill of problem solving was attributed to male characters in images. Additionally, the study conducted by Karakuş, Mutlu, and Diker-Çoşkun in 2018 examined the gender-related concepts and expressions written in the national curricula for 16 compulsory courses at primary and secondary level, which were updated in 2017 and 2018. Some terms such as female, male, women, men or gender were analyzed in curricula, and it was seen that their total number decreased. While total number was 61 in 2017, it was 34 in 2018. The reason for this was these terms were removed from some of the objectives of the courses. However, while there was no change in the number of expressions including the concepts of girls and boys in the mathematics curriculum, only the concept of gender was added to these concepts (Karakuş et. al., 2018).

İncikabı and Ulusoy (2019) conducted a cross-national study in order to examine gender bias and stereotypes in Australian, Singaporean and Turkish elementary mathematics textbooks. While math-gender stereotypes were shown as generally neutral in all textbooks, social roles in mathematics textbooks were matched with both women and men. Additionally, Bayburt and Duman (2017) analyzed the 5th, 6th and 7th grade levels of social sciences' curriculums in terms of women's rights. They concluded that women's rights were not included by the curriculum adequately. Also, while women's rights were directly not mentioned in the 5th and 7th grade social sciences curricula, there was an objective about women's rights in the 6th grade program.

During the literature review, theories about gender development and gender equality were summarized. Then, international and national developments, policies and rights about gender equality were examined. Additionally, gender equalities or inequalities in different areas such as work life or education were shared. Especially, the importance of textbooks for children in constructing gender stereotypes and gender equality was highlighted. All in all, there are changes in

policies on gender equality and cooperation between different organizations. However, for some cases, gender equality is limited only to numbers. Hence, in textbooks, the messages given in textbooks about gender equality and gender stereotypes gain importance for future societies.

CHAPTER 3

METHODOLOGY

This chapter aims to describe the research method of the study. Firstly, the research design of the study is introduced. Then, the documents used in the study are mentioned. Next, the procedure, data collection instruments, data analysis and reliability of the study are discussed. Finally, researcher's role and ethical issues of the study are presented.

3.1 The Research Design of the Study

The current study was designed as a qualitative research. In Merriam's opinion (2009), qualitative research was about interpretations of individuals and meaningful inferences related to their experiences in their world. In these studies, while Creswell (2009) highlighted the importance of face-to-face communication with participants, Merriam (2009) emphasized the need for being in the natural setting of the individuals in order to interpret the reason of their real behaviors. In other words, Strauss and Corbin (1990) defined that qualitative research is a way to produce knowledge of understanding behaviors of individuals and society and changes in them. Also, while Creswell (2007; 2013) used qualitative research in order to understand and to explore social and human issues, Flick (2013) benefited from it in making comparisons and obtaining details about these issues. In addition to them, if data is analyzed with qualitative methods, it aims to explore knowledge containing social reality (Özdemir, 2010). In these kinds of studies, the data is collected via field notes, interview transcripts, documents, photographs, sketches, video or tape recordings (Dey, 2003; Denzin & Lincoln, 2005). According to Dey (2003), qualitative research is used for many methods to collect data such as participant or non-participant observation, unstructured interviewing, group

interviews and the collection of documentary materials. While conducting a qualitative research, researchers are responsible for the preparation and application of the instruments (Creswell, 2009). Also, themes, categories, concepts from the data and descriptions from the processes, meanings and understandings are used in qualitative researches (Merriam, 2009). Moreover, a type of qualitative data analysis is constructed by the summarization and interpretation of the data from predetermined themes and categories (Yıldırım & Şimşek, 2003). Hence, although Creswell (2007) stated that qualitative research is time-consuming, Denzin and Lincoln (2005) claim that it is interpretive.

The qualitative multiple case studies were chosen as a research methodology in order to investigate the gender roles and gender equality in the middle school 5th grade mathematics and social sciences textbooks (see Table 1). According to Yin (2004), multiple case studies help researcher to strengthen the findings from the entire study since it might contain one or more actual real-life cases. In the current study, while the first case was about the gender equality and gender roles in the middle school 5th grade mathematics textbook, the second case was about the gender equality and gender roles in the middle school 5th grade social sciences textbook.

There are different definitions of case study in the literature. While Creswell (2007) defines that case study/studies are evaluated in a certain period of time with different data collection tools, Merriam (1998) states that it is *a process rather than outcomes, context rather than a specific variable, and discovery rather than confirmation*. However, all highlighted the importance of the case study in obtaining deeper understanding about phenomena. Case studies significantly support the study content by providing a detailed analysis (Bromley, 1986; Denscombe, 2003; Creswell, 2009). In the case study, Yin (2004) mentions that case studies are useful in examining a case within its real-life context. Thus, it is expected that the case study is about a specific place in an organization, a certain group of people, or a specific activity (Bogdan & Biklen, 1992, as cited in Yeniterzi, 2016; Merriam, 2009). Moreover, the case study is defined as *a choice*

of what is to be studied (Stake, 2005), and the question in the case study is important (Yin, 1994; Stake, 2005). According to Cousin (2005), the case study does not aim to examine cases. On the other hand, it defines cases and explores the setting in order to understand cases. Hence, multiple cases are chosen to make sense of the differences and the similarities between the cases (Baxter & Jack, 2008; Stake, 1995). In multiple cases studies, data is analyzed in terms of both within each situation and across situations (Yin, 2003). This might be used for matrix development of categorization in deductive content analysis (Polit & Beck, 2012).

In the current study, verbal and pictorial contents in the course books were coded and analyzed by the researchers based on the purpose of revealing the gender-biased components and gender stereotypes, and the methods presenting the concept of gender qualitatively. The study presented the gendered components in the course book from multiple perspectives. Analyses were carried out through verbal and pictorial contents on a page-by-page, on question-by-question and on text-by-text basis. Hence, the qualitative research was utilized in order to investigate the gender roles in the middle school 5th grade mathematics and social sciences textbooks. Additionally, to provide deeper understanding of the topic, "how" and "what" questions were asked. Moreover, the current study was designed as a multiple case study since the specific activities or cases were chosen to obtain data about gender roles in the middle school 5th grade mathematics and social sciences textbooks.

3.2 The Documents Used in the Study and Their Selection

The two documents of the study that were focused on were one 5th grade mathematics textbook and one fifth grade social sciences textbook taught at public schools in Turkey in the 2018-2019 academic year. These textbooks used in the study are shown in Table 1 below:

Table 1
Textbooks used in the study

Textbooks	Grade	Year	Publisher
Middle School Mathematics Course Book	5	2018	MEB Publishing
Middle School Social Sciences Course Book	5	2018	Anadol Publishing

In the current study, 5th grade level mathematics course book and 5th grade level social sciences course book were used to answer the research questions. While the mathematics courses are perceived as gendered, the social sciences courses reflect the social structure and perception of the society. In this case, both books could contain gendered items.

The textbooks were chosen in accordance with purposeful sampling. This sampling method was defined as a technique in qualitative researches in order to provide identification and selection of the information-rich conditions as stated by Patton (2002). Furthermore, if data is obtained from individuals, participants are expected to provide voluntary participation in the study, to share their experiences, to reflect their opinions and to have knowledge of the topic (Bernard, 2002; Creswell & Plano Clark, 2011; Spradley, 1979). However, in the current study, these textbooks were chosen since they were suitable for obtaining more information about questions and for the needs of the study (Creswell, 2013; Frankel & Wallen, 2006).

3.2.1 About Mathematics Textbooks and Curriculum

One of the focuses of this study was the mathematics textbooks. These textbooks represent three educational levels; elementary level consists of seven textbooks (for 1st, 2nd, 3rd and 4th grade levels). The middle level consists of eight textbooks (for 5th, 6th, 7th and 8th grade levels). The secondary level also consists of 16 textbooks (for 9th, 10th, 11th and 12th grade levels). Each stage can have separate authors and be published by different publishing houses as well under the supervision and authority of The Ministry of National Education (MoNE) namely "The Center of Curriculum and Instructional Materials

Development" in Turkey. Each textbook series consist of the same number of units with similar titles in the middle level. For instance, each textbook in the middle level (from 5th to 8th grade levels) has units which are shaped by number and operations, algebra, geometry and measurement, data analysis and probability. The book used in schools was determined by MoNE.

Elementary School Mathematics Course Curriculum consists of five learning areas such as numbers and operations, algebra, geometry and measurement, data processing and probability. In the 5th grade, learning areas are numbers and operations, geometry and measurement, and data processing. According to these learning areas, at the end of 5th grade level, students are expected to be able to read and write natural numbers and to perform four operations on natural numbers. Also, students are expected to be able to make sense of integer and compound fractions, and decimal notation. The concept of percentage associated with fractions and decimal notations is included in the field of numbers and operations. In geometry and measurement, students are expected to be able to explain, to show and to draw basic geometric concepts such as line, piece of line and ray. Also, they are expected to be able to name the polygons and to recognize the basic elements, to understand the basic properties of rectangular, parallelogram, rhombus and trapezoid. They are expected to be able to recognize and to converse length measurement units and to calculate circumferential lengths of polygons. Additionally, students are expected to be able to calculate the area of the rectangle in square centimeters and square meters, to determine the basic properties, to draw the surface opening and to calculate the surface area. In the data processing, students are expected to be able to create research questions that require data collection, and to show and interpret the appropriate data from the tables, frequency tables and column graphs (MoNE, 2018).

According to MoNE (2018), while Mathematics curriculum has a student-centered perspective that attaches importance to conceptual understanding, Turkey Qualifications Framework identified eight core competencies, including values such as flexibility, aesthetics, equality, justice, and sharing these values and

linking them with appropriate gains. It contains root values such as justice, friendship, honesty, self-control, patience, respect, love, responsibility, patriotism and helpfulness.

3.2.2 The Learning Areas in 5th Grade Mathematics Textbook

In the mathematics textbook published by Ministry of National Education, unit one was about numbers and operations in numbers. Also, the second unit included fractions and fractions with operations such as addition and subtraction. While the third unit was related to decimals and percentages, unit four contained basic geometric concepts such as line, line segment or half line and triangles and quadrilaterals. In the fifth unit, topics were related to data processing and measurement in length and time. Finally, the last unit included the measurement of area in quadrilaterals, and the title of geometric objects includes types of prism, nets of prism and area of prism.

In the book, each unit had similar parts for students such as "*Are we ready?*", "*Let's try*", "*Let's do together*", "*Time of game*", "*You are next*" and "*Unit evaluation*". Each subheading begins with sections containing information to prepare students for the subject, which may also include questions about the subject. These sections include information on the emergence and historical processes of the subjects. The distribution of the units with the same titles and the number of related questions are shared in the table below. In some questions, there were sub-questions which were shown with a, b, c or bullets, or some sub-questions were connected to each other with conjunctions such as and, or. Thus, while main questions were presented as Q, sub-questions were shown as SQ in Table 2. Additionally, the total number of these questions was shared in the table below. Sub-questions were not included in the section containing the total numbers, but only the main questions were calculated. The number of units was mentioned as U1, U2, U3, etc.

Table 2

The number of topics in parts of units of 5th grade mathematics textbook with distribution of the number of questions in units in the same chapters in units

Topics	U1	U2	U3	U4	U5	U6
For Sub-topics	8	5	7	8	5	5
Are we ready?	20 Q	6 Q	-	9 Q	17 Q	4 Q
	16 SQ	2 SQ	-	7 SQ	3 SQ	1 SQ
Let's try	8 Q	5 Q	7 Q	8 Q	5 Q	5 Q
	2 SQ	-	-	-	-	-
Let's do together	69 Q	35 Q	44 Q	39 Q	27 Q	14 Q
	9 SQ	6 SQ	7 SQ	9 SQ	6 SQ	4 SQ
Time of game	3	2	2	2	1	2
You are next	73 Q	31 Q	46 Q	58 Q	34 Q	21 Q
	34 SQ	22 SQ	19 SQ	22 SQ	6 SQ	3 SQ
Unit evaluation	11 Q	10 Q	10 Q	9 Q	8 Q	9 Q
The total	192	94	116	133	97	64

3.2.3 About Social Sciences Textbooks and Curriculum

These kinds of textbooks represent three educational levels with special names such as life sciences in elementary level or social sciences in 5th, 6th and 7th grade levels in middle school; the elementary level consists of 7 textbooks (for 1st, 2nd, 3rd and 4th grade levels). The middle level consists of 5 different textbooks (for 5th, 6th, and 7th grade levels). Each stage can have separate authors and be published by different publishing houses as well under the supervision and authority of MoNE namely "The Center of Curriculum and Instructional Materials development" in Turkey. Each textbook series consist of the same number of units with similar titles in the middle level. The book used in schools was determined by MoNE.

Social Studies Curriculum in all grade levels (for 5th, 6th and 7th grade levels) has seven learning areas such as individual and society, culture and inheritance; people, places and environment; science, technology and society; production, distribution and consumption; active citizenship; and global connections. According to these learning areas at the end of them, in the area of individual and society, students are expected to be able to have opportunity to be *me* and *us* with a focus on psychology, sociology and social psychology as an interdisciplinary approach by evaluating spatial, historical and cultural factors. In

the culture and inheritance, students are expected to be able to learn protecting and developing the culture based on the basic elements of national Turkish culture by raising awareness. Also, students are expected to be able to understand the importance of basic cultural elements and their effects on global culture. In the area of people, places and environment, it is aimed to recognize human environment and interaction, to understand the causes and consequences of this interaction by using various skills and values and to gain individual or social perspective for the future. Additionally, students are expected to be able to gain research, environmental literacy, perception of change and continuity, observation, map literacy and space perception skills. In the area of science, technology and society, students are expected to be able to understand innovative, critical and scientific thinking as the basis of developments in science and technology; to comprehend the development process of science and technology and its positive and negative effects on social life. In the production, distribution and consumption unit, while students are expected to be able to learn basic terms about it, they are expected to be able to develop entrepreneurial and conscious consumer skills. In the active citizenship unit, students are expected to be able to focus on the concept of active citizenship within the framework of sociology, political science and law. Also, they are expected to be able to comprehend the existence of an organized state power as the most important guarantee of the problems that will arise in social life. In the last unit, it is aimed to train active and responsible Turkish citizens who follow the agenda of the developing world and produce solutions to the problems that they face (MoNE, 2018).

In the Social Sciences Curriculum, there are some values such as justice, giving importance to family unity, independence, peace, scientific, diligence, solidarity, sensitivity, honesty, aesthetics, equality, freedom, respect, love, responsibility, saving, patriotism and charity (MoNE, 2018). Also, in the program, there is an objective only in the 6th grade level that students are expected to be able to realize the value given to women in social life by starting from Turkish history and current examples.

3.2.4 The Learning Areas in the 5th Grade Social Sciences Textbook

In this study, the social sciences textbook used at public schools in Turkey in the years 2018-2019 was another focus of the current study. Units of the 5th grade social sciences textbook was mentioned previously.

In the social sciences textbook, each unit had similar parts for students such as "*Preparation study", "You are next", "Let's think and discuss", "Let's search and share", "Reading texts", "Students' study", "Let's interpret words of wisdom", "Let's interpret visual", "From media" and "Unit evaluation".* Their distribution in fifth grade textbook was shared in Table 3 below.

Table 3

The number of topics in parts of units of 5th grade social sciences textbook

Topics	U1	U2	U3	U4	U5	U6	U7
Preparation study	4	5	5	5	6	4	4
You are next	5	7	5	5	7	6	5
Let's think and discuss	5	2	6	4	4	1	2
Let's search and share	1	8	4	2	3	4	2
Reading texts	2	3	0	2	3	2	0
Students' study	2	0	2	0	2	0	1
Let's interpret words of wisdom	1	1	0	1	1	1	0
Let's interpret visual	0	0	2	0	1	0	0
From media	1	0	5	0	2	0	2
Unit evaluation	6	7	6	5	6	5	5
	5	10	11	10	10	11	6
	MC	MC	MC	MC	MC	MC	MC

According to these, students are provided with thinking, searching, interpreting and sharing in parts *Preparation study, You are next, Let's think and discuss, Let's search and share, Reading texts, Let's interpret words of wisdom, Let's interpret visual*. In the *From media part*, examples from Turkey and from around the world were shared in order to increase credibility for students. In addition to them, there are reading texts which contain detailed knowledge of topics in units. In *Unit evaluation* part, while the first line showed the number of different parts of it such as filling in the blanks, matching items, multiple choice

items or open-ended questions, the second line displayed the number of questions in the part which consists of multiple choice items.

3.3 Data Collection Instruments

According to Bowen (2009), documentation provides data about the context, questions, change and development. Also, for Yin (1994), documentation is one of the six sources of data. In this case, documents are reviewed or evaluated as written or electronically in order to ensure understanding and to improve knowledge (Corbin & Strauss, 2008). Documents might be constructed by images and texts, advertisements, agendas, books, maps, charts, newspapers, brochures, diaries, journals, proposals, summaries or radio and television program scripts (Atkinson & Coffey, 1997; Bowen, 2009; Corbin & Strauss, 2008). For the documentation, only the mathematics and social sciences course books were used in the analysis of illustrations and texts. The illustrations and expressions used in the books were analyzed with respect to frequency of appearance of characters, the distribution of roles related to family, household activities or jobs. Then, categories were constructed. As a result, tables were filled to show these categories. In detail, character distributions, dress colors in books in order to determine gender roles in charts and selection, shoe preferences, accessories, actions, game types or occupations were determined, and percentages and frequencies were taken**.** In other words, illustrations and expressions about character distributions were analyzed in terms of “only male”, “only female”, and “both type”. “Both type” is again divided into three categories according to the distribution of main characters, namely “equality in genders”, “more males” and “more females”. These expressions such as only females, only males, female dominant, male dominant and equality in number of genders used in the frequency of females and males in illustrations of textbooks are shown in Figure 1 and Figure 2 below.

(a) Only females (p. 182)

(b) Only males (p. 50)

(c) Female dominant (p. 41)

(d) Male dominant (p. 136)

(e) Equality in number of genders (p. 65)

Figure 1 Illustrations used in mathematics textbook

(a) Only females (p. 168)

(b) Only males (p. 11)

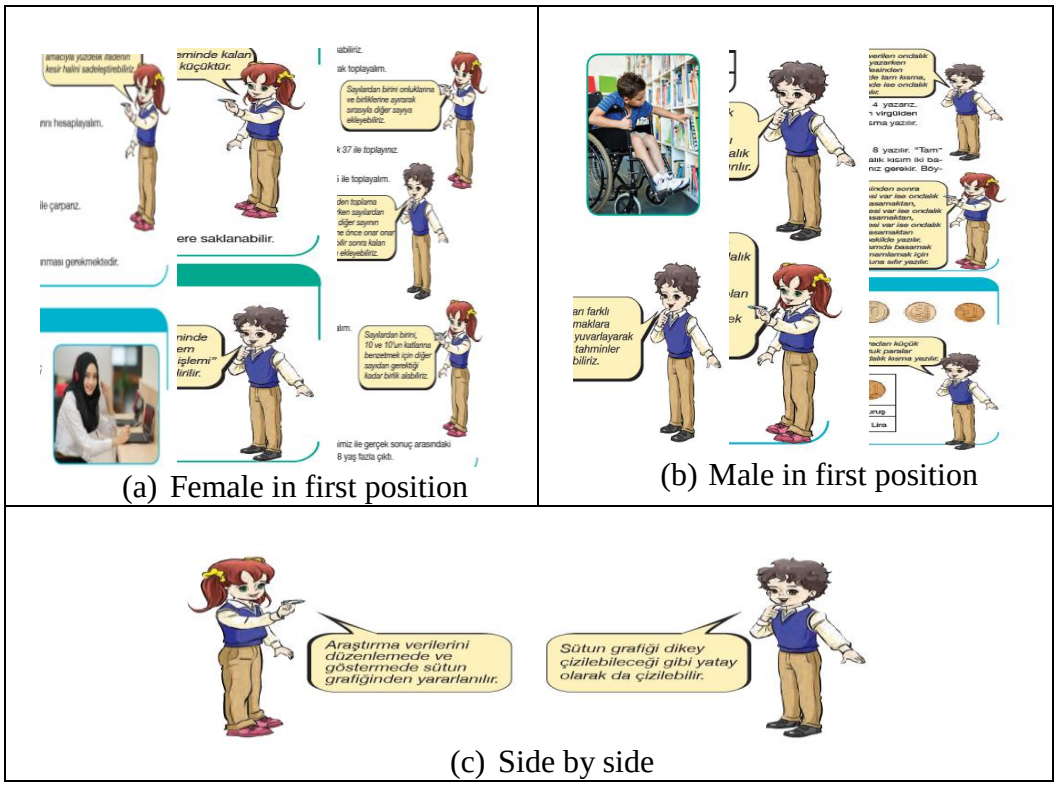
(c) Female dominant (p. 20)

(d) Male dominant (p. 26)

(e) Equality in number of genders (p. 138)

Figure 2 Illustrations used in social sciences textbook

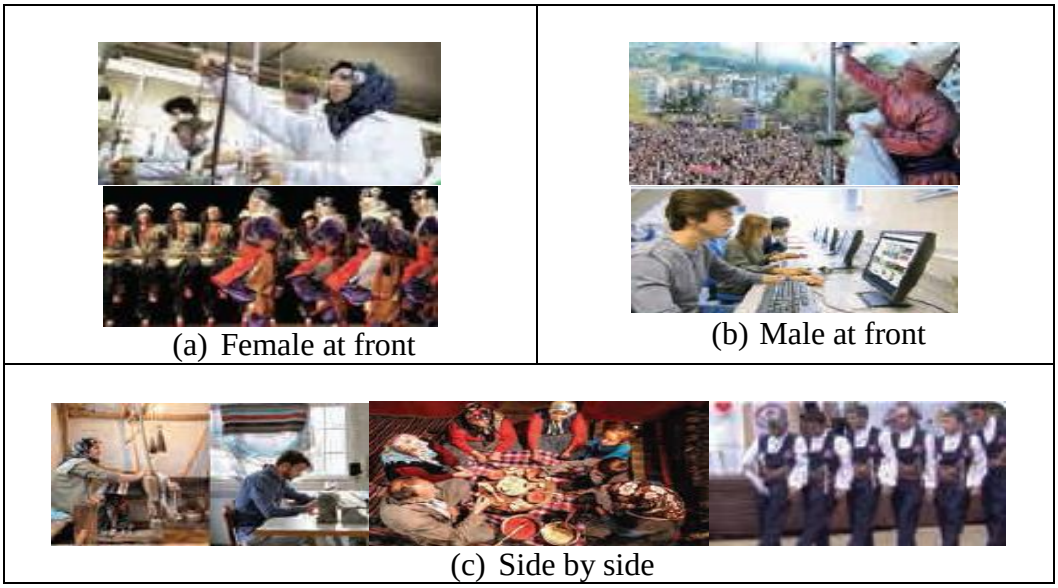
Additionally, which gender is being given priority in one page or one illustration was exemplified in Figure 3 and Figure 4 below.



(a) Female in first position (b) Male in first position

(c) Side by side

Figure 3 Illustrations used in mathematics textbook about order or position



(a) Female at front (b) Male at front

(c) Side by side

Figure 4 Illustrations used in social sciences textbook about order or position.

3.4 Data Analysis

The data was analyzed based on the qualitative research methods such as a multiple case study. In this study, data was obtained from the 5th grade mathematics and social sciences course book in a public middle school in order to investigate gender equality and gender roles in these textbooks.

For the current study, the content analysis, which was the most used analysis type in qualitative methods (Özdemir, 2010), was used in order to provide the interpretation of data. According to Cohen, Manion and Morrison (2007), content analysis is a research technique consisting of editing, classifying, comparing and extracting theoretical results from texts. In the content analysis method, inductive and deductive ways can be used for both qualitative and quantitative researches (Elo & Kyngas, 2008). According to them, if the data do not provide sufficient information related to the content, inductive ways can be beneficial in order to construct categories from the data (Elo & Kyngas, 2008). In deductive ways, content is formed after all the data is reviewed, and categories are identified in order to code and exemplify them (Polit & Beck, 2012). In other words, deductive content analysis is used for testing concepts, categories, theories or any conceptual structure in a new context by benefitting from prior theoretical knowledge as a starting point (Kyngas & Kaakinen, 2020). Hence, since gender roles, gender equality, gender bias were determined, this current study was a deductive one.

In this study, content analysis was preferred because it combines similar data with certain concepts and themes and transforms them into a format that the reader can understand (Bauer, 2003; Fraenkel & Wallen, 2006; Yıldırım & Şimşek, 2005). Furthermore, literary theory, social sciences and critical scholarship form the roots of content analysis in qualitative approaches. The content analysis is supported by verbal, pictorial, symbolic, and communication data (Krippendorf, 1989; 2004). Moreover, the importance of content analysis is highlighted in displaying opportunity for researchers to categorize data and to make replicable and valid inferences from the context (Weber, 1990; Stemler,

2001; Krippendorf, 2004; Myaring, 2014). In developing countries and developed countries, in order to study about gender stereotypes in school textbook, the content analysis is mostly used (Alrabaa, 1985; Blumberg, 2007; Blumberg, 2015).

As for analyzing data, Wolcott (1994) discusses data analysis methods in three categories which are description, analysis and interpretation. However, according to him, there are not absolute boundaries between these methods. On the other hand, Dey (1993) examines the same process called qualitative analysis in three sections which are description, classification and association. According to him, the analysis process consists of series of these sections. Another method is coding (Strauss & Corbin, 1990). According to this, a word or a sentence refers to a code in showing data (Saldana, 2015), and these are produced by conceptualization (Strauss & Corbin, 1990). Also, the text data could directly produce these coding categories (Hsieh & Shannon, 2005), which helps construction of families with similar characteristics (Saldana, 2015), and so more data is decreased (Strauss & Corbin, 1990; Weber, 1990).

In this case, a text which includes written and printed texts and illustrations and sounds is described as a product of social interaction (Fairclough, 1999; Fairclough, 2003). According to Goatly (2000), a text refers to physical form of speaking and its meaning. In addition to these, Stein (2004) explains the text as a term used for both verbal texts and visual texts since it includes visual, gesture, speech, writing, and sounds. Thus, visual texts allow individuals to understand different aspects of the world, relationships of objects with other objects and processes (Kress & van Leeuwen, 2006).

3.5 Reliability of the Study

In studies, external validity, internal validity, reliability and objectivity can be expressed as the fundamental criteria (Lincoln & Guba, 1985). Nevertheless, qualitative researches and quantitative researches are different from each other in these criteria (Agar, 1986; as cited in Krefting, 1991). According to Guba (1981),

qualitative researches have some indicators such as credibility, confirmability, dependability and transferability.

In the qualitative research, credibility is about internal consistency (Weber, 1990) or internal validity (Merriam, 1998). In studies, credibility was explained by Merriam (2009) as a consistency between the actual situation and the way research findings are interpreted. According to Merriam (1998), there were six ways which are triangulation, member checks, long term observation, peer examination, participatory or collaborative modes of research, and reducing researcher biases to increase credibility. In Shenton's paper (2004), it was also advised to hold frequent debriefing sessions between the researcher and her or his superiors in order to broaden their experience and perceptions, to review previous research findings to compare previous research results with current research results. Besides, the quality of research might be enhanced by reading and learning specific kinds of qualitative research since the researcher's preconceptions, values or expectations have effect on conducting study and interpreting its results (Maxwell, 2005; Merriam, 2009).

For the confirmability, objectivity of the study is explained (Lincoln & Guba, 1985, Merriam, 1998). Although the real objectivity of the researcher is not provided (Patton, 1990), providing detailed information about the purpose and role of researcher minimizes the effect of researcher bias. Also, in order to provide objectivity, results were gathered and checked more than once. In this case, if there was a difference between the obtained results in the first and the second check, these results were checked one more time. Moreover, in order to increase the objectivity of the researcher, it was aimed to decrease researcher bias by explaining researcher's role in detail.

Dependability indicates reliability (Shenton, 2004). In other words, it displays consistency of findings when a research is repeated (Lincoln & Guba, 1985, Merriam, 2009). The aim of dependability is to provide a *prototype model* for repeating the work in the future by describing the methodology in depth. Thus,

it is not important to obtain the same results, but enhancing understanding and effectiveness of the methods is valuable (Shenton, 2004).

Moreover, the researcher was the only instrument in collecting and analyzing the data, and she was a researcher who was still taking training. In order to enhance credibility and confirmability by providing triangulation and reducing researcher bias, different kind of studies about gender roles, gender stereotypes or gender representation in textbooks were read. Moreover, reports about gender inequality were examined, and previous studies and reports on gender inequality and current study results were compared. Another reason for benefitting from previous studies was to support triangulation in current study since triangulation could not be supported with observation and interview because of the context of the current study. Hence, this might be the reason for higher researcher bias. Instead of conducting observation and interview, results and interpretations of similar studies which contained documents, observation and interview were used to triangulate and to decrease researcher bias. Furthermore, policies about gender equality in education, curriculum of mathematics and social sciences courses and framework of instructional programs were used for triangulation. In addition to these, Article 26 in the Universal Declaration of Human Rights (1946), Article 13 in the International Covenant on Economic, Social and Cultural Rights (1969), The Education for All and national applications about gender equality in laws and plans were used to support triangulation. Additionally, these were valid to increase dependability.

Another indicator of qualitative research is transferability called external validity (Lincoln & Guba, 1985), which displays whether the current study's results can be applicable for similar cases in different studies (Merriam, 2009). Transferability is difficult for some cases because of situational uniqueness of qualitative researches (Krefting, 1991) or limited number of settings or individuals (Shenton, 2004). As a result of this, Krefting (1991) advised some strategies in order to increase transferability. While the sampling method could be one of these strategies, presenting detailed information about aims and content of the study

could be another one. In this case, both could be used to improve new assumptions related to the results of the study. Additionally, the importance of data content is another strategy used to increase transferability. In other words, the content of study is considered instead of subjects. Moreover, Creswell (2009) suggested that the context is described as rich and thick in order to provide transferability. Although the current study is about investigation of gender roles in middle school 5th grade level mathematics and social sciences textbooks, the same idea might be used in similar studies with different books or different grade levels.

3.6 Researcher's Role

In qualitative research, researcher has an important role in conducting the study and interpreting the results of the study. Because of this, the role of the researcher is well-defined in qualitative studies (Merriam, 1998; Creswell, 2009). In other words, values, biases or background of the researcher might affect the interpretation process in the study (Locke, Spirduso & Silverman, 2014).

In the current study, the researcher was as a female mathematics teacher in middle school level and the only responsible of the study in conducting and interpreting the study. However, although the researcher was familiar with mathematics textbook used in the current study, she did not teach the social sciences textbook during the semester. In order to overcome researcher bias, she tried to count the number of illustrations and questions and texts which included people. Additionally, she collected the data from the textbooks which she checked more than once, and she compared each result in order to define whether there was a difference among them. In order to find out if there was a difference between the numbers which were checked in different times, she counted them one more time. Also, she tried to compare the results with policies and regulations which focused not only on equality in numbers but also on gender equality in the division of labor. As a result, she tried to decrease researcher bias and increase the objectivity of the current study.

3.7 Ethical Issues

The researcher applied to the Ethics Committee for Applied Ethics at the Middle East Technical University to obtain the required permission (see Appendix B). After getting the permission from the university, the data collection procedures started. In this process, 5th grade mathematics textbook and social sciences textbook were used.

CHAPTER 4

RESULTS OF THE STUDY

This chapter focuses on the results and offers interpretations of the findings obtained by the present research. The study designed under three research questions explores areas of gender bias, gender equality and gender roles in textbooks. Firstly, the presence of females and males in middle school 5th grade mathematics textbook was examined. The following part focused on the distribution of gender images in middle school 5th grade mathematics textbook. Then, linguistic usage of gender balance in middle school 5th grade mathematics textbook was investigated, and also the concept of gender and occupational and gender matches in the texts of the 5th grade math book were examined. In the third part, the distribution of gender images in middle school 5th grade social sciences textbook was studied. In the last part, while linguistic usage of gender balance in middle school 5th grade social sciences textbook was examined, the concept of gender and occupational and gender matches in the texts of the 5th grade social sciences book were examined. Finally, the chapter draws generalizations from the results obtained by the research for each textbook. In other words, it was aimed to answer the questions what extend gender equality is included in 5th grade mathematics and social sciences textbooks, how gender roles are addressed in textbooks and how gender equality are indicated in the education programs in 5th grade textbooks at the end of the analysis. Moreover, how both mathematics and social sciences textbooks differ in terms of showing gender equality is examined. Also, international and national action plans and regulations were used for triangulation. In plans and regulations, it is mentioned that the number of female and male students used in the textbooks and texts must be equal, and the structure

and functioning of the roles of parents should be carefully reflected equally between men and women in the books.

4.1 In the Fifth Grade Mathematics Textbook

The textbook was analyzed in terms of gender bias, gender roles, and gender equality in illustrations and texts such as questions, problems or statements.

4.1.1 The Frequency of Females and Males in Illustrations in Mathematics Textbook

In the middle school 5th grade mathematics textbook published by Ministry of National Education, although illustrations include different images such as drawings, graphs shapes or photographs or pictured individuals, illustrations including people and pictured individuals, if clear, were taken into consideration for analysis. However, some of the images did not look clear because they formed the background of the book pages. Therefore, they were not included in the visual analysis. In addition, other visuals that were not included in the analysis were manual calculation, throwing away garbage, drawing and cutting, and label holding.

According to these, the total number of illustrations, the number of illustrations which include female characters and the number of illustrations which include male characters were counted, and then, equality between genders was evaluated. Additionally, their distributions with respect to units were shared in the tables below. In other words, the examination was made for each of the 6 units of the book. In addition, the number of illustrations was also analyzed with respect to roles, occupations or responsibility of gender characters in order to gain knowledge about whether the textbook contains gender roles in the society. Firstly, the total numbers of female and male characters were analyzed, and then their numbers were compared in terms of their distribution in pages in Table 4. For instance, in the mathematics book, the characters in the images are shown separately (not more than one character is placed within an image).

Therefore, one or more one-man images on one page of the book were used in the analysis. Then, if these characters were more than one in one page, they were analyzed with respect to gender dominancy and gender order in images.

Table 4

The distribution of illustrations with respect to gender in units of MT

	Females	Males	The total
U1	20	18	38
U2	14	8	22
U3	15	15	30
U4	13	16	29
U5	7	6	13
U6	4	3	7
Total f	73	66	139
Total %	52.52	47.8	100

According to Table 4, the total number of illustrations which contained female figures and male figures was 139. Unit 1 had the highest number of illustrations and unit 6 had the lowest number of illustrations. In other words, there were 38, 22, 30, 29, 13 and 7 illustrations in each of the units, respectively. These might be related to the content of the units. In detail, the number of illustrations which included female characters constructed approximately half of the illustrations with 73 illustrations in total. The distribution of illustrations with female figures in each of the units was 20, 14, 15, 13, 7 and 4, respectively. Also, the number of illustrations with male figures was lower than the number of illustrations with female figures with 66 illustrations in total. Thus, there were 18, 8, 15, 16, 6 and 3 illustrations with male figures in each of the units, respectively. Moreover, except from unit 3 and unit 4, the number of illustrations with female figures was more than the number of illustrations with male figures. Also, while there was equality between the numbers in unit 3, the number of illustrations with male figures was more than the number of illustrations with female figures in unit 4. In one picture, there were 4 children. Two of them were female while one was male, and the last one was not clearly seen in the third unit. In this case, while 52.52% of the illustrations included female characters, 47.48% of the illustrations

included male characters. As a result of this, the number of female figures was higher than the number of male figures in illustrations.

In Table 5, the number of pages containing only one image (one character) is shown in order to compare the number of female and male figures. Also, it could be compared with previous results in Table 4. Thus, whether there was a similar distribution in total was evaluated.

Table 5

The number of illustrations shown with only one character in one page of MT

	One Female	One Male	The total
U1	6	5	11
U2	5	4	9
U3	6	7	13
U4	5	9	14
U5	3	2	5
U6	2	1	3
Total f	27	28	55
Total %	49.10	50.90	100

According to results in Table 5, the total number of these illustrations shown with only one character in one page was 55, and gender characters were placed in illustrations almost equally. For instance, while 27 illustrations contained female characters, 28 illustrations included male characters. According to the units, there were 6, 5, 6, 5, 3 and 2 female characters, and there were 5, 4, 7, 9, 2 and 1 male characters in each of the units, respectively. In other words, while 49.10% of illustrations contained one female character in one page, 50.90% of them included one male character in one page. In units, characters were generally placed in illustrations almost equally. The difference between numbers of female and male characters was 1 which referred to 1.80% of them apart from the fourth unit. However, the difference between numbers of different gender characters was 4 in the fourth unit. In this unit, there were five illustrations in which there were females, and there were nine illustrations in which there were males.

In Table 6, the numbers of illustrations with more than one character in one page were shared. In this table, while the gender of characters was not considered, only the number of visuals on one page was counted. For instance, two visuals

may consist of only women or men. Furthermore, the distribution of men and women in the two visuals can equally be a woman and a man. Additionally, illustrations with three characters could include characters which were illustrated as all females and all males, or female dominant and male dominant.

Table 6

The distribution of illustrations with more than one character in one page of MT

	Two figures	Three figures	Four figures	The total
U1	18	9	0	27
U2	14	0	0	14
U3	12	3	4	19
U4	12	0	0	12
U5	8	0	0	8
U6	4	0	0	4
Total f	68	12	4	84
Total %	80.95	14.29	4.76	100

According to Table 6, in the book, there were 84 characters in total with more than one character shown in one page. In this case, 34 pages contained two characters in one page, and four pages included three characters in one page. The total number of images on pages containing two images is 68, and the total number of images on pages containing three images is 12. It was mentioned that approximately 80.95% of 84 images included two characters, and approximately 14.29% of them included three characters. One of 39 pages included an illustration with four characters, which refers to 4.76% of 39 pages. In this illustration, one individual was not clearly seen, so it was not evaluated in next parts. In this case, the frequency of illustrations which included two characters in one page was observed.

In the following table, Table 7 showed the single-sex and mixed-sex illustrations in one page. Single-sex and mixed-sex visuals were composed of only female, only male, more female (female dominant), more male (male dominant), and equality between women and men. Thus, illustrations with two characters had the majority again because of numbers in the previous table. Pages with more women and men were used for pages with three images. These illustrations were exemplified in Figure 1.

Table 7

The distribution of single-sex and mixed-sex illustrations in one page of MT

	Only females	Only males	Female dominant	Male dominant	Equality	The total
U1	0	1	3	0	8	12
U2	2	0	0	0	4	6
U3	1	0	0	1	6	8
U4	0	0	0	0	6	6
U5	0	0	0	0	4	4
U6	0	0	0	0	2	2
Total f	3	1	3	1	30	38
Total %	7.89	2.63	7.89	2.63	78.95	100

The distribution of single-sex and mixed-sex illustrations in one page is shown in Table 7, and illustrations were categorized into as the ones constructed by only females, only males, female dominant, male dominant and equality in number of genders, which referred to one female character and one male character. The total number of pages with more than one individual in one page of the mathematics textbook was 38, and their distributions in each of the units were 12, 6, 8, 6, 4 and 2 pages per unit, respectively. Equality in the number of gender characters was observed in most of the pages of the textbook. In other words, 30 pages were shown with both female and male characters on the same page. This referred to 78.95% of these kinds of pages. The distribution of the 30 pages in each of the six units was 8, 4, 6, 6, 4 and 2 pages.

While illustrations with only female figures were on three pages in the second and third unit, illustrations with only male figures were only on one page only in the first unit. Additionally, the number of female dominant pages which was in first and fourth units was four, and the number of male dominant pages which were in first and third units was two. In this case, it might be concluded that female characters which were only female and female dominant were in majority of pages in textbook which was equal to 15.79% of these pages when compared male characters which were only male and male dominant since 5.26% of these pages were related to male characters.

Table 8 was formed in the order of male and female images on pages with multiple images. In other words, the distribution of illustrations with more than

one character on one page was counted. The visuals were created as only female, only male, more female, more male, and as equality in the number of women and men. According to this, especially, the number of pages that illustrate females at the top of the page and the number of pages that illustrate males at the top of the page were considered in order to compare them in terms of equality of numbers. Their representations were exemplified in Figure 3. The order was shown as Female-Female (F-F), Female- Male (F-M), Female-Male-Female (F-M-F), Male-Male (M-M), Male-Female (M-F) and Male-Female-Male (M-F-M).

Table 8

The order of single-sex and mixed-sex illustrations on the same page in MT

	F-F	F-M	F-M-F	M-M	M-F	M-F-M	The total
U1	0	7	3	1	1	0	12
U2	2	4	0	0	0	0	6
U3	1	5	0	0	1	1	8
U4	0	4	0	0	2	0	6
U5	0	3	0	0	1	0	4
U6	0	2	0	0	0	0	2
Total f	3	25	3	1	5	1	38
Total%	7.89	65.79	7.89	2.63	13.16	2.63	100

According to Table 8, the majority of pages were related to two characters. In pages with two different characters, while females were placed in the first position on 65.79% of 38 pages which referred to 25 pages with both a female and a male, on 12.82% of 38 pages males were placed in the first position which referred to five pages as male and female. On pages with two characters of the single-sex, females were on three pages, two of which included female and her reflection. Also, there was only one page in unit 1, which had two males. On the other hand, on pages with three characters, females again had priority in positions. On three pages, females were both in the first and third position. Only one page contained males in the first and third position in the illustrations among these pages. From the table, the number of pages in which females were at the top was higher than the number of pages in which males were at the top. In other words, it is possible to observe that 81.58% of 38 illustrations included the female characters, and on pages with more than one image, according to the gender

rankings in the images, pages that included women's visuals in the first place or at the top were the majority.

In Table 9, the numbers of illustrations were shown in order to define roles and places of genders. In other words, how and what gender roles were illustrated in the textbook was presented.

Table 9

The number of illustrations which shows roles of gender characters in MT

Social roles as	U1	U2	U3	U4	U5	U6	Total f	Total %
Female students	20	9	14	11	7	4	65	47.79
Male students	17	8	15	13	6	3	62	45.59
Female computer user	0	0	1	0	0	0	1	0.74
Female & male computer user	0	0	0	1	0	0	1	0.74
Male in keeping rope	0	0	0	1	0	0	1	0.74
Female w/ her reflection	0	2	0	0	0	0	2	1.47
Male in library	1		0	0	0	0	1	0.74
Female in restaurant	0	1	0	0	0	0	1	0.74
Male in street	0	0	0	1	0	0	1	0.74
Individuals in street	1	0	0	0	0	0	1	0.74
The total	39	20	30	27	13	7	136	100

In Table 9, gender characters were analyzed with respect to their roles and where they were. 136 images containing gender roles were obtained. Most of them, approximately 93.38%, were presented as female and male students. In detail, while 47.79% of 136 illustrations were female students, 45.58% of 136 illustrations were male students. Images with students were easily observed in all units. For instance, the numbers of female students in each of the units were 20, 9, 14, 11, 7 and 4, respectively, and the numbers of male students in each of the units were 17, 8, 15, 13, 6 and 3, respectively. Additionally, female and male students were illustrated in the same uniform for school, and they were depicted in brown pants, yellow shirt and dark blue sweater. For female students, yellow hairpin was also used. However, there was a difference in the color of their shoes and hair.

While pink shoes and brown hair were used for females, black shoes and black hair were preferred for males. Moreover, other illustrations were placed in units as once or twice. While females were in the front in using computer and ordering in a restaurant, males were depicted while calculating, in library and in street. In these images, white, black, red and green colors were preferred for females, and also blue, black and red colors were used for males.

4.1.2 The Frequency of Females and Males in Statements of Mathematics Textbook

The frequency of females and males in the texts in terms of names in the middle school 5th grade mathematics textbook was evaluated. In the examination of textbooks, names used for individuals in questions and in their solutions or in tables and graphs were counted in the current study. These were mentioned as texts. According to these, similar processes in illustrations were applied for names. In this case, the total number of names and their distribution with respect to gender were shared in tables. Additionally, their distributions with respect to units and the order of their use are shown in tables below. In some questions, clear results were not obtained because of unisex use of names. Thus, these were evaluated under the topic of unisex names. Also, texts were evaluated based on the number of names they contain, the order of use of the names, which name of a gender was used first position, the gender roles and what the characters do and where they are. For instance, as mentioned previously, while female characters were placed inside home, male characters were outside the home. That is, female characters were matched with housework, and male characters were interested in earning money. In other words, female characters were illustrated in occupations with less power, but male characters were presented in occupations with more power.

In table 10, the total number of texts in each of the units and the number of texts including individuals' names were mentioned. Their distributions in terms of topics in units were mentioned previously. In some texts, there were not special

names, but there were some expressions like mother, father, uncle or aunt. The use of names and titles was evaluated according to gender distribution.

Table 10

The distribution of texts in units in the MT

	Individuals' names	The total number of texts
U1	37	192
U2	20	94
U3	21	116
U4	4	133
U5	11	97
U6	2	64
Total f	95	696

According to the table, 95 out of 696 texts contain individuals' names. In each unit, there were 37, 20, 21, 4, 11 and 2 texts including individuals' names, respectively. In these texts, there could be more than one individual. Their numbers were mentioned in the following tables.

In Table 11, the distribution of names in the texts in each of the six units was shared. The number of female, the number of male and the number of unisex names were displayed in detail. The distribution of names by units is given in the table. The table contains only the number of names, not the number of texts.

Table 11

The distribution of names with respect to gender in units in MT

	Female	Male	Unisex	The total
U1	27	16	8	51
U2	15	23	1	39
U3	20	18	3	41
U4	3	5	2	10
U5	9	9	2	20
U6	0	1	1	2
Total f	74	72	17	163
Total %	45.40	44.17	10.43	100

According to Table 11, the number of names which contained female names such as Ayşegül, Canan, male names such as Murat, Ali, and unisex names such as Ersin, Tuna, Ada, Deniz, Ece was 163. Unit 1 had the highest number of names, and unit 6 had the lowest number of names. In other words, there were 51, 39, 41, 10, 20 and 2 names in each unit, respectively. These might be related to the

content of the units. The second highest unit in terms of the number of names was the second unit. The number of female names constructed more than half of the whole, which referred to 74 names in total. The number of female names in each unit was 27, 15, 20, 3 and 9, respectively, but the sixth unit did not contain female names. Besides, the number of male names, 72 names in total, was lower than the number of female names. Thus, there were 16, 23, 18, 5, 9 and 1 male names in each of the six units, respectively. Additionally, the number of unisex names used for both females and males was 17. In each of the units, there were 8, 1, 3, 2, 2 and 1 names, respectively. In this case, 45.40%, 44.17% and 10.43% of all referred to female, male and unisex names, respectively. According to this figure, in general, the number of female names was higher than the others.

In Table 12, texts with only one character were analyzed. For this character, a female name, a male name or a unisex name were used. Additionally, the total number of them was shared in table including both gender and unit.

Table 12

The number of texts with only one character in MT

	One Female	One Male	One unisex	The total
U1	14	11	2	27
U2	4	4	0	8
U3	7	7	0	14
U4	0	2	0	2
U5	3	3	1	7
U6	0	1	1	2
Total f	28	28	4	60
Total %	46.67	46.67	6.67	100

According to Table 12, there were 60 texts with one character which had a female name, a male name or a unisex name. In one question of Unit 5, one male name was used with both the name and surname in the question, and it was Mustafa Kemal ATATÜRK. Hence, since his name was special, it was counted as one. The number of female names, which was 28, and the number of male names, which was 28, were equal to each other. Also, the number of unisex names was four. In other words, approximately 46.67% of the names were presented as female, and 46.67% of the names were used for males, and finally, 6.67% of

names referred as unisex in total. Additionally, in Unit 5, although one individual was mentioned as *emperor*, this was not counted.

In Unit 4, there were not any female names, and this was valid for Unit 6, too. On the other hand, there were questions in which one unisex name was used Units 1, 5 and 6. As for the distribution of total names with respect to units, Unit 1 had the highest number of names. Unit 3 had the second highest number of names. While the numbers of names in Units 2 and 5 were approximately equal to each other, the numbers of names in Units 4 and 6 were equal.

Table 13 showed the distribution of texts with more than one character, their distribution in each of the units and the total number of questions. In these questions, there were two individuals, three individuals, four individuals and six individuals. Additionally, the names used in defining individuals with their family were presented in this table. For instance, these kinds of names were exemplified as *Melike and her family* or *Nuran and her family*. Moreover, for this part, the gender of these individuals was not analyzed in texts.

Table 13

The distribution of texts with more than one character in MT

	Two names	Three names	Four names	Six names	Sb's family	The total
U1	9	2	0	0	2	13
U2	6	5	1	0	0	12
U3	1	3	4	0	0	8
U4	0	0	2	0	0	2
U5	2	1	0	1	0	4
U6	0	0	0	0	0	0
Total f	18	11	7	1	2	39
Total %	46.15	28.21	17.95	2.56	5.13	100

In the table above, the number of texts with more than one character was 39 in total. In terms of the number of characters, two characters in 18 texts, three characters in 11 texts, four characters in 7 texts and six characters in 1 text were used. As a result, the number of texts with two characters had the highest number. On the other hand, the lowest number was in texts with six characters. In other words, approximately 46.15% of texts were presented with two characters while 38.21% of them were for three characters. Moreover, 17.95% of them were for

four characters, 2.56% of them were for six characters, and finally, 5.13% of them were for someone's family. In addition to this, texts with three characters could contain some expressions. For instance, these expressions were exemplified as *İnci's uncle and her aunt*, *Merve's mother and her sibling*, and *my mother's age, my age and my father' age*. In addition to these, gender and name were not mentioned in some texts. Some terms such as friend, student, traveler, watcher, needy, waiter, hirer, tourist, customer, farmer, racer or jeweler were used.

In terms of units, while texts with two and three characters were not mentioned in Unit 4, texts with four characters were not placed in the Units 1 and 5. In the Unit 6, there were not any texts formed by more than one character. Unit 1 had the highest number of texts with more than one character. Also, the number of texts was approximately equal in Units 1 and 2. The number of texts in Unit 4 was half of the number of texts in Unit 5.

In Table 14, for texts containing more than one name, it was determined for which gender the names were used. In addition, the gender of the first name was mentioned in the texts.

Table 14

The order of gender names in the same text in MT

First name is	Female	Male	Unisex	The total
U1	7	3	3	13
U2	6	6	0	12
U3	5	2	1	8
U4	1	1	0	2
U5	3	1	0	4
U6	0	0	0	0
Total f	22	13	4	39
Total %	56.41	33.33	10.26	100

For texts with more than one name, the number of male names used in the first place is more than half the number of female names used in the first place. In four questions, unisex names were used in the first place. In other words, female names were used in the first place in 56.41% of the texts while male names were first used in 33.33% of the texts. In addition, in 10.26% of the texts, unisex names are in the first place. Additionally, apart from the Unit 6, the number texts in

which female names were used first was 7, 6, 5, 1 and 3 in each of the units, and the number of texts in which male names were used first was 3, 6, 2, 1 and 1 in each of the units, respectively. Also, the unisex names in the first place were used in Unit 1 in three texts and in Unit 3 in 1 text. The result of this was that the Unit 6 did not have texts with more than one character. Moreover, while the number of male names and unisex names were equal to each other in the Unit 1, the number of female names and male names were equal in Unit 4. Additionally, the number of female names in Unit 1 was equal to the number of female names in Unit 2. There was not any equality between the numbers of names Unit 3. In the table below, the characteristic of names in texts were analyzed in terms of the dominant gender.

Table 15 presents the number of texts with single-sex and mixed-sex names in the same text. Similar to other parts, the aim of this was to show the gender distribution and equality in these distributions in line with the objectives of the regulations and plans to ensure gender equality in textbooks and materials. In some texts, there was an uncertainty about gender dominancy since these texts contained unisex names. This situation was not valid for all texts in which unisex names were used. If there were unisex names in the texts, this was categorized according to their frequency in names. For example, they were presented as only unisex names and unisex dominant.

Table 15

The distribution of texts with single-sex and mixed-sex names in one question in MT

	Only female	Only male	Female dominant	Male dominant	Equality	Unclear	The total
U1	2	1	0	0	3	6	13
U2	0	4	2	1	4	1	12
U3	1	1	1	0	2	3	8
U4	0	0	0	1	1	0	2
U5	0	0	1	0	2	1	4
U6	0	0	0	0	0	0	0
Total f	3	6	4	2	12	10	39
Total%	7.69	15.38	10.26	5.13	30.77	25.64	100

The distribution of gender names in texts with more than one character is presented in Table 15. The total number of texts was 39. Since there were unisex names in texts, texts were not defined as female dominant, male dominant or equality between them in numbers. According to the table, while only male names were used in six texts, and only female names were used in three texts, only unisex names were only used in one text. Moreover, the number of texts with male dominant names and the number of texts with undefined were equal to each other in Unit 2. Furthermore, while the number of texts which showed equality between genders was higher than others, this was followed by the number of texts which are unclear on which gender names are used extensively due to unisex names. For instance, there were 12 texts showing equality between female and male names, and there were 10 undefined texts because of unisex names. Besides, in any of the texts, unisex names were not used more often than other names. 30.77% of texts containing more than one name show equal numbers of names used for women and men (texts include equal number of male and female names). Also, while 10.26% of them included female dominant names, 15.38 % of them were formed by only male names.

According to Table 15, there were texts with only female names in Units 1 and 3 and texts with only male names in Units 1, 2 and 3 and texts with only unisex names in Unit 1. Moreover, while female dominant texts were used in Units 2, 3 and 5, male dominant texts were mentioned in Unit 2.

Table 16 shows how gender characters were presented in texts. In other words, what characters do or where they are or what occupations they have are shown in order to ideas about gender roles in textbook.

Table 16

The number of texts which shows roles of gender characters in MT

Social roles as	U1	U2	U3	U4	U5	U6	Total f
Female teacher	1	0	0	0	0	0	1
Male jobseeker	1	0	0	0	0	0	1
Female student	0	0	0	0	1	0	1
Male student	1	3	0	0	0	0	4
Female in job	0	0	0	0	2	0	2

Table 16 (Cont'd)

	U1	U2	U3	U4	U5	U6	Total f
Male in job (or as helper)	0	3	1	0	0	0	4
Female with book	0	4	3	0	0	0	7
Male with book	0	0	1	0	0	0	1
Female in shopping (center)	4	1	4	0	0	0	9
Male in shopping (center)	3	0	3	0	0	0	6
Unisex in shopping (center)	2	0	0	0	0	0	2
Male racer	0	2	0	0	0	0	2
Female in calculating	9	0	1	0	0	0	10
Male in calculating	7	0	2	0	0	0	9
Unisex in calculating	3	0	0	0	0	0	3
Female racer	1	1	0	0	0	0	2
Female hiker	1	0	0	0	0	0	1
Male stationer	1	0	0	0	0	0	1
Female taller than male	0	0	0	0	0	1	1
Male in doing science	0	0	3	0	0	0	3
Female collector	1	0	0	0	0	0	1
Male master	2	0	1	0	0	0	3
Female in sharing	3	2	0	0	0	0	5
Male in sharing	0	1	0	0	0	0	1
Unisex in sharing	0	1	0	0	0	0	1
Female with her family in trip	2	0	0	0	0	0	2
Male in brushing teeth	0	0	1	0	0	0	1
Female in drinking milk	0	1	0	0	0	0	1
Male in drinking milk	0	1	0	0	0	0	1
Female in making patty	0	2	0	0	0	0	2
Female in eating pizza	0	1	0	0	0	0	1
Male in eating pizza	0	4	0	0	0	0	4
Female in buying flower	0	0	1	0	0	0	1
Male in starting business	0	1	0	0	0	0	1
Male older than female	2	0	0	0	0	0	2
Female at home	0	0	3	1	0	0	4
Male outside	0	0	5	2	0	0	7
Unisex at home	0	0	0	1	0	0	1
Unisex outside	1	0	0	1	2	0	4
Female candidate for class president	0	0	2	2	0	0	4
Male candidate for class president	0	0	2	3	0	0	5
Unisex candidate for class president	0	0	0	1	0	0	1
Female researcher/ observer	0	0	2	1	0	0	3
Male researcher/ observer	0	0	0	1	0	0	1

Table 16 (Cont'd)

	U1	U2	U3	U4	U5	U6	Total f
Female in exam	0	1	2	0	0	0	3
Male in exam	0	1	2	0	0	0	3
Female in selling ticket	0	1	0	0	0	0	1
Male in selling ticket	0	1	0	0	0	0	1
Male as painter	0	3	0	0	0	0	3

In the current study, texts such as problem sentences or questions, reading parts and examples were analyzed in mathematics textbook, and table above was obtained from units of book according to the gender distribution of the names used in the texts and the matching of characters with gender roles. While some expressions were obtained from different texts for names, some roles are included in the same text. Also, in some of them, individuals' names were given but their occupations were not mentioned or vice versa. In the same position, the total number of females and the total number of males were equal to each other. However, in terms of the units, these were different from each other. It might be said if they are two figures in the same question at the same time, equality in numbers can be mentioned. In some questions, the traditional gender roles were clear. In other words, while male characters were displayed outside the house, female characters were depicted in the house or as a buyer. For example, while female characters made patties and made her children or her guests eat, male characters preferred eating pizza outside the home. Also, female characters were presented with their parents on the trips. Besides, in one question related to time problems, while the female character was in Turkey, the male character was in the USA. Furthermore, male characters were depicted in jobs which require power while females had jobs which might be presented as requiring less power, more patience and kindness. In different parts of the race, while male was better in riding a bicycle in the race, female was better at walking. Moreover, male characters were mentioned as masters in production process, and females were presented as teachers. In addition, in shopping, they bought different kinds of products. To illustrate, while the male character bought a t-shirt, television, chair,

table, shoes or pants for his home, female character bought a bag and flowers to give her mother. Also, the male character borrowed some money from his male friend to set up a business; however, the female character saved money or shared her books. Another difference between two characters was about age. For instance, father was older than mother, or uncle was older than aunt in these problems. On the other hand, female was taller than male in one of the problems. In this case, it might be said that gender role was clear in questions or statements.

Differences between females and males were observed in different aspects. While females were faster than males in solving problems, males spent more than females in according a text which was about gifts that would be given according to the amount of spending at the end of shopping. Also, in a question about fractions, when the female shared her walnuts, the male took the extra walnuts. In problems about calculating or developing strategy, the number of female characters and the number of male characters were approximately equal. On the other hand, in problems which were related to science experiments, all characters were male. The fact that males were more successful than females in positive sciences might be related to the perception of the society. Besides, in the voting for presidency in classroom, female students had more votes while, the student with the unisex name had more votes in the voting for student representative.

Despite showing equalities between genders in some cases, some female characters were presented as family-dependent in outside environments, and some male characters were free. Also, some female characters were producers inside home, and they spent money shopping for home. On the other hand, male characters were money earners, and they spent money in shopping for themselves, or they had a role as money lender to their friends. In this case, traditional roles were exemplified in those texts. Also, these contradicted with The Regulation on Textbooks and Educational Tools in 2012. According to this, it could suggest the idea that although the structure and functioning of the roles try to reflect the equality between men and women in the books, it is clear that gender equality cannot be achieved completely.

4.2 In the Fifth Grade Social Sciences Textbook

The textbook was analyzed in terms of gender bias, gender roles and gender equality in illustrations and texts such as questions, problems or statements.

4.2.1 The Frequency of Females and Males in Illustrations of Social Sciences Textbook

Similar to mathematics textbook, in the middle school 5th grade social sciences textbook allowed by Ministry of National Education, illustrations presenting different images such as drawings, maps or photographs or pictured individuals, if clear, were used for analysis part of the current study. However, some of the illustrations in pages were not clearly defined, so they were not included. According to these, the total number of these illustrations, the number of illustrations which includes female characters and the number of illustrations which includes male characters were counted, and then, their equality for genders was evaluated. Additionally, their distributions in the units were shared in the tables below. In addition, the number of illustrations was also analyzed with respect to roles, occupations or responsibility of gender characters in order to gain knowledge about whether or not the textbook contains gender roles in society.

While in social sciences textbook, the total numbers of female and male characters were analyzed, and then, their numbers were compared in terms of their distribution in illustrations in Table 17. For instance, the number of illustrations containing only one character or two characters or three characters or more characters with gender was counted. Then, if the illustration contained more than one characters, they were analyzed with respect to gender dominancy and gender priority in illustrations.

Table 17
The distribution of illustrations with respect to gender in units in SST

	Females	Males	The total
U1	21	24	45
U2	9	23	32
U3	0	4	4
U4	2	10	12
U5	16	26	42
U6	3	3	6
U7	1	15	16
Total f	52	105	157
Total %	33.12	66.88	100

According to Table 17, the total number of illustrations which contained female figures and male figures was 157. Unit 1 had the highest number of illustrations, and unit 3 had the lowest number of illustrations. In other words, there were 45, 32, 4, 12, 42, 6 and 16 illustrations in each of the seven units, respectively. These might be related to the content of the units. In detail, the number of illustrations which included female figures constructed approximately less than a third of all with 52 illustrations in total. The number of illustrations which included female figures in terms of units was 21, 9, 0, 2, 16, 3 and 1, respectively. Also, the number of illustrations which included male figures was more than twice as many as the number of female characters with 105 illustrations in total. Thus, there were 24, 23, 4, 10, 26, 3 and 15 illustrations for male characters in each of the units, respectively. In this case, while 33.12% of the illustrations included female characters, 66.88% of illustrations included male characters. As a result of this, the number of male characters was higher than the number of female characters in illustrations.

In Table 18, the number of illustrations which contain only one character is shown in order to compare the number of female and male characters. In addition to these, there were some images in which somebody drove a bus or tractor. However, these illustrations were not clear, so they were not counted.

Table 18

The number of illustrations with only one gender figure in one illustration in SST

	One Female	One Male	The total
U1	5	4	9
U2	0	0	0
U3	0	1	1
U4	1	8	9
U5	4	8	12
U6	0	1	1
U7	1	9	10
Total f	11	31	42
Total %	26.19	73.81	100

According to the results in Table 18, the total number of these illustrations with only one character in one page was 42, and the total number of one of the figures that belonged to different genders in the illustrations is three times higher than the other. For instance, while 11 illustrations contained female characters, 31 illustrations included male characters. There were 5, 0, 0, 1, 4, 0 and 1female characters in each of the units, respectively, and there were 4, 0, 1, 9, 12, 1 and 10 male characters in each of the units, respectively. In other words, while 26.19% of the illustrations contained one female character in one illustration, 73.81% of illustrations included one male character in one illustration. While Unit 2 contains illustrations with neither one female character nor one male character, Units 3 and 6 contain illustrations with one male character. Among the units, only the first one includes characters that were placed in illustrations approximately equally. In other words, the difference between numbers of female and male characters was one, which referred to 2.38% of all in total.

In Table 19, the number of illustrations with more than one character is presented. In this table, while gender of the characters was ignored, only the number of characters calculated. For instance, illustrations with two characters (2C) could include characters which were illustrated as only females and only males, or one female and one male as equal. Additionally, illustrations with more than two characters could include characters which were illustrated as all females and all males, or female dominant and male dominant.

Table 19

The distribution of illustrations with more than one character in one illustration of SST

	2C	3C	4C	5C	6C	7C	8C	More than 10C	The total
U1	1	3	1	2	1	0	1	5	14
U2	0	0	0	1	1	4	0	7	13
U3	0	1	0	0	0	0	0	3	4
U4	0	1	0	0	0	0	0	0	1
U5	4	4	0	1	1	0	0	3	14
U6	1	1	0	0	0	0	0	2	4
U7	1	2	0	0	0	0	0	0	3
Total f	7	12	1	5	3	4	1	20	53
Total%	13.21	22.64	1.89	9.43	5.66	7.55	1.89	37.74	100

According to Table 19, in the social sciences textbook, 53 illustrations contained more than one character. Their distributions in each of the units were shown as 14, 13, 4, 1, 14, 4 and 3, respectively. That is, while there were seven illustrations with two characters, there were 12 illustrations with three characters. Additionally, illustrations were distributed as one illustration with four characters, five illustrations with five characters, three illustrations with six characters, four illustrations with seven characters, one illustration with eight characters and 20 illustrations with more than ten characters. It was mentioned that 13.21% of the images containing more than one figure in a visual have two figures, and 22.64% of them have three figures. Moreover, while 1.89% of them have four figures, 9.43% have five figures, and 5.66% of them have six figures. Finally, 7.55% of them have seven figures, and 1.89% of them have eight figures, and 37.74% of them have more than ten figures. In this case, the number of images with more than ten figures is higher than the others. In this case, the number of images with more than ten figures is higher than the others.

In the next table, Table 20 shows the distribution of genders in illustration which include more than one character in one illustration. In this case, illustrations with more than ten characters had majority again because of numbers in the previous table. Additionally, in the second place, there was an illustration with three characters. Female dominant and male dominant were presented in

illustrations which contain more than two characters in one illustration. Their representations are exemplified in Figure 2.

Table 20

The number of illustrations with single-sex and mixed-sex in the same illustration in SST

	Only females	Only males	Female dominant	Male dominant	Equality	Unclear	The total
U1	0	3	3	3	0	5	14
U2	0	3	3	0	1	6	13
U3	0	1	0	0	0	3	4
U4	0	0	0	1	0	0	1
U5	1	2	2	0	3	6	14
U6	1	0	1	1	0	1	4
U7	0	2	0	0	0	1	3
Total f	2	11	9	5	4	22	53
Total %	3.77	20.75	16.98	9.43	7.55	41.51	100

The number of illustrations with single-sex and mixed-sex in the same illustration was defined in Table 20, and characters were analyzed under the categories *only females, only males, female dominant, male dominant and equality in number of genders* which referred to equality between the number of female characters and the number of male characters. The unclear which had the highest number showed the number of illustrations in which characters were not distinguished. The total number of illustrations which contained more than one individual in the same illustration was 53 in total, and their distributions in each of the units were 14, 13, 4, 1, 14, 4 and 3 illustrations, respectively. The highest number of illustrations was in only males, except unclear ones. Also, four illustrations contained the same number of female and male characters. In other words, 3.77% of 53 illustrations were used for only female images, and 20.75% of 53 illustrations were contained by only male images. Moreover, 16.98% of them were used for female dominant illustrations, and 9.43% of them were used for male dominant illustrations. Finally, 7.55% of 53 illustrations were shown with equality in numbers of female and male in images. Also, 41.51% of 53 illustrations were not clear enough to define which gender had dominancy.

While illustrations which contained only female characters were in Units 5 and 6 as one illustration, illustrations which included only male characters were in all units except from Units 4 and 6. Additionally, the number of female dominant illustrations was approximately twice as many as the number of male dominant illustrations. In general, these might be evaluated that the number of dominant characters in total was approximately equal to the number of only one character.

Table 21 was shaped in order of gender characters in the same illustrations. In other words, the number of illustrations which contained more than one character was presented. In these illustrations, characters were formed by only females, only males, female dominant, male dominant and equality in number of genders. According to this, especially, the number of illustrations that include females in the first or forefront place and the number of illustrations that include males in the first or forefront place were shown in order to compare the numbers in equality. Additionally, whether they were placed side by side or not was evaluated. Their representations are exemplified in Figure 4.

Table 21

The order of gender characters in the same illustration in SST

	Female	Male	Females	Males	Side-by-side	The total
U1	0	2	1	3	3	9
U2	1	1	1	4	2	9
U3	0	0	0	1	0	1
U4	0	1	0	0	0	1
U5	3	3	0	1	3	10
U6	0	2	1	0	1	4
U7	0	0	0	0	0	0
Total f	4	9	3	9	9	34
Total%	11.76	26.47	8.82	26.47	26.47	100

According to illustrations used in Table 21, each one contained more than one character. In the results, equalities among total numbers were obtained from illustrations. However, illustrations in which male characters were in the forefront had majority. On the other hand, the number of illustrations in which female characters were in the forefront was approximately half of the number of illustrations with male characters. In nine of 34 illustrations, female characters and

male characters were placed side by side. This was approximately quarter of the total. In other words, while females were in the forefront or in the first place in 11.76% of 34 illustrations and males were in the forefront or in the first place in 26.47% of 34 illustrations, females were in the forefront or in the first place in 8.82% of them, and males were in the forefront or in the first place in 26.47% of them. Additionally, in 26.47% of 34 illustrations, female and male were placed side by side in images.

In Table 22, the numbers of illustrations were shared in order to define roles, places or occupations of genders. In other words, how gender roles and what roles were illustrated in the social sciences textbook were presented.

Table 22

The number of illustrations which shows roles of gender characters in SST

Social roles as	U1	U2	U3	U4	U5	U6	U7
Female students	8	0	0	1	0	0	1
Male students	5	0	0	0	0	0	2
Female teacher	3	0	0	0	1	0	0
Male teacher	0	0	0	0	0	1	0
Female doctor	1	0	0	0	1	1	0
Female as computer user	0	0	0	1	0	0	0
Male as computer user	1	0	0	2	1	0	0
Female agricultural engineer	0	0	0	0	1	0	0
Male scientist/poet	0	0	0	6	0	1	13
Female food engineer	0	0	0	0	1	0	0
Male food engineer	0	0	0	0	2	0	0
Male mathematician	0	0	0	1	0	0	0
Mother	1	0	0	0	0	0	0
Male driver	1	0	0	0	1	0	0
Female tourist guide	0	1	0	0	1	0	0
Male beekeeper	0	0	0	0	1	0	0
Female chef	0	0	0	0	1	0	0
Male repairmen	1	0	0	0	0	0	0
Female mining engineer	0	0	0	0	1	0	0
Male work in industry	0	0	0	0	1	0	0
Females perform folk dances	0	4	0	0	0	0	0
Males perform folk dances	0	15	0	0	0	0	0
Female in sleeping	1	0	0	0	0	0	0
Male in shoveling snow	0	0	3	0	0	0	0
Female cleaner	1	0	0	0	0	0	0
Male cleaner	4	0	0	0	0	0	0
Female play chess	1	0	0	0	0	0	0

Table 22 (Cont'd)

	U1	U2	U3	U4	U5	U6	U7
Male play chess	2	0	0	0	0	0	0
Female reads book	2	0	0	0	0	0	0
Male reads book	0	0	0	1	0	0	0
Female in service industry	0	0	0	0	4	0	0
Male in service industry	0	0	0	0	2	0	0
Female rugs	0	0	0	0	1	0	0
Male rugs	0	0	0	0	1	0	0
Male marriage officer	0	0	0	0	0	1	0
Male vet	0	0	0	0	1	0	0
Male forest engineer	0	0	0	0	1	0	0
Female in shopping & her son	0	0	0	0	3	0	0
Male in shopping	0	0	0	0	4	0	0
Male in community service	2	0	0	0	0	0	0
Male shepherd	0	0	1	0	0	0	0
Male miner	0	0	0	0	7	0	0
Male with disability	2	0	0	0	0	0	0
Female patient	0	0	0	0	0	1	0
Male patient	1	0	0	0	1	0	0

According to Table 22, the number of illustrations might be shaped with respect to content of the units. In this case, femininity and masculinity stand out. To illustrate, females generally had traditional gender roles inside a closed area. However, males were generally depicted outside. If females were represented with modern roles outside closed areas, they had masculine roles, and they were in crowded areas. For instance, in images, female doctors took care of the children, or mother brought the child to the doctor. This might present the idea that female as mother showed compassion. Besides, males were presented in developing software or playing chess. This might show that males had or developed algorithmic/ mathematical thinking. In addition, examples of scientists, poets, thinkers were exemplified were all related to males. In other words, female examples were not used in cultural heritage of the society. Moreover, while female was shown as shopping with her son, male shopped alone. In addition to these, males were in public transports, street, festivals, markets for animals or skiing, but females were at back of the images. There were two illustrations which were not clear in terms of the number of individuals in them, but these illustrations are from wedding

ceremonies. While grooms were clearly seen in those illustrations, brides were illustrated as brides facing down or facing backward. Also, two of the crowded images were from bairam. In the first one, males exchanged bairam greetings in front of the mosque. On the other hand, in the second one, females did it inside somewhere place like a nursing home. Furthermore, males were more visible in some images such as soldier farewell ceremony, wedding ceremonies and performing folk dances. Moreover, an image was presented as both female and male from the service industry and the number of female was higher than the number of males, but the male was in front of the female in the image. Also, there were some images which were not clear, these showed outdoor activities such as people on the street, in markets, in fields, in refinery, and individuals had some roles such as search and rescue team, forest workers and agricultural worker. Additionally, images showed the idea that the family members were together on special days. Male child was in the role of a car mechanic in one of the visuals.

4.2.2 The Frequency of Females and Males in Statements of Social Sciences Textbook

In the middle school 5th grade social sciences textbook, the presence of females and males in texts such as expressions and reading parts or stories in terms of names, occupations and roles were evaluated. According to these, similar processes in illustrations were applied for names. In this case, the total number of names and their distribution with respect to gender were shared in tables. Additionally, their distributions in each of the units and the order of names were shared in the tables below. In some texts, clear results were not obtained because of unisex names. Thus, these were evaluated under the topic of unisex names. Also, texts were evaluated with respect to whether there was one name or more than one name and what the prioritized gender was in texts where more than one name was used. Moreover, the distribution of gender roles and what characters in the texts do where were analyzed. For instance, as mentioned previously, while

female characters were placed inside home, male characters were outside. Characters were illustrated in jobs with feminine or masculine roles.

In Table 23, the number of names in terms of distribution of names in each of the units was shared. The number of female, the number of male and the number of unisex names were examined. While their total numbers were stated in the table, the total numbers of names in each of the units were mentioned. The numerical analysis of the texts for this table of statements is irrelevant so only the number of names was counted. However, if the name was repeated more than once in one text, it was counted as one.

Table 23

The distribution of names with respect to gender in units in SST

	Female	Male	Unisex	The total
U1	7	9	0	16
U2	1	8	0	9
U3	2	0	0	2
U4	1	8	0	9
U5	6	8	0	14
U6	2	1	1	4
U7	4	15	1	20
Total f	23	49	2	74
Total %	31.08	66.22	2.70	100

According to Table 23, the number of names which contained female names such as Ayşe, Şevval, male names such as Mehmet, Ahmet and unisex names such as Ahsen, Gökçe was 74. The highest number of names used was in Unit 7, and the lowest number of names used was in the Unit 3. In other words, there were 16, 9, 2, 9, 14, 4 and 20 names in each of the seven units, respectively. These might be related to the content of the units. In this case, Unit 1 is in the second place in terms of the number of names. The number of female names was lower than the number of male names with 23 names. Thus, there were 7, 1, 2, 1, 6, 2 and 4 female names in each of the units, respectively. Also, the number of male names constructed more than half of the whole, which referred to 49 names. The number of male names in each of the units was 9, 8, 0, 8, 8, 1 and 15, respectively, but third unit did not contain male names. Additionally, the number

of unisex names used for both females and males was 2 in Unit 6 and 7. In this case, 31.08% of all presented female names while 66.22% of all referred to male names, and 2.70% of all showed unisex name. According to these, in general, male names had dominance over female names.

In addition to these, there were texts which contained mother, father, grandmother, grandfather, brother, sister, king or queen. These were not counted and shared in table above. In the seventh unit, the name of scientists, thinkers or painters were taken into account.

In Table 24, texts with only one character were analyzed, and their numbers were mentioned in table below. A female name, male name and unisex name were used for this character. Additionally, the total numbers of names were shared in the table in terms of gender in each of the units. Each text included only one name.

Table 24

The number of texts with only one character in one text SST

	One Female	One Male	One Unisex	The total
U1	1	1	0	2
U2	0	6	0	6
U3	2	0	0	2
U4	0	7	0	7
U5	1	4	0	5
U6	1	1	0	2
U7	0	13	1	14
Total f	5	32	1	38
Total %	13.16	84.21	2.63	100

According to Table 24, there were 38 texts with one character which had a female name, a male name and a unisex name. In results, while the number of female names was five, the number of male names was 32. Also, the number of questions which included unisex names was one, which refers to 2.63% of 38 names. In other words, approximately, 13.16% of the names in total were presented as female names, and 84.21% of the names in total matched with male names.

For the distribution of total names in each of the units, the highest numbers of names were in Unit 7. Unit 4 is in the second place in terms of the number of

texts in which one name was used. While the number of names in Units 2 and 4 were approximately equal to each other, the number of names in Units 1, 3 and 6 were equal.

In Table 25, the order of gender in texts with more than one character was shared. What gender the name in the first place belongs to in texts which include one than one name was evaluated.

Table 25

The order of gender names in the same text in SST

First name is	Female	Male	Unisex	The total
U1	6	4	0	10
U2	0	1	0	1
U3	0	0	0	0
U4	1	0	0	1
U5	1	2	0	3
U6	0	0	1	1
U7	0	1	0	1
Total f	8	8	1	17
Total %	47.06	47.06	5.88	100

In terms of total, there were 17 texts obtained for order of used name. In detail, the number of male names in first place was equal to the number of female names in first place. In one text, unisex names were placed in first place in question. While females were in the first place in 47.06% of 17 texts, males were in the first place in 47.06% of 17. Also, unisex names were in the first place in 5.88% of 17 texts. Additionally, the number of texts in which female names were used in first place was 6, 0, 0, 1, 1, 0 and 0, and the number of texts in which male names were used in the first place was 4, 1, 0, 0, 2, 0 and 1 in each of the seven units, respectively.

Table 26 presents the number of texts which contain single-sex names and mixed-sex names in the same texts. In other words, names were used for females, males or both females and males. Similar to other parts, the aim of it was to show the frequency of gender distribution and equality in these distributions since The Regulation on Textbooks and Educational Tools in 2012 were accounted. In some texts, there was not clarity about gender dominancy since these texts contained unisex names. This situation was not valid for all texts which included unisex

names. If there were unisex names in texts, this was categorized with respect to their frequency in names. For example, they were presented as only unisex names and unisex dominant.

Table 26

The distribution of texts with single-sex and mixed-sex names in the same text in SST

	Only females	Only males	Male dominant	Equality	Unclear	The total
U1	1	1	1	6	1	10
U2	0	0	1	0	0	1
U3	0	0	0	0	0	0
U4	0	0	0	1	0	1
U5	1	0	2	3	0	5
U6	0	1	0	0	1	2
U7	1	1	0	1	0	3
Total f	3	2	4	11	2	22
Total %	13.64	9.10	18.18	50.00	9.10	100

The distribution of gender names in texts with more than one character were analyzed in Table 26. The total number of these questions was 22. Since there were undefined names such as my siblings in texts, whether the text included female dominant, male dominant or gender equality was not clearly defined. While only male names were used in two texts, and only female names were used in three texts, only unisex names and female dominant texts were not used in any texts. Furthermore, while the number of texts which showed equality between genders was higher than others, this was followed by the number of texts with male dominant names. For instance, there were 11 texts including equality between female names and male names, and there were four texts referring to male dominant texts. According to these, in 22 texts containing more than one name, the number of only female names is 64% of the 22 texts, and the number of only male names is 9.10% of the 22 texts, and finally, the number of gender equality is 50.00% of the 22 texts. Also, while 18.18% of all included male dominant names, 9.10% of 22 texts were formed in an unclear way.

Table 27 showed how gender characters were presented in texts. In other words, what the characters do or where they are or what occupations they do were mentioned in order to present idea about gender roles in social sciences textbook.

Table 27

The number of texts which shows roles of gender characters in SST

Social roles as	U1	U2	U3	U4	U5	U6	U7
Female student	7	1	1	1	2	1	0
Male student	4	1	0	0	2	-	0
Mother	4	0	0	0	2	1	0
Father	5	0	0	0	2	1	0
Grandmother	1	0	0	0	1	-	0
Grandfather	1	0	0	1	0	1	0
Female doctor	1	0	0	0	0	-	0
Male doctor	0	0	0	0	0	1	0
Female consumer	0	0	0	0	2	0	0
Male consumer	0	0	0	0	2	0	0
Male producer/ entrepreneur	0	0	0	0	2	0	0
Female travel consultant	0	0	0	0	0	0	2
Male president	1	0	0	0	0	0	2
Female agricultural engineer	0	0	0	0	1	0	0
Male seed seller	0	0	0	0	1	0	0
Male patient	0	0	0	0	0	1	0
Female as orphan	0	0	0	0	0	1	0
Male industrialist	0	0	0	0	0	0	1
Female dance leader	0	0	0	0	0	0	1
Male driver	1	0	0	0	0	1	0
Male scientist	0	0	0	6	0	0	5
Male painter	0	0	0	0	0	0	1
Male writer	0	0	0	0	0	0	4
Female hairdresser	1	0	0	0	0	0	0

In the current study, texts were analyzed in social sciences textbook, and the table above was taken from the seven units of book with respect to name-gender, gender roles and their occupations or how they spend time. In some of them, individuals' names were given but their occupations were not mentioned, or their occupations were stated but their genders were not given. Turkish society was mentioned in the texts. To illustrate, cultural activities, types of ceremonies, types of folk dances or types of foods were mentioned. Additionally, while extended

family structure was focused on, the traditional gender roles were clear in some texts. In other words, while male characters were displayed outside the house, female characters were shown in the house or as a buyer/ consumer. For instance, father earns money, provides children with their fundamental rights, and helps children do homework. On the other hand, mother cooks or cleans, takes children from school, and teaches basic knowledge for children such as checking the expiration date of products. Besides, while in one text father supported his wife for being a hairdresser, in another one, he took his wife out for shopping. Moreover, grandmothers and grandfathers were shown in traditional roles. In other words, they were transmitter of traditions. Also, while grandmothers did handcrafts, grandfathers read newspapers or solved puzzles. Generally, grandparents were seen as source of experience. Additionally, while some female students mentioned that they lived with their family in the texts, this was not true for male students. Furthermore, especially, female children had gendered roles in their houses such as taking siblings from school, helping to cook and clean, and women were reflected in the perception that they are regulators in life. Also, female children stated that they benefitted from parents' or grandparents' experiences. However, for males, it was explained that men gained experience by producing and engaging in production. While older brothers were students at university or high school, younger siblings looked up to the eldest. Also, if the father was away from the family, elder brother was interested in family and works. Moreover, male scientists, writers, painters or presidents were stated in the texts. On the other hand, female engineers were not mentioned as others. Also, while male characters were described as padishah, prophet or king, female characters were stated as their wives or their mothers. In the social sciences textbook, it was mentioned rights of human and children. Besides, while understanding of social state was stated, the functioning of institutions and organizations and nongovernmental organizations were exemplified. Human and children's rights are mentioned in the social sciences textbook. In addition, while the understanding of social state is explained, the functioning, duties and responsibilities of institutions and organizations and

non-governmental organizations are also explained. Moreover, knowledge about geography, natural disasters and world heritage were included.

4.3 Differences in Mathematics and Social Sciences Textbooks in terms of Showing Gender Equality

When social sciences textbook was compared to mathematics textbook, it is observed that the former had more traditional approaches and showed gendered roles. This could be also contradicted to the regulation that number of female and male students used in the textbooks and texts was equal and the structure, and functioning of the roles of parents were carefully reflected with equality between men and women in the books.

Table 28 showed that mathematics textbook and social sciences textbook had differences in showing gender equality numerically. When the mathematics textbook and social studies textbook were compared in terms of gender equality and gender roles, the previous tables were utilized, and Table 4, Table 11, Table 17 and Table 23 were used.

Table 28

The comparison of textbooks numerically

Number of	Female		Male		Unisex		Total	
	f	%	f	%	f	%	f	%
Illustrations (MT)	73	52.52	66	47.48	-	-	139	100
Names (MT)	74	45.40	72	44.17	17	10.43	163	100
Illustrations(SST)	52	33.13	105	66.87	-	-	157	100
Names (SST)	23	31.08	49	66.22	2	2.70	74	100

According to Table 28, in mathematics textbook, the number of illustrations with female characters and the number of illustrations with male characters was approximately equal. Moreover, while the number of female names and the number of male names in mathematics textbook were approximately equal, the number of unisex names was differed from others. However, in social sciences textbook, the number of illustrations with female characters and the number of illustrations with male characters were not close to each other. Also, the number of names with unisex names was almost zero. For instance, in the mathematics

textbook, 52.52% of 139 illustrations included female characters, and 47.48% of 139 illustrations included male characters. On the other hand, in social sciences textbook, 33.13% of 157 illustrations included female characters, and 66.87% of 157 illustrations included male characters. Additionally, in the mathematics textbook, 45.40% of 163 names included female names while 44.17% of 163 names included male names, and 10.43% of 163 names were unisex names. On the other hand, in the social sciences textbook, 31.08% of 157 names included female names, and 66.22% of 157 names included male names while 2.70% of 157 names included unisex names. In this case, while the numbers in mathematics textbook was approximately equal to each other, the number of male names in social sciences textbook was approximately twice as much as the number of female names.

Furthermore, in both textbooks, social gender roles were presented with gendered view. Both textbooks had similar roles for females and males. However, while some efforts were exemplified in mathematics textbook for gender equality in roles, there were differences in gender roles in the social sciences textbook. For instance, one female and one male sold tickets together in one question in the mathematics textbook. On the other hand, one female played chess with somebody who was not clearly seen, and two males played chess together in one illustration in social sciences textbook, which was clearly visible.

All in all, both mathematics textbook and social sciences textbook were analyzed in order to answer research questions. For some cases, while they reflected aims of regulations or programs, it was clear that they had traditional approaches in gender roles and gender equality.

CHAPTER 5

DISCUSSION

This study examined social gender roles and gender equality in 5th grade mathematics and social sciences textbooks. The study aimed to answer what extend gender equality was included in 5th grade mathematics and social sciences textbooks, how gender roles were addressed in textbooks and how gender equality were indicated in the education programs in 5th grade textbooks at the end of the analysis. Moreover, how both mathematics and social sciences textbooks differ in terms of showing gender equality was examined. The study aimed to identify which gender was prioritized in these books. Findings about these were shared in detail. In this study, The Regulation on Textbooks and Educational Tools in 2012 which emphasized equality in the number of female and male characters and social gender roles used in the textbooks and texts was analyzed. Moreover, Article 26 in the Universal Declaration of Human Rights (1946), Article 13 in the International Covenant on Economic, Social and Cultural Rights (1969), The Education for All and national applications about gender equality in laws and plans were also considered. In this chapter, discussion of the findings, potential implications of the study and suggestions for future research are presented.

5.1 Discussion of the Results

5.1.1 Social Gender Roles and Gender Equality in Mathematics Textbook

In the current study, illustrations in fifth grade mathematics textbook were examined. Hence, the number of illustrations which includes female characters and the number of illustrations which includes male characters were counted, and then their equality for genders was mentioned. They were evaluated in terms of social

gender roles. For instance, what colors were used in illustrations and what roles male and female figures had in texts and visuals were presented. According to these, in six units, a total of 156 illustrations that included individuals were used (see Table 4). While female characters were used in 73 illustrations, male characters were used in 66 illustrations. Although the difference between the number of female illustrations and the number of male illustrations was small, the number of illustrations was in favor of females. While, in previous studies, male visibility in textbooks was higher than female visibility, this finding in the current study which demonstrates that female characters were used more than males is in contradiction with previous studies' results (Asan, 2006; Blumberg, 2008; Arslan-Ozer, Karataş & Ergun, 2019). In the textbook, the distribution of characters in the pages differed. There were 55 illustrations which contain only one illustration in one page (see Table 5). As for the number of illustrations, there were 27 illustrations that included females and 28 illustrations that included males. The difference between the number of illustrations with male characters and the number of illustrations with female character was one. However, since these numbers were so close to each other, it would not be appropriate to say there were more males. Moreover, the total number of illustrations with two and three human characters in one page was 38 (see Table 7). In these illustrations, apart from equal number of genders, the number of illustrations with mostly female characters or all female characters was higher than the number of illustrations with all male or mostly male characters. On the other hand, for these illustrations, the number of illustrations which contain equality of numbers for female and male illustrations in one page was in the majority. This finding is in line with The Regulation on Textbooks and Educational Tools since it indicates that textbooks this regulation has been implemented at least for mathematics, and improvement was made at least in terms of number of illustration that contained women. When the order of gender characters in pages with two or three characters was evaluated, six different orders were obtained and these were showed as female-female, female-male, female-male-female, male-male, male-female and male-female-male (see Table 8).

The majority was presented in favor of female-male. Also, another majority was shown that female characters were in the first position. Hence, it was mentioned that female characters in illustrations were in the forefront in 5th grade mathematics textbook. Previous studies showed female invisibility in textbooks despite The Regulation on Textbooks and Educational Tools (Kırbaşoğlu- Kılıç & Eyüp, 2011; Çeçen, n.d). On the other hand, this finding displayed that female visibility was improved in fifth grade mathematics textbook. Furthermore, in 127 of 136 illustrations, children were presented as student, and the number of female images and male images were approximately shared equally in illustrations (see Table 9). Characters had similar color pants, sweater and shirt. However, their color of shoes was drawn with respect to social gender roles. While females were shown in pink shoes, males were depicted wearing black shoes. Also, gender differences were used in their hair styles. While females were represented with long and brown hair, males were shown with short and black hair. Although this might not be the hidden aim of textbooks in gender roles, this reflected gender stereotypes. According to these results, while both females and males wear the same color clothing (Arslan- Ozer, Karataş & Ergun, 2019), females wear pink clothes, and males wear blue clothes (Çınar, 2015). This shows that colors can indicate gender discrimination depending on their aim of use. Apart from them, in illustrations, females were displayed in closed areas such as in a restaurant or in desk-bound, but males were presented in open areas such as on the street. This finding indicated that social gender roles were exemplified in the textbook. This did not reflect the aim of The Regulation on Textbooks and Educational Tools in which attention is drawn in order to provide equality between men and women in the books.

In the current study, names in the texts of mathematics textbook were evaluated. Thus, the number of names for females and males, female and male names' order in texts, and their social gender roles were presented in the tables. According to these, 95 texts include 163 names. While 74 names were used as female names, 72 names were used as male names, and 17 names were used as

unisex names (see Table 10 and Table 11). It was possible to see female dominancy in the current study. Besides, when texts with one name were evaluated, the equality between the number of texts including female names and male names were obvious (see Table 12). Because of unisex names, whether one gender had majority or not was not defined. Even in this case, this might be in accord with idea of equality shown by The Regulation on Textbooks and Educational Tools in 2012. Moreover, the number of texts with two and three names had majority compared to others (see Table 13). There were 39 texts in total, and while females were in the first in 22 of them, males were the first in 13 of them (see Table 14). Until this, although differences in favor of males were mentioned in studies (Esen, 2007; Çubukçu & Sivaslıgil, 2007; Can, 2009, as cited in Özdemir & Karaboğa, 2019), it might be mentioned that female characters had majority in the 5th grade mathematics textbook for the current study. Based on this finding, despite inequality between frequency of female and male names, the textbook developers aimed to achieve gendered balance following the changes in regulations of textbooks in terms of gender equality (Esen, 2013) since female visibility was mentioned in the textbook for some units or parts. Furthermore, the distribution of gender names in texts was analyzed, and equality between the numbers of used mixed-sex names were at the forefront (see Table 15). This equality was provided by the Board of Education and Training with a reasonable balance in terms of gender in the examples and characters used (GDSW, 2019). However, although the number of texts with only females and female dominant and the number of texts with only males and male dominant were approximately equal, the latter were higher than the former one. These results showed that female visibility or gender equality were observed but not at the desired level (Güneş, 2008; Esen, 2013). In other words, despite the decreases in male overrepresentation, this did not provide exact equality between females and males in textbooks. In addition to these, texts were evaluated in terms of whether they presented social gender roles (see Table 16). In general, traditional gender roles were exemplified in the book. In other words, individuals were matched with their

gender stereotypes in the textbook, showing that gendered approaches in textbooks were not escapable despite a decline in the number of sexist approaches (Kırbaşoğlu- Kılıç & Eyüp, 2011; Yaylı & Kitiş-Çınar, 2014). For instance, female character was shown as a teacher, and they made patties for their children and neighbors. On the other hand, male characters were presented as doing science, and males looked for a job or borrowed money from each other. The number of male characters who were candidates for being class president was higher than the number of females in the same situation. Distinction between female and male roles in division of labor in family might be seen (Gümüşoğlu, 1994). This indicates the idea that females are male-dependent, and males have better leadership skills than females (Desheng, 2009). These did not reflect the purpose of The Regulation on Textbooks and Educational Tools in which the structure and functions of the roles of parents were carefully expressed by drawing attention to equality between men and women in the books. In age problems, males were older than females. However, in another problem, female was taller than male. In some questions, the equality between females and males was shown. To illustrate, both were displayed in a race and in an exam, and both sold tickets and drank milk. Additionally, female characters were represented as sharing people in questions. Also, female characters used some strategies for doing addition and subtraction in natural numbers. The number of female characters who shared something or used strategies was higher than the number of male characters who shared something or used strategies. These might be exemplified as obvious or hidden discriminated items used for female and male characters in textbooks (Arslan, 2000; Tanrıöver, 2003; Asan, 2006; Esen, 2007). This was not in the same line with The Regulation on Textbooks and Educational Tools and the Board of Education and Training to ensure balance related to equality between female and male characters in textbooks.

5.1.2 Social Gender Roles and Gender Equality in Social Sciences Textbook

In the current study, illustrations in social sciences textbook were examined. Hence, the number of illustrations which includes female characters and the number of illustrations which includes male characters were analyzed, and the equality between the number of illustrations with female and male characters were not mentioned. According to these, in seven units in total, 165 illustrations including individuals were used in the book (see Table 17). While female characters were used in 52 illustrations, male characters were used in 105 illustrations. It was concluded that male characters were used more than the female ones. Additionally, there were 42 images with only one illustration (see Table 18). 11 images were for females among them, and 31 images were for males. Based on these results, the number of images including male characters was more than that of females, which is a finding in line with the results of previous studies such as Kırbaşoğlu- Kılıç and Eyüp's study in 2011 and SEÇBİR's study in 2012. Despite the effort for providing gender equality in textbooks by the Board of Education and Training, there is no equality between the number of images with female characters and the number of male characters in social sciences textbook. Based on the findings in current study, the difference between these numbers of images is too much. In the Table 19, the number of images which contains more than one character is shown. Then, Table 20 showed which gender was located in the forefront in crowded images. According to this, the number of illustrations with only males was in most of illustrations, except unclear ones, and the number of illustrations with both female and male characters was four. These results were in line with previous studies in which gender equality and gender issues in textbooks were examined, which indicates that gender equality was not covered adequately. There was some effort to provide gender equality although this was not reflected in the textbooks. It is clear that the book did not have gender neutral representation (Helvacıoğlu, 1996; Demir & Yavuz, 2017). Moreover, in crowded images, males were prioritized; that is, males were generally represented in front of females (see

Table 21). This inequality was also shown in other studies with textbooks in which female invisibility and gendered priority were seen. It is seen that visibility is in favor of male images and imbalanced representation is at the forefront (Mineshima, 2008; Gharbavi & Mousavi, 2012; Taboas-Pais & Rey-Cao, 2012; Zakka & Zanzali, 2015). These representations did not display the aim of providing gender equality in the number of images and female visibility highlighted by The Regulation on Textbooks and Educational Tools and the Board of Education and Training. Besides, when social gender roles were investigated in illustrations of book (see Table 22), traditional gender roles were represented in images. While females generally had traditional gender roles inside a closed area, males were generally shown outside and in crowded areas, indicating that gendered roles are classified for females and males. Hence, it is possible to define feminine and masculine roles in books (Asan, 2006; Esen, 2007; Can, 2009, as cited in Özdemir & Karaboğa, 2019; Demirel, 2010; Yaylı & Kitiş-Çınar, 2014).

When texts in the social sciences textbook were evaluated, the results showed that male names were used in texts more than female names (see Table 23). Additionally, unisex names almost were never used in texts, and their total number was 2 names in seven units. Moreover, when the number of texts with only one character was counted, male visibility was observed, again (see Table 24). When the number of male names was compared to the number of female names, there was an approximately six-fold difference in favor of males. According to these, female invisibility in terms of comparison of numbers was clear in social sciences textbook (Gharbavi & Mousavi, 2012; SEÇBİR, 2012; Demir & Yavuz, 2017; Bayburt & Duman, 2017). Because of findings about female underrepresentation in textbook, there are not connections between policies and reality in the same line with the Board of Education and Training in providing gender equality in the number of characters used in textbooks. Furthermore, in texts containing more than one name, there is equality in the number of female figures and male figures in the first place. In other words, the number of female names is in the first place in text was equal to the number of male names in the

first place in text (see Table 25). When the number of texts which contains mixed-sex names in the same text was shown, the equality in numbers of mixed-sex had majority (see Table 26). In this case, it might be said that these matched with the equality in materials with respect to the regulation on textbooks and educational tools in 2012. In addition to these, texts were analyzed in social sciences textbook in terms of social gender roles (see Table 27). While the cultural activities, kinds of ceremonies, kinds of folk dances of Turkish society were exemplified, traditional gender roles and traditional family structure were mentioned. These might match with the aim of social sciences textbook. However, females were represented as male-dependent in them. On the other hand, males were displayed as protectors of family. While Turkish women were exemplified as limited and dependent with her roles in family (Arslan & Koca, 2007; Ersoy 2009), gendered roles were illustrated in other areas such as sports (Bakan, 2014; Ayvazoğlu, 2017). These findings are consistent with the findings of Demirel (2010) who found that gender roles contradict with gender equality in division of labor. Since this finding was in line with the ERI's report (2017), gender equality was not indicated sufficiently in new curriculum about gender roles and women's rights, and textbooks did not have the concept of gender equality.

5.1.3 Comparison of Mathematics and Social Sciences Textbooks in Showing Gender Equality

According to Srivastava (2014), in secondary school, learners have opportunity to explore mathematical concepts by means of reasoning and logical thinking. During this, in both teaching and learning mathematics, relationship between the course and real life of learners is connected in order to support meaningful learning. In addition to this, in this stage, learners have opportunity to understand modern society and its history and future in social sciences. Also, they perceive changes in society, and they gain deeper understanding about environment and world. Hence, the content of lessons and materials are important for students.

While mathematics was perceived as a gendered course, textbook contained more equality in gender roles in both illustrations and texts numerically. While this was contradicted with Tanrıöver's study in 2003, it was in aligning with İncikabı and Ulusoy's study in 2019. Tanrıöver (2003) mentioned that mathematics textbooks could include gender discrimination in presenting that males had better problem solving skills than females. Also, Tanrıöver added that books reflect this discrimination openly or in a hidden way. On the other hand, İncikabı and Ulusoy (2019) highlighted that despite the neutral math-gender stereotypes, social gender roles determine female and male roles. Although this indicated some progress towards gender equality in textbooks, it was not sufficient. In mathematics textbook, while family structure was not seen clearly, relatives were used in texts to form them. On the other hand, social sciences textbook showed information about the society, its culture, norms, values and gender ideology. According to the results, in social sciences textbook, numeric gendered inequality was in the forefront in both illustrations and texts. In this case, it might be stated that this textbook contained male overrepresentation and gendered roles. The current social sciences textbook was not different from other textbooks used in the years between 1928 and 2008 in terms of having a gendered view (Demirel, 2010). Moreover, it is possible to see that textbooks continue showing gendered traditional roles for females and males (Kalaycı & Hayırsever, 2014). These also might be related to content of curriculum since women's rights or equality were not mentioned enough in programs (Bayburt & Duman; 2017). Additionally, social sciences textbook gave some messages about female and male children. While females were represented in more domestic roles, males were shown in masculine roles outside the home. For instance, in social sciences textbook while female students talked about her family life thanks to cooperation among family members, she mentioned her roles as domestic such as taking siblings from school, or helping the mother. Additionally, female characters had underrepresentation in traditional roles (Amaral, 2004; Nogueira, 2001).These findings might be referring to adults' expectations from children (Derman- Sparks,

2001) or creating social influences on children (Bussey & Bandura, 1999). However, these were contradiction with the aim of The Regulation on Textbooks and Educational Tools indicating equality between female and males in representing their roles. Also, in both mathematics textbook and in social sciences textbook, modernizing and ancient values might be used together. For instance, female was displayed as both mother and money earner. This was presented in the approach of the Board of Education and Training to provide balance between different genders in materials. However, females choose some occupations such as teacher, pediatrician or coiffeur. That is, females contribute to economic activities, but they are limited to occupations which transmit femininity and masculinity (Zimet, 1968; Tonini, 2002).

According to all findings, despite the values such as equality, justice or sensitivity indicated in curriculums of mathematics and social sciences, both textbooks do not reflect these values about gender equality. These textbooks carry messages about traditional gender roles in order to transmit them to the 5th grade learners. Gender roles are exemplified in open and hidden ways in textbooks for learners. Although the number of illustrations and texts in textbooks included female and males getting close to each other compared to literature, these numbers and roles suggest that inequality between genders continues in favor of males. However, the equality in numbers does not show exact equality between genders. When textbooks contain gender-neutral images and texts in defining gender roles, this equality is not limited only to numbers. Despite the efforts of governmental organizations such as the Board of Education and Training in providing gender equality in images, texts and in division of labor in textbooks, these textbooks do not pay attention to gender equality. These results did not reflect the idea of feminist perspective. It seems to it that gender equality is provided for women and whole society by means of education (Çak, 2010; Saulnier, 1996). However, education system provides the discrimination between genders and ignores women's rights (Stromquist, 1988).

5.2 Implications of the Study

5.2.1 Implications of the Study for Policy

The current study focused on examining social gender roles and gender equality in 5th grade mathematics textbook and social sciences textbook. In the study, whether there was a gender balance in illustrations and statements between female and male characters and how social gender roles were presented were investigated.

Although male and female characters are equal in numbers, textbooks still contain messages that seem to reproduce the stereotypes related to gender with the traditional gender roles they display. Hence, textbook developers should pay attention to this by identifying gender inequality in textbooks. Also, regulations for textbooks should be used in evaluating textbooks before they are approved to be used in schools. Moreover, policies are attempted to change gender perceptions and attitudes that define the roles and social status of women. The content of curriculum and textbooks should be developed and examples in them should be enriched in order to ensure gender equality in roles and status of women.

Policies might provide continuity of inequalities. Hence, elimination of traces of patriarchy should be supported, and conservative ideology in policy discourses should be removed from education system and textbooks. Furthermore, the concepts of democracy, gender equality and female freedom should be emphasized in educational materials and curricula. Images and statements in textbooks should be enriched with achievement of females in different areas such as sport, science, mathematics or technology which are perceived as masculine areas. The content of textbooks should contain cooperation between females and males without gendered view. Also, policies are defined according to the needs of individuals in accessing and taking education and in providing its sustainability. Hence, textbooks and activities in classroom environment should inform young students about female education and its importance.

5.2.2 Implications of the Study for Practice in Field

When the importance of time which students spend with textbooks is considered, contents of textbooks gain significance since students learn their cultural items in schools after their families. These cultural items include gender equality or inequality, and they reflect gender stereotypes. As a result, individuals learn their social gender roles, so these items must contain equality between genders.

According to the findings of the study, in textbooks, gender equality and understanding of equality is limited to quantity. This indicates a shallow understanding of the issues about gender equality, and this will not help to achieve gender equality. Hence, the message in textbooks that needs to be given is that males and females have equal status in the society in terms of both family life and work life. However, in textbooks, while females were presented in feminine roles, male were shown in masculine roles. Hence, in both textbooks, while giving examples about kings, successful life stories of females might be shared, too. In these stories, the first female names in different areas might be exemplified in the textbook. Each gender might show equality in family roles and social, occupational roles since individuals might be affected negatively in the process of gender socialization from gender inequality in textbooks.

In order to provide equality between female and male in the classroom environment, teachers play an important role. In selection of giving examples or doing activities, they might use a language and visuals which are adjusted from gender biased items. Also, they might show the idea that mathematics and social sciences are not only for males but also for females. Additionally, they might share life stories of successful females in lessons, and they might use gender balanced materials and contents. Moreover, a safe and enriched educational environment should be constructed for both genders in the school facilities and social environment without gender bias. Besides, while teachers should encourage girls to study science and technology and guide them to vocational and technical

training, teachers should maintain equal participation of boys and girls in social events, sports and extracurricular activities.

5.2.3 Limitations and Recommendations for Future Study

The study has some recommendations which include limitations of the current study which should be addressed in future studies. The first limitation was about the type of the study. Since the study was a type of a case study, the data was obtained only from the 5th grade level of the middle schools' textbooks. Another limitation was related to generalization of data. According to Yin (2013), the content analysis examines the situation in detail. Thus, the obtained data from 5th grade textbooks was not generalized to other levels and also other 5th grade textbooks. Moreover, the data collection instrument is limited since only documentation was used. Although different data sources such as policies, universal and national rights and regulations and literature were used in this study, teachers and students using the textbooks, and parents of those students can be interviewed in future studies. In other words, while the material was restricted by the textbooks, and this was enlarged with policies, universal and national rights and regulations and literature, reactions of students about social gender roles or interaction of students in their environment were not obtained and interpreted. In addition to students, perception of teachers and administrators about social gender roles might be obtained in order to provide gender equality in schools. Also, perception of their families might be examined to interpret their ideas in gender equality. In other words, teacher-student and family interaction might be observed for their gender perceptions.

For the 5th grade level, students have textbooks for each of the courses. In the study, mathematics and social sciences textbooks which had gendered view were examined. Hence, there were not data about the same topic in other textbooks. In other words, it is not known whether other textbooks in the 5th grade level have a sexist approach. The content of the study does not give messages about how gender roles and gender equality are shaped in other levels since the

textbooks in 5th, 6th, 7th and 8th grade levels of middle school were not analyzed. Thus, whether there was a difference in gendered representation between different grade levels could not be interpreted. Furthermore, these textbooks could be evaluated starting from early childhood to higher education in terms of gendered items.

The present study provided insights into social gender roles and gender equality in 5th grade mathematics and social sciences textbooks. Despite emphasizing gender equality in images and division of labor in policies and regulations about textbooks, results of study displayed that gender inequalities and traditional gender roles exist in 5th grade mathematics and social sciences textbooks.

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APPENDICES

A. PERMISSION FROM HUMAN SUBJECTS ETHICS COMMITTEE

UYGULAMALI ETİK ARAŞTIRMA MERKEZİ
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28 Haziran 2019

Konu: Değerlendirme Sonucu

Gönderen: ODTÜ İnsan Araştırmaları Etik Kurulu (İAEK)

İlgi: İnsan Araştırmaları Etik Kurulu Başvurusu

Sayın Dr. Öğretim Üyesi Gökçe GÖKALP

Danışmanlığını yaptığınız **Ece KANDİLLİ'nin "Ortaokul 5. Sınıf Matematik ders kitabındaki toplumsal cinsiyet rollerinin incelenmesi"** başlıklı araştırması İnsan Araştırmaları Etik Kurulu tarafından uygun görülmüş ve **280-ODTÜ-2019** protokol numarası ile onaylanmıştır.

Saygılarımızla bilgilerinize sunarız.

Prof. Dr. Tülin GENÇÖZ
Başkan

Prof. Dr. Tolga CAN
Üye

Doç.Dr. Pınar KAYGAN
Üye

Dr. Öğr. Üyesi Ali Emre TURGUT
Üye

Dr. Öğr. Üyesi Şerife SEVİNÇ
Üye

Dr. Öğr. Üyesi Müge GÜNDÜZ
Üye

Dr. Öğr. Üyesi Süreyya Özcan KABASAKAL
Üye

B. TURKISH SUMMARY/ TÜRKÇE ÖZET

BEŞİNCİ SINIF MATEMATİK DERS KİTABINDAKİ VE SOSYAL BİLGİLER DERS KİTABINDAKİ TOPLUMSAL CİNSİYET EŞİTLİĞİ VE TOPLUMSAL CİNSİYET ROLLERİNİN İNCELENMESİ

GİRİŞ

Toplumlarda, bireyler farklı roller oynar, farklı sorumluluklar alır ve farklı fırsatlara sahiptir. Bu roller, sorumluluklar ve fırsatlar toplumsal bağlamda tanımlanırken, bu bağlama dayalı olarak, kadın ve erkek bireyler cinsiyetlerine göre rollerini ve sorumluluklarını gösterir ve farklı fırsat veya dezavantajlarla karşılaşırlar.

Cinsiyet, herhangi bir toplumsal bağlamda kadın ve erkeklerin rollerini, sorumluluklarını, kısıtlamalarını, fırsatlarını ve ihtiyaçlarını temsil eden bir sosyal yapı olarak tanımlanmaktadır. Toplum kendi önyargılarına göre bireylerin rollerini belirlediğinde, bu roller ve rollerin dağılımı geleneksel olarak cinsiyete göre değişir. Bu kalıplaşmış cinsiyetçi yargıları ortaya çıkarmaktadır (Haryana & Pradesh, t.y). Bu yargılara göre, kadınlar ve erkekler sorumluluklarında da farklılaşır (Mkuchu, 2004).

Kadınlar ve erkekler ekonomik katılım ve karar alma ile toplumun tüm sektörlerinde eşit değer, aynı hak ve fırsatlara sahipse, toplumsal cinsiyet eşitliği kavramının toplumda varlığını kanıtlar. Ancak, bu kavramın olması yetmez. Kavramın uygulanabilirliğinin sağlanmasına katkıda bulunan faktörler arasında okulların, öğretmenlerin ve öğrenci akranlarının, öğretim programlarının ve ders kitaplarının rolleri vardır (Thiyagu, 2015). Bu nedenle, cinsiyet yanlılığı olmayan materyaller, çocuklara eşit öğrenme ortamı sağlamak ve toplumsal cinsiyet

rollerini öğretmek için gereklidir (Darni & Abida, 2017). Materyal olarak değerlendirilen ders kitapları öğrencilerin cinsiyet rollerini şekillendiren faktörlerden biri olduğundan, ders kitaplarındaki görsellerin, ifadelerin ve mesajların içeriği önemlidir.

Çalışmanın Arkaplanı

Toplum, bireylere sosyal kurallar, rol öğrenme, rol oynama ve cinsiyet rolleri öğreterek onların sosyalleşmesini sağlar (Mora, 2005). Sosyalleşme sürecinde, bireyler arasındaki ilişkiler ve etkileşimler, her toplumda insan deneyiminin önemli bir parçası olarak bulunan cinsiyet dinamiklerini destekler veya değiştirir. Ayrıca, bu dinamikler öğrencilerin eğitime erişilebilirliğini ve katılımını etkiler (Thiyagu, 2015). Dolayısıyla sosyalleşmede aile, çevre, akranlar, medya ve okulların rolleri vardır (İşçi, 2000).

Çocuklar için eğitimde kullanılan sosyalleşme araçlarından biri kitaplardır. Kitaplar, çocukları kimlikleri ve benlik saygısı, toplumsal cinsiyet rolleri, kalıplaşmış cinsiyet yargıları gibi konularda negatif veya pozitif olarak etkiler (Narahara, 1998). Çocukların kitaplarla etkileşim düzeyine göre, kalıplaşmış cinsiyetçi yargıların inşası sadece kitap dilinden değil (Turner-Bowker, 1996), aynı zamanda kitaplardaki görsellerden de etkilenmektedir (Narahara, 1998).

Problemin Belirlenmesi

Cinsiyet ayrımcılığı bireylerin cinsiyetlerinden dolayı maruz kaldıkları olumsuz tutum ve davranışlardır. Cinsiyet ayrımcılığı ailede başlarken, sınıf ortamında etkinlikler, toplumsal cinsiyete dayalı önyargılar ve toplumsal kalıplaşmış cinsiyetçi yargıların uygulamalarıyla bilinçli veya bilinçsizce devam ettirilir. Ders kitapları ve diğer materyaller, mevcut değer sistemlerinde kadınların durumunu iyileştirerek, toplumsal cinsiyet uyumunu artırmada önemli rol oynamaktadır. Ayrıca, bu ders kitapları, eşit katılıma değer vererek birlikte yaşamayı, kendine saygıyı ve öz güveni teşvik etmeyi öğreterek cinsiyetler arasındaki işbirliğini desteklemektedir (Haryana & Pradesh, t.y.).

Türkiye'de cinsiyet eşitliği sayıca gerçekleşse de ulusal politika ve ekonomideki genel cinsiyet farklılığı nedeniyle sınırlı kalmıştır (Aydagül, 2019). Ayrıca, 2018'de cinsiyet eşitliği, cinsiyete duyarlı okul eylem planıyla daralmıştır. Cinsiyet rolleri, kadın hakları ve eşitlik kavramı yeni öğretim programlarına yeterince dahil edilmemiş ve yeni ders kitaplarında kadının rolü yeterince önem verilmemiştir (Eğitim Reformu Girişimi (ERG), 2017).

UNICEF (2003)'in Türkiye'deki eğitimdeki toplumsal cinsiyet meseleleri üzerine yaptığı araştırmaya göre, erkeklerin aktif rolleri vardır ve bunlar kamusal alandadır, ancak kadınlar pasiftir ve ders kitaplarında sınırları evle tanımlanmıştır. Ayrıca Diktaş (2011) ders kitaplarında kadınların pasif bireyler olarak temsil edildiğini ve sürekli ev işleri ile meşgul olduklarını belirtmiştir. Bu kapsamda, mevcut çalışmada beşinci sınıf matematik ve sosyal bilimler ders kitaplarındaki toplumsal cinsiyet eşitliği ve toplumsal cinsiyet rolleri çalışılmıştır.

Çalışmanın Amacı ve Araştırma Soruları

Çalışmanın amacı, ortaokul 5. sınıf matematik ve sosyal bilgiler ders kitaplarındaki görseller ve metinlerdeki toplumsal cinsiyet eşitliği ve toplumsal cinsiyet rollerini incelemektir. Çalışmada cevaplanması amaçlanan araştırma soruları şunlardır:

1) 5. sınıf matematik ve sosyal bilgiler ders kitapları toplumsal cinsiyet eşitliğini ne ölçüde kapsamaktadır?

2) Ders kitaplarında cinsiyet rolleri nasıl ele alınmaktadır?

a. Ders kitaplarının görsel ve metinlerinde cinsiyet rolleri nasıl gösterilmiştir?

b. Ders kitaplarında cinsiyet eşitliği nasıl gösterilmiştir?

c. Cinsiyet rolleri nasıl örneklenmiştir?

d. Görsel ve metinlerde hangi cinsiyet önceliklidir?

3) 5. sınıf kitaplarındaki eğitim programlarında toplumsal cinsiyet eşitliği nasıl belirtilmiştir?

4) Matematik ve sosyal bilgiler ders kitapları toplumsal cinsiyet eşitliğini göstermek açısından nasıl farklılık göstermektedir?

Çalışmanın Önemi

Toplumsal cinsiyet rolleri toplumlara göre birbirinden ayrılmaktadır. Hemen hemen tüm toplumlarda cinsiyetçi yaklaşımlar görülmektedir. Bireylerin cinsiyetçi yaklaşımları nedeniyle cinsiyete dayalı farklılıklar dersleri öğrenmede ve ders başarılarında da görülebilir.

TIMMS ve PISA gibi uluslararası sınavlarda cinsiyet farklılıkları oluşabilmektedir. Ülkeler arasında, TIMMS matematik başarısında kız ve erkek öğrencilerin başarısında önemli cinsiyet farklılıkları gözlenmezken, PISA matematik başarısında erkekler kızlardan daha yüksek puanlara sahiptir. (Avrupa Komisyonu, 2010). Ayrıca, fen bilimleri başarısı için TIMSS sonuçları erkek öğrenciler lehine cinsiyet farklılığı gösterirken, PISA sonuçları cinsiyetler arasında anlamlı bir farktan bahsetmemiştir (OECD, 2001). Türkiye'deki TIMMS 2015 sonuçlarında, sekizinci sınıftaki matematik başarısında cinsiyetler arasında fark olmasa da, kız öğrencilerin fen bilimleri alanındaki başarısı erkek öğrencilerin 18 puan üstündedir (Batyra, 2017). PISA 2018'de kız öğrenciler okuma becerileri ve bilim alanında erkek öğrencilerden daha yüksek performans gösterirken, erkek öğrenciler matematik alanında kız öğrencilerden daha iyi performans göstermiştir (MEB, 2019).

Blumberg'e (2008) göre okul ders kitapları sınıf zamanının yaklaşık %80'inde kullanılmakta olup toplumlar hakkında bazı mesajlar içerebilirler. Bu mesajlar, toplumsal cinsiyete dayalı dil aracılığıyla öğrencilerin algısını şekillendiren cinsiyet rolleri hakkında olabilir (Hall, 2014). Ders kitapları öğrencilerin kalıplaşmış cinsiyet yargılarına yönelik gelecekteki tutumlarını şekillendirmede etkilidir. Örneğin, Lesikin (2001) kız öğrencilerin cinsiyet yanlılığı ve toplumsal kalıplaşmış cinsiyetçi yargıları açısından görsel ve metinlerden olumsuz etkilendiklerini açıklamıştır. Bu nedenle, ders kitaplarında görsel ve metinlerde kullanılan kız ve erkek öğrencilerin sayısı eşit olmalı,

kitaplarda kadın-erkek eşitliğine dikkat çekilerek ebeveynlerin rollerinin yapısı ve işleyişi dikkatle ifade edilmelidir (KSGM, 2019).

Matematik dersi, bireylerin matematik ve başarı öğrenmelerinde cinsiyetçi algıları ön plana çıkarken, sosyal bilgiler dersi ise toplum, kültürü, normları, değerleri ve cinsiyet ideolojisi hakkında bilgi vermektedir. Bu çalışmanın amacı, Türkiye'deki ortaokul 5. sınıf sosyal bilimler ders kitabında toplumsal cinsiyet eşitliği ve toplumsal cinsiyet rollerinin algılanması ile ilgili literatüre katkıda bulunmaktır. Bu nedenle, her iki ders kitabında da cinsiyet eşitliği, kalıplaşmış cinsiyetçi yargıları ve cinsiyetle ilgili politikalara ilişkin mesajlar açısından görsel ve metinlerin içeriği incelenmiştir. Ayrıca, hem matematik hem de sosyal bilimler ders kitaplarının cinsiyet eşitliğini gösterirken nasıl farklılaştığı da incelenmiştir.

ALANYAZIN TARAMASI

Garland-Thomson (2002)'a göre, feminist teori, cinsiyet, ırk, etnik köken, yetenek ve sınıfın temsili sistemlerinin karşılıklı olarak nasıl yapılandırıldığını, dönüştürüldüğünü ve birbiriyle nasıl çeliştiğini inceleyen işbirlikçi ve disiplinler arası bir araştırma olarak tanımlanmaktadır ve toplumsal cinsiyet eşitsizliklerinin giderilmesi kadınlar ve tüm toplum için amaçlanmaktadır.

Türkiye'de de toplumsal cinsiyet eşitliğinin sağlanması amacıyla çeşitli alanlarda cumhuriyetin ilk yıllarından itibaren düzenlemeler yapılmıştır. Mustafa Kemal Atatürk sayesinde, toplumsal cinsiyet eşitliği politikalarının temelleri Cumhuriyet döneminin ilk yıllarında inşa edilmiştir (Çabuk-Kaya, 2013). Örneğin, 1924'te Tevhid-i Tedrisat Kanunu ve 1926'da Türk Medeni Kanunu ile Türk kadını eğitimde (Arı, 2002; Kaymaz, 2010) ve toplumsal alanda (Müftüler-Baç, 2012; Öztürk, 2019) erkeklerle eşit haklara sahip olurken, 1930'da yerel seçimlerde, muhtar seçimlerinde ve 1934'te genel seçimlerde oy kullanma ve seçilme hakkına sahip olmuştur (KSGM, 2019). Cumhuriyet döneminin başlarında, Atatürk kadınlara çalışma hayatının her alanında toplumsal cinsiyet eşitliği sağlamayı amaçladığından Türk kadınına ve toplumuna modern bir görünüm kazandırmak için kıyafet kanunu desteklenmiştir. Sonraki yıllarda ise, toplumsal cinsiyet

eşitliğini sağlamak amacıyla çeşitli uygulama, düzenleme ve sözleşmeler oluşturulsa da istenilen düzeye ulaşılamamıştır (Kaymaz, 2010).

İKV (2019) raporunun son verilerine göre, Türkiye'de yaşayan 29 649 000 erkek ve 30 244 000 kadın vardır. 21 484 000 erkek işgücü içindeyken, bu sayı kadınlar için 10 159 000 düşmektedir. Farklı iş kollarında, kırsal alanlarda kadınların işgücüne katılma oranı son yıllarda azalmasına rağmen, kentsel kadınların işgücüne katılım oranı artmaktadır. Ayrıca, inşaat alanında cinsiyete dayalı ayrımcılık henüz önlenmemekle birlikte, yönetici kadınlar kadınların meslek gruplarının istihdamı açısından en altta yer almaktadır. Cam tavan sendromu nedeniyle, kadınlar iş dünyasında bir seviyeye kadar yükselmesine rağmen kadınların daha fazla ilerlemeleri önlenmektedir. Aynı alanda kadınların başarıları geri planda sunulurken, erkeklerin başarısı ön plana çıkarılmaktadır (Arslan & Koca, 2007; Ayvazoğlu, 2015; 2017).

Eğitim, kız ve erkek çocuklarına, kadınlara ve erkeklere sosyal, ekonomik ve politik yaşama katılma ve demokratik toplum inşa etme hakkı veren bir insan hakkıdır. Bu durumda, özellikle kız çocuklarının ve kadınların eğitim ile avantaj, sosyal ve ekonomik fayda sağladığı görülmektedir. Bu, eğitim kalitesi ile cinsiyet eşitliği arasındaki artan işbirliğiyle desteklenmektedir. Buna rağmen, bazı müdahaleler cinsiyet eşitliğini önler. Eğitimde, eğitim sisteminin yapısı ve yönetimi, öğretmenlerin uygulamaları ve tutumları, öğrenme materyalleri ve öğretim programlarının içeriği cinsiyet eşitsizliklerinden etkilenmektedir (SADEV, 2010). Okullar, sınıf uygulamaları, dil, beklentiler ve davranışlar, sistem ve tutumlara değer verme yoluyla toplumsal cinsiyet inşasının kilit unsurlarıdır (Younger & Warrington, 2008). Uluslararası anlaşmalar ve ulusal kampanyalar nedeniyle okullaşma oranları cinsiyet eşitsizliği açısından azalmıştır. Örneğin, 175 ülke arasındaki gelişmekte olan ülkelerde, 1970 ve 2009 yılları arasında kadınların ortalama eğitim süresi 2.2 yıldan 7.2 yıla çıkarılmıştır (Gakidou vd., 2010), ortaöğretime kadınların net okullaşma oranı 2006-2013 yılları arasında %57 ile %65 arasındadır (Dünya Bankası, 2015). Dünyada, kadınlar için ilköğretimden yükseköğretime okul süre beklentisi 1971'de 6.7 yıldan 2017'de 12.5 yıla

yükselmiştir (UNESCO, 2019). Bazı engeller nedeniyle kız öğrenciler okula devam etmemektedir. Bu nedenle, kadın eğitiminin kalitesini ve başarı oranlarını arttırmanın yanında, asıl odak noktası onların okullaşma oranlarını arttırmaktır (Sibbons vd., 2000). Mirza (2004)'ya göre, okullaşma süresi, öğretim programının önemi, öğrenme başarısı, algılama ve paydaşların okullaşma süreçlerindeki beklentileri eşitlik göstergesidir.

Türkiye'de çeşitli projelerle okullaşma oranları arttırılmaktadır. Bu projelerden bazıları Baba, beni okula gönder, Haydi kızlar okula olarak gösterilebilir. TÜİK 2018 verilerine göre, 2017/2018 akademik yılında, 3-5 yaş grubunda okul öncesi eğitimde net okullaşma oranı toplamda %38.5, kızlarda %38.1 ve erkeklerde %38.8'dir. 4-5 yaş grubu incelendiğinde bu oran toplamda %50.4, kızlarda %49.9 ve erkeklerde %50.8'dir. 5 yaş grubunda okullaşma oranı açısından toplam oran %66.8, kızlar için %65.7 ve erkekler için %67.9'dur. Aynı raporda, 2017/2018 akademik yılında ilkokul için bu oran %91.5'tir. Kız ve erkeklerin oranı sırasıyla %91.4 ve %91.6'dır. Ortaokulda net okullaşma oranları toplamda %94.4, erkekler için %94.2 ve kızlar için %94.6'dır (TÜİK, 2018).

Okullaşma oranlarının artması, materyal olarak değerlendirilen ders kitaplarının kullanımını da etkileyebilir. Ders kitapları toplumu yansıttığından toplumun toplumsal cinsiyet ideolojisinde değişiklik olup olmadığı bu kitaplar aracılığıyla gözlemlenebilir. Ders kitapları incelendiğinde, toplumsal kalıplaşmış cinsiyetçi yargılar hakkında mesajlar, görseller veya ifadeler taşıdıkları görülmüştür (Trepanier-Street & Romatowski, 1999; Dilek, 2014; Kaynak & Aktaş, 2017). Bu kitaplar, öğrencilerin sadece kültürel değerler, normlar ve toplumsal rollere ve kimliklere karşı tutumları ile ilgili algılarını değil, aynı zamanda cinsiyet eşitliği algılarını da şekillendirmektedir (Xiong, He & Li, 2017).

Ders kitapları hem uluslararası hem de ulusal anlamda farklı yıllara ait çeşitli çalışmalar aracılığıyla incelendiğinde, ders kitaplarının cinsiyetçi yaklaşıma sahip olduğu, kalıplaşmış cinsiyetçi rolleri yansıttığı, erkek karakterleri kadın karakterlere göre ön planda sunduğu görülmektedir (Rosemberg, Moura & Silva,

2009; Gharbavi & Mousavi, 2012; Jannati, 2015; Çınar, 2015; Arslan-Ozer, Karataş & Ergun, 2019).

YÖNTEM

Çalışma Deseni

Beşinci sınıf matematik ders kitabı ve sosyal bilgiler ders kitabının toplumsal cinsiyet eşitliği ve toplumsal cinsiyet rolleri açısından incelenmesi amacıyla, nitel çoklu durum çalışması kullanılmıştır. Yin (2004)'e göre, çoklu durum çalışmaları araştırmacıya, bir veya daha fazla gerçek gerçek yaşam durumu içerebileceğinden tüm çalışmadaki bulguları güçlendirmesine yardımcı olmaktadır. Bu çalışmada, ilk durum ortaokul 5. sınıf matematik ders kitabındaki cinsiyet rolleri ve cinsiyet eşitliği, ikinci durum ise ortaokul 5. sınıf sosyal bilimler ders kitabındaki cinsiyet rolleri ve cinsiyet eşitliği ile ilgilidir.

Çalışmada Kullanılan Dokümanlar ve Seçimleri

Bu çalışmada araştırma sorularının cevaplanmasında 5. sınıf matematik ders kitabı ve 5. sınıf sosyal bilimler ders kitabı kullanılmıştır. Matematik dersleri erkek öğrencilerin daha başarılı olduğu ders olarak algılanırken, sosyal bilimler dersleri sosyal yapıyı ve toplum algısını yansıtır. Her iki kitap da cinsiyetçi öğeler içerebileceğinden, ders kitapları amaçlı örnekleme yöntemi ile seçilmiştir.

Veri Toplama Araçları

Belgeleme bu çalışmadaki veri toplama aracıdır (Yin, 1994; Bowen, 2009). Belgeleri, resimler ve metinler, kitaplar, haritalar veya çizelgeler oluşturabilir (Atkinson & Coffey, 1997; Bowen, 2009). Bu çalışmada ise, belgeleri 5. sınıf matematik ve sosyal bilgiler kitaplarındaki görsel ve yazılı metinler oluşturmuştur.

Veri Analizi

Cohen, Manion ve Morrison (2007)'a göre içerik analizi, metinlerden teorik sonuçların düzenlenmesi, sınıflandırılması, karşılaştırılması ve çıkarılmasından

oluşan ve tümevarımsal ve tümdengelimsel olarak kullanılan bir araştırma tekniğidir. Tümdengelimsel içerik analizi, başlangıç noktası olarak önceki teorik bilgilerden yararlanarak kavramları, kategorileri, teorileri veya herhangi bir kavramsal yapıyı yeni bir bağlamda test etmek için kullanılmaktadır (Kyngas & Kaakinen, 2020). Mevcut çalışmada da ilgili araştırma sorularını cevaplamak amacıyla tümdengelimsel içerik analizi kullanılmıştır.

SONUÇLAR

Hem beşinci sınıf matematik ders kitabı hem de sosyal bilgiler kitabı görseller ve metinler açısından incelenmiştir. Kullanılan görsel ve metinlerin sadece insan figürü içermesine özen gösterilmiştir. Yapılan içerik analizi ile görsel ve metinler toplumsal cinsiyet eşitliği ve toplumsal cinsiyet rollerine göre değerlendirilmiştir.

5. Sınıf Matematik Ders Kitabı Açısından Sonuçlar

Bu bölümde, beşinci sınıf matematik ders kitabında kullanılan görsel ve metinlerde, kadın ve erkek sayıları, hangisinin öncelikli yer aldığı, rol dağılımlarının nasıl olduğu incelenmiştir.

Kitapta, kadın karakterleri ve erkek karakterleri içeren toplam görsel sayısı 139'dur. Ünite 1 en fazla sayıda görsele ve ünite 6 en düşük sayıda görsele sahiptir. Detaylı bir şekilde bakıldığında, ünitelerin her birinde sırasıyla 38, 22, 30, 29, 13 ve 7 görsel vardır. Ayrıca, kadın karakterleri içeren görsellerin sayısı, toplamdaki görsellerin yaklaşık yarısını 73 görselle oluşturmaktadır. Matematik kitabındaki görsellerin sayfalara göre dağılımına bakıldığında kitabın 55 sayfasında sadece bir karakter içeren görseller kullanılmıştır. Bu 55 görselde ise 27 tanesinde kadın karakterler, 28 tanesinde erkek karakterler kullanılmıştır. Birden fazla görsel içeren sayfalar incelendiğinde, iki görselli sayfaların sayısı 34 ve üç görselli sayfaların sayısı 4 tanedir. Dört görselli sayfaların sayısı 1 tanedir ancak görseldeki dördüncü karakter net görülmediğinden bu görsel sonraki değerlendirmelere alınmamıştır. Bu görseller, sadece kadınlar, sadece erkekler,

kadın baskın, erkek baskın, ve kadın ve erkek sayısında eşitlik şeklinde sınıflandırılmıştır. Toplamdaki 38 sayfanın üçer tanesindeki görseller sadece kadınlardan ve kadın baskın olarak kullanılırken, birer tanesinde ise görseller sadece erkekler ve erkek baskın olarak sunulmuştur. 38 sayfanın 30 tanesindeki görsellerde kadın ve erkek sayısında eşitlik görülmüştür. Bu görsellerin sayfa üzerinde dağılımları incelendiğinde, kadınların birinci sırada veya sayfanın üst kısmında yer aldığı görsellerin kullanıldığı sayfa sayısı toplamda 31 iken, erkekler için bu sayı 7'dir. Görseller toplumsal cinsiyet rolleri açısından incelendiğinde, toplamda 136 görsel kullanılmış ve bunların 127 tanesini kız (65) ve erkek öğrenciler (62) oluşturmuştur. Ayrıca, kız ve erkek öğrenciler aynı üniforma ile gösterilmiş ve kahverengi pantolon, sarı tişört ve koyu mavi kazak ile sunulmuştur. Kız öğrenciler için sarı saç tokası kullanılmıştır. Bununla birlikte, iki grup arasındaki fark ayakkabılarının ve saçlarının renginde ortaya çıkmıştır. Kız öğrenciler için pembe ayakkabılar ve kahverengi saçlar kullanılırken, erkekler için siyah ayakkabılar ve siyah saçlar tercih edilmiştir. Ayrıca, farklı görsellerde, kadınlar bilgisayar kullanıcısı ve restoranda müşteri olarak gösterilirken, erkekler hesaplama yaparken, kütüphane veya caddede sunulmuştur. Bu görsellerde, kadınlar için beyaz, siyah, kırmızı ve yeşil renkler, erkekler için de mavi, siyah ve kırmızı renkler kullanılmıştır.

Kitapta, kadın, erkek ve üniseks isimlerin kullanıldığı metin sayısı 95'tir. Bu metinlerdeki toplam isim sayısı ise 163'tür. Kullanılan 163 isimden 74 tanesini kadın ismi, 72 tanesini erkek ismi ve 17 tanesini üniseks isim oluşturmaktadır. Kitapta sadece bir ismin kullanıldığı metin sayısı 60'tır. Bu sayının 28 tanesini kadın isimleri, 28 tanesini erkek isimleri ve 4 tanesini üniseks isimler oluşturmaktadır. Birden fazla isim içeren 39 metinden, 18 metinde iki karakter, 11 metinde üç karakter, 7 metinde dört karakter ve 1 metinde altı karakter kullanılmıştır. Bu isimlerin metin içindeki dağılımları incelendiğinde, kadınların birinci sırada yer aldığı metin sayısı toplamda 22 iken, erkekler için bu sayı 13 ve üniseks isimler için 4'tür. Birden fazla isim içeren metinlerden, altı metinde sadece erkek isimleri, üç metinde sadece kadın isimleri varken, bir metinde sadece

üniseks isimler kullanılmıştır. Ayrıca, kadın ve erkek sayısında eşitlik gösteren metin sayısı diğerlerine göre daha yüksekken, bunu üniseks isimler de dahil olmak üzere tanımlanmamış metin sayısı izlemiştir. Örneğin, kadın ve erkek isimleri arasında eşitlik de dahil olmak üzere 12 metin ve üniseks isimler nedeniyle tanımlanmamış olan 10 metin bulunmaktadır. Metinler içerdikleri toplumsal cinsiyet rolleri açısından incelendiğinde, bazı rollerde eşitliğin sunulmasına rağmen, geleneksel cinsiyet rollerinin elde edildiği açıktır. Örneğin, bazı kadın karakterler dışarıda olsa bile aileye bağımlı olarak, bazı erkek karakterler ise özgür olarak sunulmuştur. Ayrıca, bazı kadın karakterler ev içinde üretici konumunda, börek yapan, yemek yapan rollerdeyken, erkek karakterler para kazanan ve kendileri için alışveriş yapan veya arkadaşları için borç para veren rollere sahiptiler.

5. Sınıf Sosyal Bilgiler Ders Kitabı Açısından Sonuçlar

Bu bölümde, beşinci sınıf sosyal bilgiler ders kitabında kullanılan görsel ve metinlerde, kadın ve erkek sayıları, hangisinin öncelikli yer aldığı, rol dağılımlarının nasıl olduğu incelenmiştir.

Kitapta, kadın karakterleri ve erkek karakterleri içeren toplam görsel sayısı 157'dir. Ünite 1 en fazla sayıda görsele ve ünite 3 en düşük sayıda görsele sahiptir. Detaylı bir şekilde bakıldığında, ünitelerin her birinde sırasıyla 45, 32, 4, 12, 42, 6 ve 16 görsel vardır. Ayrıca, toplamdaki 157 görselden, kadın karakter içerenlerin sayısı 52, erkek karakter içerenlerin sayısı ise 105'tir. Kitaptaki 42 görsel sadece bir kadın karakter veya bir erkek karakter içermektedir. 42 görselin 11 tanesinde kadın karakterler, 31 tanesinde erkek karakterler kullanılmıştır. Birden fazla karakter içeren görsellerin sayısı ise 53'tür. Bu görsellerin dağılımı ise iki karakterli 7 görsel, üç karakterli 12 görsel, dört karakterli 1 görsel, beş karakterli 5 görsel, altı karakterli 3 görsel, yedi karakterli 4 görsel, sekiz karakterli 1 görsel ve ondan fazla karakter içeren 20 görsel şeklindedir. Bu 53 görselin, 2 tanesinde görseller sadece kadınlardan ve 9 tanesinde kadın baskın olarak kullanılırken, 11 tanesi sadece erkekler ve 5 tanesi erkek baskın olarak sunulmuştur. 53 görselden 4

tanesinde görsellerde kadın ve erkek sayısında eşitlik görülürken, 22 tanesinde hangi cinsiyetin çoğunluğa sahip olduğu belirlenememiştir. Bu görsellerde dağılımları incelendiğinde, kadınların ön sırada yer aldığı görsel sayısı toplamda 7 iken, erkekler için bu sayı 18'dir. Ayrıca, kadın ve erkeğin yan yana olduğu görsel sayısı 9'dur. Görseller toplumsal cinsiyet rolleri açısından incelendiğinde, rol dağılımlarının geniş olduğu görülmektedir. Yani, farklı meslek gruplarına yer verilmiştir. Ancak, cinsiyetçi rollerin de öne çıktığı görülmektedir. Ayrıca, görsellerde aile yapısı ve değerleri ile toplumsal yapı ve değerlere ait örnekler de sunulmaktadır.

Kitapta, kadın, erkek ve üniseks isimlerin kullanıldığı metin sayısı 74'tür. Kullanılan 74 isimden 23 tanesini kadın ismi, 49 tanesini erkek ismi ve 2 tanesini üniseks isim oluşturmaktadır. Kitapta sadece bir ismin kullanıldığı metin sayısı 38'dir. Bu sayının 5 tanesini kadın isimleri, 32 tanesini erkek isimleri ve 1 tanesini üniseks isim oluşturmaktadır. Birden fazla isim içeren 17 metinden, hem kadınların hem de erkeklerin birinci sırada yer aldığı metin sayısı 8 iken, üniseks isimler için bu sayı 1'dir. Birden fazla isim içeren metinlerde, bu isimlerin metin içinde dağılımlarına bakıldığında, 11 metinde kadın ve erkek sayısında eşitlik görülürken, 2 metinde sadece erkek isimleri, 3 metinde sadece kadın isimleri, 4 metinde erkek baskın isimler kullanılmıştır. Bir metinde ise üniseks isimden dolayı netlik elde edilememiştir. Metinlerde Türk toplumundaki kültürel faaliyetler, tören çeşitleri, halk oyunları türleri veya yiyecek türlerinden bahsedilmiştir. Ayrıca, geniş aile yapısı odaklanırken, bazı metinlerdeki geleneksel cinsiyet rolleri açıktır. Başka bir deyişle, erkek karakterler evin dışında gösterilirken, kadın karakterler evde veya alıcı/tüketici olarak gösterilmiştir. Ayrıca, büyükanneler ve büyükbabalar da geleneksel rollerde, gelenekleri aktaranlar olarak sunulmuştur. Büyükanneler el emeği ile üretirken, büyükbabalar gazete okumaktadır veya bulmacaları çözmektedir. Metinlerde, bazı kız öğrenciler aile ile birlikte yaşadığını ifade ederken, erkek öğrenciler için bu ifadeler kız öğrencilerde olduğu kadar görülmemektedir. Kız çocukları evlerinde kardeş bakmak, yemek pişirmek ve temizliğe yardımcı olmak gibi rollerinin yanı sıra ebeveynlerinin veya büyükanne

ve büyükbabalarının deneyimlerinden nasıl yararlandıklarını anlatmaktadır. Bununla birlikte, erkeklerin deneyimlemelerine ve özgürce üretmelerine izin verilebildiği görülmektedir. Eğer baba ailesine yakın değilse, çocuklardan büyük erkek çocuk aileyle ve işlerle ilgilenmektedir. Tarihsel süreçlerden bahsedilirken de erkek karakterlerin ön plana çıktığı görülmektedir.

Matematik ve Sosyal Bilgiler Ders Kitaplarında Cinsiyet Eşitliğinin Gösterilmesinde Farklılıklar Açısından Sonuçlar

Bu bölümde, her iki kitap görsellerdeki ve metinlerdeki kadın ve erkek sayılarına ve toplumsal cinsiyet rollerine göre değerlendirilmiştir.

Matematik kitabında, kadın ve erkek sayılarının birbirine daha yakın değerler olduğu görülmektedir. Sosyal bilgiler kitabında ise bu sayıların birbirinden oldukça farklı değerler olduğuna ulaşılmaktadır.

Ancak, her iki kitapta da toplumsal cinsiyet rollerinin açıkça sunulduğu sonucuna ulaşılmaktadır. Bu nedenle, cinsiyet eşitliğinin sadece sayısal olarak sağlanmaya çalışıldığından ve bunun gerçek bir eşitliği yansıtmadığından bahsedilebilir.

TARTIŞMA ve ÖNERİLER

Matematik Kitabındaki Toplumsal Cinsiyet Eşitliği ve Toplumsal Cinsiyet Rolleri Hakkında

Bu çalışmada 5. sınıf matematik ders kitabındaki görsel ve metinler toplumsal cinsiyet eşitliği ve toplumsal cinsiyet rolleri açısından incelenmiştir. Kadın karakterler ve erkek karakterler arasında sağlanmaya çalışılan sayısal eşitlik durumu veya kadın karakterlerin erkek karakterlerden sayıca fazla görünmesi, ders kitaplarıyla daha önce yapılan çalışmaların sonuçlarıyla çelişmiştir. Örneğin, Asan'ın 2006'da yaptığı çalışmada, erkek karakterlerin yoğun olarak kullanıldığı görülmüştür. Birden fazla görsel içeren sayfalarda ise kadın karakter ve erkek karakterler arasındaki eşitliğin ön planda olduğu görülmüştür. Ayrıca, bu sayfalarda önceliğin hangi karakterde olduğu incelendiğinde, kadın karakterlerin

öncelikli olduğu elde edilmiştir. Bu durum, Ders Kitabı ve Eğitim Araçları Yönetmeliğindeki düzenleme (2012) ile uyuşmaktadır. Bu düzenlemeye göre, ders kitaplarında kadın ve erkek eşitliğine önem verilmelidir. Diğer yandan, sonuçlar kadın karakterlerin görünmez olarak ortaya çıktığı çalışma sonuçlarıyla çelişmiştir (Can, 2009; Kırbaşoğlu- Kılıç & Eyüp, 2011). Görseller açısından, ders kitabında toplumsal cinsiyet rolleri öne çıksa da, kız ve erkek öğrencilerin kullanıldığı görsellerde, öğrenci üniformalarında aynı renklerin kullanılıyor olması, toplumsal cinsiyet eşitliğini göstermekle birlikte Arslan-Özer, Karataş ve Ergun'un yaptığı çalışma (2019) sonuçları ile uyuşmaktadır.

Matematik ders kitabı, metinlerde geçen isimlere göre analiz edildiğinde, kadın isimlerinin sayısı, erkek isimlerinin sayısıyla neredeyse aynıdır. Üniseks isimlerin sayısı ise her iki isminde gerisinde kalmıştır. Birden fazla ismin kullanıldığı metinlerde kadın karakterler ve erkek karakterler için kullanılan isimlerin sayıca eşit olduğu ve kadın karakterlere ait isimlerin öncelikli olarak kullanıldığı elde edilmiştir. Çalışma sonuçları bu açıdan değerlendirildiğinde, kadın görünürlüğünün veya cinsiyet eşitliğinin olduğu ancak bunun istenen düzeyde olmadığı belirtilmiştir (Güneş, 2008; Esen, 2013). Metinler, toplumsal cinsiyet rollerine göre değerlendirildiğinde, kitapta geleneksel toplumsal cinsiyet rollerinin örneklerine rastlanmıştır. Diğer bir deyişle, bireyler ders kitabındaki kalıplaşmış cinsiyetçi yargıları ile eşleştirilmiş ve cinsiyetçi yoğunluğun azalmasına rağmen ders kitaplarındaki cinsiyetçi yaklaşımların varlığının devam ettiğini göstermiştir (Kırbaşoğlu- Kılıç & Eyüp, 2011; Yaylı & Kitiş-Çınar, 2014).

Sosyal Bilgiler Kitabındaki Toplumsal Cinsiyet Eşitliği ve Toplumsal Cinsiyet Rolleri Hakkında

Bu çalışmada 5. sınıf sosyal bilgiler ders kitabındaki görsel ve metinler toplumsal cinsiyet eşitliği ve toplumsal cinsiyet rolleri açısından incelenmiştir. Elde edilen sonuçlarda, sosyal bilgiler ders kitabına ait görsellerde kadın karakterler ve erkek karakterler arasında eşitliğin olmadığı, hatta erkek karakterlerin çok daha yoğun olduğu ortadır. Birden fazla karakterin olduğu

görsellerde ise erkek karakterlerin sayıca fazlalığı ve ön sıralarda yer alması dikkat çekmiştir. Daha önce yapılan çalışmaların sonuçlarında olduğu gibi, bu çalışmanın sosyal bilgiler kitabıyla ilgili kısmında kadın karakterlerin görünmez olduğu, erkek karakterlerin görünürlüğünün öne çıkarıldığı, cinsiyetçi yaklaşımların bulunduğu saptanmıştır (Demir & Yavuz, 2017; Gharbavi & Mousavi, 2012; Taboas-Pais & Rey-Cao, 2012; Zakka & Zanzali, 2015).

Ders kitabında kullanılan metinlerde de, erkek karakterlerin yine ön planda olduğu bilgisi elde edilmiştir. Birden fazla ismin kullanıldığı metinlerde ise farklı cinsiyetteki karakterlerin eşitliği görülmüştür. Kitapta rol dağılımlarının kadın ve erkek karakterler modern toplum rolleriyle sunulmasının yanı sıra, geleneksel rollerle de ön plana çıkmıştır. Kitapta Türk toplum yapısı ve aile yapısıyla ilgili bilgiler de sunulmuştur. Burada, geniş aile yapısının kullanıldığı ve aile büyüklerinin deneyimlerinden yararlanıldığı belirtilmiştir. Bu sonuçlar, Demirel tarafından yapılan çalışma sonuçlarıyla (2010) tutarlı olup, cinsiyet rollerinin işbölümünde cinsiyet eşitliği ile eşleşmediğini tespit edilmiştir. Yani, cinsiyet rolleri, karakterler arasındaki işbölümünde cinsiyet eşitliği ile eşleştirilmemiştir.

Matematik ve Sosyal Bilimler Ders Kitaplarındaki Toplumsal Cinsiyet Eşitliği ve Toplumsal Cinsiyet Rollerinin Karşılaştırılması Hakkında

Matematik ders kitabı, sosyal bilgiler ders kitabına göre toplumsal cinsiyet eşitliği konusunda sayıca daha eşit görünse de, toplumsal cinsiyet rolleri açısından her iki kitap da modern rollerin yanında geleneksel rolleri içermektedir. Çeşitli kurumların görsel ve metinlerde cinsiyet eşitliği ve ders kitaplarında işbölümü sağlama çabalarına rağmen, bu ders kitaplarında cinsiyet eşitliğine yeterince önem verilmemiştir. Ders Kitabı ve Eğitim Araçları Yönetmeliğindeki düzenleme (2012) ile uyuşmamaktadır.

Çıkarımlar

Eğitim materyalleri ve müfredatta demokrasi ve toplumsal cinsiyet eşitliği gibi kavramlar üzerinde durulmalıdır. Ders kitaplarındaki görseller ve metinler,

eril alanlar olarak algılanan spor, bilim, matematik veya teknoloji gibi farklı alanlardaki kadınların başarısı ile zenginleştirilmelidir. Ders kitaplarının içeriği kadın ve erkekler arasında cinsiyet ayrımı olmaksızın cinsiyetler arası işbirliği içermelidir. Ayrıca, materyaller bireylerin eğitime erişme, eğitim alma ve eğitimin sürdürülebilirliğini sağlama ihtiyaçlarını da desteklemelidir.

Sınıf ortamında cinsiyetler arasında eşitlik sağlamada öğretmenler önemli rol oynamaktadır. Öğretmenler, örnek verme veya etkinlik seçiminde, cinsiyetçi öğelerden arındırılmış bir dil ile görseller kullanabilirler. Başarılı kadınların yaşam öykülerini derslerde paylaşabilir ve cinsiyet dengeli materyal ve içerik kullanabilirler. Ayrıca, öğretmenler kızları pozitif bilimlere, bilim ve teknolojiyi incelemeye teşvik etmeli ve mesleki ve teknik eğitime yönlendirirken, erkek ve kız çocuklarının sosyal etkinliklere, spor ve ders dışı etkinliklere eşit katılımını sürdürmelidirler.

Öneriler

Çalışma içeriği politikalar, evrensel ve ulusal haklar ve yönetmelikler ve literatür ile desteklense de matematik ve sosyal bilgiler ders kitaplarıyla sınırlı kalmıştır. Bu nedenle, öğrenci ve öğrenci aileleri ile öğretmen ve idarecilerin toplumsal cinsiyet eşitliği ve toplumsal cinsiyet rolleri hakkındaki fikirlerinin elde edilmesi için sonraki çalışmalarda gözlem ve görüşme tekniklerinden yararlanılabilir.

Çalışmanın içeriği, ortaokulun beşinci, altıncı, yedinci ve sekizinci sınıf düzeylerindeki ders kitaplarındaki cinsiyet eşitliğinin ve cinsiyet rollerinin analizi ile desteklenebilir. Ayrıca, bu ders kitapları, erken çocukluktan yükseköğretime kadar cinsiyete dayalı maddeler açısından değerlendirilebilir.

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TEZİN ADI / TITLE OF THE THESIS (**İngilizce** / English) : AN EXAMINATION OF SOCIAL GENDER EQUALITY AND SOCIAL GENDER ROLES IN FIFTH GRADE MATHEMATICS TEXTBOOK AND SOCIAL SCIENCES TEXTBOOK

TEZİN TÜRÜ / DEGREE: **Yüksek Lisans** / Master ■ **Doktora** / PhD ☐

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