

SUSTAINABLE ACTIONS AND DISCOURSES IN A POPULAR TURKISH
CARTOON: A CONTENT ANALYSIS WITH RESPECT TO 7R

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7R**

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ABSTRACT

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The aim of the present study is to examine the one of the most popular cartoon which was aired on the most-watched TV channel according to the Television Viewing Research Board (TIAK) and the Youtube data considering the three pillars (environmental, socio-cultural, and economic pillars) of education for sustainable development (ESD) in the way of 7R (Reduce, Reuse, Respect, Rethink, Reflect, Recycle, Redistribute) that introduced by World Organization for Early Childhood Education (OMEP). Considering the data that taken from TIAK and Youtube, the thematic channel (can be named as TRT Kids) is the most-watched cartoon channel. The popular cartoon of children with the name of Elif ve Arkadaşları was chosen according to gathering data. In this respect, the cartoon that aired on the channel was investigated via the content analysis method to define the nature of the cartoons in terms of the environmental, socio-cultural, and economic pillars of education for sustainable development. Respect is the most represented category for both discourse and action units. It was found that while discourse unit was presented much for social-cultural pillar, action unit was pointed for environmental pillar mostly. Also, both environmental pillar

and social- cultural pillar were exemplified many times, however economic pillar of ESD was presented only two episodes.

Keywords: Cartoons, 7R, Education for Sustainable Development, Content Analysis

ÖZ

POPÜLER BİR TÜRK ÇİZGİ FİLMİNDEKİ SÜRDÜRÜLEBİLİR EYLEMLER VE SÖYLEMLER: 7R İLE İLGİLİ BİR İÇERİK ANALİZİ

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Bu çalışmanın amacı, Televizyon İzleme Araştırma Kurulu (TİAK) ve Youtube verilerine göre en çok izlenen TV kanalında yayınlanan en popüler çizgi filmlerden birini Sürdürülebilir Kalkınmanın üç temel (çevresel, sosyal-kültürel ve ekonomik) bileşenini dikkate alarak, 7R (Azalt, Yeniden Kullan, Saygı Duy, Sorgula, Yansıt, Geri Dönüştür, Yeniden Dağıt) çerçevesinde incelemektir. TİAK ve Youtube'dan alınan verilere göre en popüler tematik kanal TRT Çocuk televizyon kanalıdır. Toplanan veriler doğrultusunda Elif ve Arkadaşları isimli çizgi film en popüler çizgi film olarak çalışmanın örneklemini yansıtmaktadır. Bu doğrultuda çizgi film içerik analizi yöntemiyle incelenmiştir. *Saygı Duy* hem *eylem* hem de *söylem* birimleri için en çok temsil edilen kategoridir. Ayrıca, *Azalt* kategorisi *eylem* birimi açısından *Saygı Duy* kategorisine ile aynı orana sahiptir. Söylem biriminin daha çok sosyal-kültürel boyutta sunulduğu, eylem biriminin ise daha çok çevresel boyutta sunulduğu görülmüştür. Ayrıca, hem çevresel boyutun hem de sosyal-kültürel boyutun birçok kez yansıtıldığı, ancak Sürdürülebilir Kalkınma için Eğitimin ekonomik boyutuna sadece iki bölümde yer verildiği görülmüştür.

Anahtar Kelimeler: izgi Film, 7R, Sürdürülebilir Kalkınma için Eğitim, İçerik Analizi

To my family...

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LIST OF ABBREVIATIONS

WCED	World Commission on Environment and Development
UN	United Nations
UNCED	United Nations Conference on Environment and Development
ESD	Education for Sustainable Development
OMEP	World Organization for Early Childhood Education
UNESCO	United Nations Educational, Scientific and Cultural Organization
WCED	World Commission on Environment and Development
WWF	World Wildlife Fund
OECD	Organisation for Economic Co-operation and Development
TIAK	Television Viewing Research Board

CHAPTER 1

INTRODUCTION

"Study nature, love nature, stay close to nature. It will never fail you!"

Frank Lloyd Wright (as cited in Lind & Wright, 1992)

In today's world, humanity faces tremendous environmental, social, and economic challenges brought by its activities. These activities have altered the climate and the biology of the Earth (Chichilnisky, 1997). Global heating has become more noticeable day by day while the ratio of clean water, fresh air, healthy food, and natural resources is decreasing frighteningly. As these problems increase, the human population is growing at the same time (Davis, 2010). According to the World Health Organization (WHO) (2019), 9 out of 10 individuals breathe polluted air due to the increasing population, fossil fuel consumption, and the lack of clean fuels and technologies. Unfortunately, Türkiye too is having problems with its air and water. According to OECD (2019) estimates, the number of deaths due to air pollution in Türkiye is approximately 30,000 thousand. In 8 water basins, only 6 of 750 streams and lakes are not contaminated. In other words, 99% of the waters in these basins are polluted in Türkiye (World Environment Day Turkey Report, 2019). There is general agreement among these investigations and others that human-caused disruption of natural environments is currently one of the leading causes of species extinction in nature (Silva Caixeta et al., 2021). Many other similar statistics show how the situation has arisen and is driven by human exploitation of nature, which even now has great difficulty in supplying the needs of humans and will be impossible in a few years time. That being said, growth of the human population also means that in theory there will be more intelligence available to take action and to find solutions for these big problems (Murphy 2017). In other words, people can take action and do something to solve these problems. To do

this, humanity will need to tackle these social, environmental, and economic difficulties and take action for a sustainable world. To date, people have taken some action through education for sustainable development (ESD). Indeed, the WCED began to take action for a sustainable world in 1987 and it described sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" in the Brundtland Report (1992, p. 87). Although this term had been used by some institutions previously (WWF, UNEP, 1980), it was brought to the forefront by the Brundtland Report (Purvis et al., 2018). This report was subsequently approved by United Nations (UN) General Assembly in 1992. Furthermore, Agenda 21, a global action program for sustainable development, and the Rio Declaration on Environment and Development were adopted by 178 governments (UNESCO, 2014). In Rio de Janeiro, delegates from all over the world presented their suggestions for sustainable development. This agenda affirmed that sustainable development should be a priority of the International Community, and national plans should be developed to direct the economic, social, and environmental aspects of sustainable development (UNCED, 1992). Sustainability was represented by three integrating ellipses, showing that these aspects are not mutually distinctive but could reinforce each other (WCED, 1987). Sustainability takes a place at the intersection of the three integrated dimensions (Purvis et al., 2018).

One of the three ellipses is Economic Pillar and it refers to viable consumption issues with regard to meeting basic needs and utilization of energy, products, and supplies that might diminish harmful impacts on nature and environment; while environmental pillar address issues of continuity of life on Earth with responsibility for saving. Additionally, Social-Cultural pillar focuses on the well-being and perpetuation of humanity in terms of politics, culture, and society such as consideration of diversity, and justice for all, etc. (Siraj-Blatchford, Smith & Pramling Samuelsson, 2010).

With the endorsement of sustainable development by the United Nations, education was proposed as a very powerful tool for supporting development by the same communities (UNCED, 1992). Furthermore, education for sustainable development was presented with the name of Chapter 36 in Agenda 21 as "Promoting Education, Public Awareness, and Training" (McKeown, 2002). Also, Agenda 21 (1992) proposed that sustainable development should be coordinated and associated by both formal and informal education strategies with Chapter 36. Moreover, both formal and informal education are presented as necessary for improving environmental and ethical consciousness, beliefs, and skills behaviors that are compatible with long-term development and effective civic participation in decision-making (Kaga, 2008). Many forms of education that concentrate on various facets of sustainability, such as global warming, disaster risk reduction, or biodiversity, started to be a part of Education for Sustainable development (ESD). All of the facets of sustainability started to follow ESD strategies, and ESD is widely seen as a driver of educational innovation to make global changes. If countries take action for ESD, the extinction of the world can be slowed down because there are less distinctions between towns, businesses, institutions, and schools today and ESD is frequently at the center of fresh, innovative multi-stakeholder coalitions. It is known that a co-evolution of pedagogy and ESD is currently taking place and it seems that pedagogy is also growing at the same time as the curriculum's sustainability-related content (UNESCO, 2012).

Education for sustainability (ESD) is meant to be implemented at every level of education, so that it reaches people of various ages who, as a result of the knowledge gained from sustainability education, would be able to contribute in various ways to a society that is more sustainable together (Silva et al., 2019). The first level of education is early childhood education. Kahrman-Öztürk et al., (2012) states that one of the goal of ESD is to find solutions for local and global problems at all formal education levels, starting with early childhood. It is known that early childhood education is accepted as the optimum time for Education for Sustainable Development (ESD) according to UNESCO (2008a)

and the Gothenburg Recommendations (UNESCO, 2008b). Lifelong acquisition for education for sustainability should start in early years of life (from birth) and should not be delayed until higher grades. In this regard, it is critical to remember that the early childhood years are crucial in fostering a sustainable development mindset since it is the "natural starting point" for lifelong learning (Didonett, 2008, p. 25) and therefore the early years have a very significant role in promoting consciousness, good habits, and attitudes that can support sustainable development (Prammling-Samuels & Kaga, 2008; Prammling Samuelson, Hu & Li, 2019). Therefore, Education for Sustainable Development has become a worldwide priority in Early Childhood Education over the last few decades (Li et al., 2021). With the priority of ESD, The World Organization for Early Childhood Education (OMEP) (2011) took action and launched a project to encourage stakeholders like educators, researchers, parents, and media to put Education for Sustainable Development (ESD) into practice in Early Childhood Education. Numerous studies and practices were undertaken around the world. This effort was informed by straightforward guidance from the 7R framework (Reduce, Reuse, Respect, Rethink, Reflect, Recycle, and Redistribute) which refers to roots of implementation of Education for Sustainable Development in the Brundtland Report (1987) and as proposed by OMEP (2011) concerning three pillars of Education for Sustainable Development or the establishment of 7R ideas.

The focus on 7R was an effort to exhibit what changes children can bring to their closest physical surrounding, analyzing the utilization of sources like water, energy, etc., conserving the environment, and reusing old material (exchanging, repairing) (OMEP, 2011). In detail, Reduce means doing more with less; Reuse means using old things and waste in regard to the environmental pillar. Respect focuses on the rights of children, such as respecting other cultures, nature, and other's competencies; Rethink is about thinking on values like consumption culture; Reflect is about showing cultural differences in the world in terms of the socio-cultural pillar. Recycle means sorting and using waste; while Redistribute focuses on using resources more equally (Duncan, 2011). Data on various

projects was shared through webinars hosted by UNESCO. OMEP found that most of these projects tended to concentrate on school children or upper secondary students. They rarely, or never, were linked to Early Childhood Education; therefore, OMEP (2018) sought to make a significant difference in this field in terms of education for sustainability.

At first, glance, implementing an OMEP ESD project can be seen as complex in ECE; however, it is evident that both Education for Sustainable Development and Early Childhood Education share similar features like problem-solving, creative thinking, and inquiry learning, etc. (UNESCO, 2005). Moreover, the OMEP World Project (2011) showed that children volunteered to give information and suggestions about the state of the Earth after using the illustration and the 7R as starting places, and they were also able to see the reasons and results of poor environmental conditions. They have been eager and able to comment on things, people, and activities in a variety of ways when asked by their educators, and their stories indicate that they take in a lot of information about their surroundings. The children made associations with items in their surroundings whether they were looking at the image or naming things that are not sustainable. They were able to see the causes and effects of poor environmental conditions when utilizing the drawing and the seven RE-words as starting points and gave information and comments regarding the state of the Earth. Their suggestions were well-grounded in their real-life experiences (Engdahl,2015). The first Global Action Programme (GAP) on Education for Sustainable Development (ESD) was introduced following the conclusion of the UN DESD. The GAP defined five key action areas to improve ESD in order to facilitate a strategic focus and encourage partners' engagement. One of these key action areas was enhancing educators' and trainers' abilities to provide ESD more efficiently. Because they are offering the educational response to sustainable development, teachers are seen as significant agents of change (UNESCO, 2014). Unfortunately, studies showed that early childhood education teachers know about education for sustainable development; however, they have difficulties to implementing sustainability strategies in the schools (Dyment et

al., 2014, Inoue et al., 2017, Veisson & Kabaday, 2018). From 2007 (31.2%) to 2019 (67.3%), there was a 36.1 percentage point rise in the number of educators who were aware of the term ESD. In spite of this upward tendency, 32.7% of instructors in 2019 were still unaware of ESD in a school setting (Waltner et al., 2020).

Apart from teachers, there are other stakeholders and crucial participants in ESD: government ministries, private institutions and the media (UNCED, 2005). All the stakeholders have different missions and aims. For example, some of the goals for ministries are to help integrate ESD into the curriculum by supporting necessary funding, providing education for schools and teachers to improve ESD understanding of them, and making laws for a green world. The private sector too is a crucial stakeholder. They try to improve their working strategies, to set up green industries and to adapt regulations by decreasing their carbon footprints in coordination with the ministries (UNCED, 2005). The United Nations Decade of Education for Sustainable Development (2005) states that the media is also a crucial stakeholder through its ability to raise awareness of sustainability and to assist education for sustainability. Indeed, the media is a tool for non- formal learning in ESD.

Many countries like Italy, Sweden, Mexico etc. are using their media to improve the understanding and participation of the public in ESD. For example, Swedish broadcasters produced programs such as 'The Globe' to raise people's awareness of the need to address biodiversity and global warming. Some campaigns were also proposed by media. One and the biggest of them was the Earth Hour campaign. 128 countries were involved into this campaign in 2010. Large international organizations like UNESCO also use the media to reach people. They prepare manuals, training courses, workshops and campaigns to educate people about sustainability and education for sustainability. It is clear that the media is a way of disseminating information about ESD. According to Surlin & Dominick (1970) after parents, the media can be the third parent child who helps them to explore and understand himself/herself and the environment. Television

sends information and messages to the audience both visually and audibly with vivid, colorful images and sounds, so this communication and entertainment is also used in the education process (Şirin, 1999). Also, Cortes (2005) evaluates media communication tools such as television as the biggest alternative to schools and states that they have an important function in terms of the basic goals of education such as presenting information. Postman (1994) pointed out that television has an important place in the education process due to its entertaining feature. The animated cartoon is a particularly popular form of entertainment that is aired on television and has been part of the daily lives of children in many countries for more than 80 years (Yousaf et al., 2015).

Hoffer (1981) defines cartoons as the art of animating what is drawn. Cartoons can transmit many messages and concepts via symbols and pictures (Dalacosta et al., 2009). The power of the cartoon is that it provides for effective learning by making the incomprehensible understandable, visualizes the invisible, and gives the desired message in its softest form (Wijethilaka, 2020). Their joyful language is highlighted as a crucial quality to enthrall young people. Wijethilaka (2020) defined the characteristics of cartoons as entertaining, also teaching, educating while entertaining. Although the effects, colors and animations used in cartoons attract the attention of people of all ages (Yağlı, 2013), the target audience is mostly children. Bebka (2017) emphasizes that colors contain a universal feature. The colors encountered in every frame of a cartoon attract the attention of children and enables them to be perceived easily. On the other hand, Lutz (1926) stated that cartoons; a branch of animation, are also a sympathetic and remarkable tool used for a specified situation. Cartoons can be used to instruct children by adding to their holistic education, because they can go beyond basic entertainment thanks to their characters and the experiences of the characters (Silva Caixeta et al., 2021). Therefore, they can be used for different aims apart from entertainment. The employment of cartoons in educational settings is an intriguing prospect, since youngsters are drawn to the variety of colors, personalities, and situations, tremendously. It offers considerable opportunity because children begin watching television from a very young age

and spend a remarkable amount of time doing so, and they mostly watch cartoons (TSI, 2019). It has also been found that cartoons have some positive impacts on children's development.

Related literature indicates that cartoons have different impacts on children's behaviors like pro-social behaviors or aggression; and the development of their use of language, gender identity, and cognitive abilities. Many indicate that cartoons are very effective on children's character development in the early years (Yousaf et al., 2015; Rai et al., 2016; Julia & Isrokatun, 2019; Ghilzai et al., 2017; Rodríguez & Cumming, 2017). For these reasons educators are advised to check the content of the cartoons before presenting them to children. Appropriate cartoons can support children; because entertainment is one of the best ways of learning (Engstrom, 1995). It has been found that cartoons can have significant effects on children. In one instance, 685 children were hospitalized due to the Phocemon shock incident in Japan. During the film, red- blue bright strobe flashes were shown in an important scene for six seconds. Thereafter some of the viewers experienced blurred vision, headaches, dizziness and nausea. More serious side effects included seizures, blindness, convulsions and loss of consciousness (Plunkett, 2015). After the incident, the episode was banned. Overall, cartoons have become more exciting and attractive for children, and their preferred viewing material (BEBKA, 2018; RTSC, 2018; Nikken & van der Voort, 1997; Rai et al., 2016). Cartoon films may also leave an unforgettable impression on the minds and wellbeing of preschoolers. They have really important impacts on children. These impacts should be used positively by giving important and positive messages like those on sustainability. As Yapıcı (2003) states, they are very effective tools for children's attitude formation, and can be beneficial to the introduction of sustainability behaviors. Clearly, cartoons can be an advantageous and effective method for education on sustainability in early childhood, both in formal settings and at home. Children watch cartoons daily, suggesting that they are both accessible and appropriate for this aim.

1.1. Significance of the Study

Education for Sustainable Development (ESD) emphasizes equality and agency for participatory democracy, social justice, and social reform, emphasizing consultation and commitment (Engdahl, 2015). The 7Rs, in particular, allow for the implementation of sustainable development methodologies. This is practical because, while sustainability may be difficult to define in theory because it requires some technical understanding, it is critical to incorporate it in the formation of "good practices in the daily life of children" (Summers, 2003). There are some examples of the implications of 7R in early childhood centers. For example, McNichol et al. (2011) thought that present resources are unsustainable and that the growing population of humanity should take action in an interdisciplinary way. First of all, they emphasized that the early years are very crucial for teaching sustainability because young children have some real unsustainability problems like food security and clean water. Secondly, they thought that education is essential for permanent learning. Therefore, they tried to reduce the ecological footprint of an early childhood center by working with educators and engineers. They found that almost half the carbon footprints of the kindergarten were about fossil fuel consumption (energy, transport) and food production. They concluded the study by adding that kindergartens can reduce their footprints by rethinking their food, energy and transport decisions and by starting with very basic changes like switching off unnecessary lights and using both sides of paper for illustrations and writing so that children participate in the experience of as actually reducing consumption to make the environment better. Such actions are crucial because reducing consumption is one of the main factors for decreasing human impact on the environment (McNichol et al., 2011). This study shows that practices of ESD could start with very basic steps, and these little steps can leave big, positive impacts on our world. In another study, Korkmaz and Güler Yıldız (2017) stated that private eco-school teachers arrange for children to engage in planting vegetables in a school garden and observe the life-cycle of animals to learn about their environment, exhibit and use clothes that are special to different cultures for learning socio-cultural aspects, and use

recycle bins, and make posters about saving energy and reusing materials to learn about the economic aspect. It was determined that children learn about saving, recycling, and respecting diversity with these types of activities. In this way the "reduce, reuse, rethink and recycle" concepts of sustainability can be activated in early childhood centers. As a result, children can gain environmental awareness about water, energy, soil, consumption, and recycling. Also, another study found that putting recycling signs in children's environment in preschools has a positive effect on the knowledge of children about the significance of recycling (Kahriman-Öztürk, 2010). Results of the abovementioned studies highlight that early childhood education and teachers can practice sustainability by integrating 7R concepts into their daily activities. As stated above, the theory of sustainability can be confusing, but its implementation in schools is straightforward and effective.

As OMEP (2011) stated most ESD projects were initially applied in elementary and secondary schools. Many study findings show that the issue of sustainability was investigated in schools and universities but there was a gap in early childhood education (Conway, Dalton, Loo & Benakoun, 2008; Flint, 2001; Lenzen & Murray, 2001; Moles et al, 2008; Davis, 2009). This may have been partly due to adults underestimating the environmental capabilities of children (Spiteri, 2021). However, there is now significant evidence to show that children are ready to work for a sustainable world. For example, Loughland et al., (2003) observed that some children are aware of their connectedness with nature and the environment, but many of them identify the environment as a separate entity. Therefore, children need more integration with nature. On the other hand, Spiteri (2021) investigated the knowledge of children about environmental issues. The study results indicated that most children think the environment is a necessity for the sustainability of humanity, they should protect the earth and they should care about the world. Also, they are very aware of air pollution and they consider its negative impacts on their country. Moreover, children know that recycling is very important to have a clean environment. They are also aware that they can find creative solutions to environmental problems.

UNESCO (2017) stated that early years have the potential to teach taking action for nature- integration, environmental protection and taking decisions and action for nature to children. The relevant literature supports the notion that children are aware of nature and they are big enough to take action for their environment because they are capable of doing so. In terms of socio-cultural pillar, many researchers have found that children can set connections with the nature. For instance, Kahriman-Öztürk, Olgan and Güler (2012) conducted a qualitative research study with 36 children and they investigated the ideas of children about 7R concepts of sustainability. They found that children have higher levels of respect for nature, plants, and animals. However, they stated that children's ideas about sustainability are very limited especially in terms of the reflect, rethink and redistribute concepts. Parallel to this study, Korkmaz and Güler Yıldız (2017) found that children who study in eco-schools are respectful to animals according to their interviews. Accordingly, they recommend that activities related to sustainability also serve to teach empathy in children. In another qualitative study; Lewis, Mansfield, and Baudains (2010) emphasized that sustainability projects are very meaningful for early ages because children successfully express their thoughts about the respecting, reducing and recycling aspects of sustainability. Studies and reports show that children can learn about sustainability, they have ideas about it and they can take action. Therefore, all stakeholders including the media, children's literature, schools, parents and teachers play an important role in improving young children's understanding of sustainability.

The importance of the media as a stakeholder, which includes television programs, offers many opportunities to influence the lives of children, especially through the watching of cartoon films. Mertol and Gündüz (2019) found that 47% of children in their Türkiye sample watched cartoons for one hour a day, and 14 % did so for four hours or more a day. Elsewhere, it was found that 2-5 year olds watch cartoons for 32 hours a week (Habib & Soliman, 2015). These ratios show that children spent a remarkable time watching cartoons. Therefore, it is not surprising that television is influencing children as OMEP (2011) stated

today's children are heavily affected by diverse characters or people on television and in the media. Hence, children begin to watch cartoons from very early ages. They experience cartoons and the characters in fantasy animations from the first days of their lives (Erdoğan & Baran, 2008). Also, they can reach these cartoons via television and tablet computers, smartphones, or the Internet; therefore, cartoons are a part of many children's daily lives.

In the early childhood years, cartoons have many positive and negative effects (İmamoğlu & Şirin, 2011). The positive effects of cartoons are explained differently by different authors. According to Temizyürek and Acar (2014), these effects can be counted as creating educational situations, entertainment, both entertaining and educating showing the right thing, and social sharing. According to Rosiek et al., (2015), the purpose of cartoons is to teach while entertaining. However, this situation varies according to the content of the cartoons and the situations of the characters in the cartoons. Zilka (2017) states that cartoons contain innovative and creative content as well as educational content. Akkuş et al. (2015) state that animal characters have an impact on children's sensitivity. Children put themselves in the place of the characters they watch and shape their behaviors according to the characters (Akkuş et al., 2015). On the other hand, cartoons may also have some negative impacts on children. It was found that some characters in cartoons can affect the subconscious of children and they can affect their future lives (Ghilzai, et al., 2017). Also, The Parliamentary Research Commission Report (2007) states that television and the vivid/ bright images in it, play a major role in making preschool children ready for violence. According to the report, during this period, children's attention increases, they draw conclusions from the events that are implicitly described, and they approve and imitate the actions or movements of the characters. Young children adopt and perceive the characteristics of the cartoon characters that they love (Gönenç, 2005). Therefore, the content of the cartoons is crucial to children's well-being and character development.

As stated above, early ages are very appropriate years to learn about sustainability and education for sustainable development by using informal settings like media. (UNESCO, 2005; Prammling-Samuelsan & Kaga, 2008; Prammling-Samuelsan, Hu & Li, 2019). Also, it is known that children watch cartoons mostly on TV. Therefore, examining cartoons in terms of sustainability is a meaningful issue to see their potential. Generally, researchers examined cartoons in terms of gender, values, child development, and behavior influence, etc. (Baker & Raney, 2007; Jones, 2011; Özdemir, 2020; Karaca, 2019; Lehman, 2007; Kirsh, 2006). Although gender equality, and cultural values are a part of sustainable development; no study has been published that specifically examines cartoons in terms of all three pillars of sustainability. It is known that these pillars are interconnected, and they should be investigated as a whole. However, over the years a few studies have examined references to sustainable development issues in cartoons. Oglesby (1998) explored environmental messages in cartoons and showed that cartoons have negative messages regarding environmental problems. Murray and Heumann (2007) investigated environmental cartoons in the 1930s, 1940s and 1950s in terms of the nature-human relationship. They realized that environmental issues were presented mostly after the 1970s in animated children's programs following the onset of the environmental activism in the 1960s. They found that cartoons were focused on human-nature relationships, criticism of the human effect on nature and the necessity of the controlling interruption of nature. Such studies showed that cartoon representations of environmental issues increased significantly during the 1970s.

From a socio-cultural perspective, Thomsan and Zerbinos (1995) examined gender roles in cartoons. They found that cartoons represent gender inequality in terms of behaviors, communication characteristics, and talking time between males and females. Similarly, Baker and Raney (2007) investigated gender inequality representation in cartoons and found a significant difference between the numbers of superheroes in terms of gender. Almost, 65.7% of the superheroes were represented as male in the cartoons. Also, they stated

significant differences between male and female superheroes in terms of attractiveness, emotional representations, being worried about physical appearances, and the frequency of asking questions. Also, Jones (2011) investigated cartoons regarding race and gender issues. The researcher concluded that males were most represented according to females, females were shown as more intelligent, not working and most loving to dance and sing songs. They argued that cartoons should be more equitable in terms of both gender and race. Again, Suby (2019) explored race and gender presentation in Cartoon Network cartoons. The study stated that the ecology of Cartoon Network is emphasized for its developing portrayal of progressive portrayals of racial and gender identities and for portraying them to children. In programs released between 2008 and 2018, many were found to represent gender and racial inequalities.

Several national studies have also focused on sustainable development. Kartal (2019) investigated the "Su Elçileri" cartoon in terms of environmental issues. The findings showed that water and protection of the environment issues were represented in every episode. After that, environmental problems, recycling and protection of things issues were represented. Related to this cartoon, Sahin and Arslan (2022) conducted a quasi-experimental study and they concluded that children who watched this cartoon showed a significant improvement related to environmental behaviors and also they became more aware of environmental problems than the control group. Aydoğan (2019) explored Cedric and Pepee cartoons considering cultural issues. The study showed that both of the cartoons represented their cultural values. Similarly, Akbay (2019) analyzed Pepee cartoon considering cultural transformation. The findings revealed that the three quarters of episodes included messages on cultural values. However, the ratio of messages related to national values, moral values and religious values was low. Lastly, Sen (2020) and Deniz (2019) found gender (in)equality was present in the cartoons they analyzed. Overall, the available literature suggests that cartoons are successful in terms of promoting cultural values but less so in terms of cultural diversity, while gender inequality remains commonplace. To be effective it is held that sustainable development requires all humanity to address

environmental, cultural and gender issues together. However, to date these issues are not examined under the roof of sustainable development.

In short, cartoons are an effective tool for teaching some children about issues important for sustainable development because of their joyful and attractive presentations. While studies showed that children can learn about sustainable development from an early age (UNESCO, 2005; Prammling-Samuelsan & Kaga, 2008; Prammling-Samuelsan, Hu & Li, 2019), cartoons can be used to encourage children to learn and take action about sustainable development since they are familiar with watching them almost every day. However, first of all; cartoons' contents should be examined in terms of sustainability because they may have a very diverse impact on children (Keinonen et al., 2014; Rai et al., 2016). As stated above sustainable development is difficult to define theoretically, and for this reason the 7Rs were presented as easy roots for developing our understanding of sustainable development (Brundtland Report, 1987). Therefore, examining cartoons in terms of all pillars of ESD by using the 7Rs roots can be beneficial for researchers, educators, parents and producers and most crucial for children.

Although Education for Sustainable Development has been launched with the priority of combining environmental, socio-cultural, and economic pillars (Hagglund & Prammling Samuelsson, 2009), to the best of the author's current knowledge, no study in the related literature holistically examined the content of a cartoon aired on the national TV channel. Therefore, the current study aims to fill this gap by investigating cartoons in terms of all aspects of ESD in Türkiye.

1.2. Purpose of the Study

The current study aims to investigate one of the most popular Turkish cartoon named *Elif ve Arkadaşları* for 3-5 years old children from the point of all pillars (environmental, socio-cultural, and economic pillars) of Education for Sustainable Development (ESD) concerning the framework of 7R (Reduce,

Reuse, Respect, Respect, Rethink, Reflect, Recycle and Redistribute) introduced by OMEP (2011). Furthermore, the study aims to describe elements concerning education for sustainable development in cartoons by investigating discourses and actions of the characters.

In consideration of the information relayed above, the current study aimed to answer the following research questions:

1- To what extent Elif ve Arkadaşları cartoon presents examples of sustainable actions and discourse related to 7R, which are assigned to the three pillars of Education for Sustainable Development (ESD)?

a) What is the variation of sustainable actions which are demonstrated in the cartoon in terms of Reduce and Reuse addressing the environmental pillar of Education for Sustainable Development (ESD) from the point of discourses and actions?

b) What is the variation of sustainable actions demonstrated in cartoons in terms of Respect, Rethink and Reflect addressing the socio-cultural pillar of Education for Sustainable Development (ESD) from the point of discourses and actions?

c) What is the variation of sustainable actions demonstrated in cartoons regarding Recycle and Redistribute addressing the economic pillar of Education for Sustainable Development (ESD) from the point of discourses and actions?

2- In which ways do Elif ve Arkadaşları cartoon involve the examples of sustainable discourses regarding to the 7R?

1.3. Definition of Terms

Education for Sustainable Development (ESD): ESD provides learners to take wise determinations and accountable behaviors for environmental unity, economic viability, and just society for current and next generations while honoring cultural variety (UNESCO, 2009).

Cartoons: Cartoons are fictions portrayed by animated figures and scenes that were broadcast on television (Oglesby, 1998).

Reduce: It attempts to do more with less, such as decreasing energy usage by closing water fountains when not in use concerning environmental pillar (Duncan, 2011).

Reuse: It aims to reuse old materials in diverse ways, like using old toilet paper rolls to make an activity with respect to the environmental pillar (Duncan, 2011).

Respect: It involves respecting children, their abilities, and their rights, as well as nature and other living conditions concerning the socio-cultural pillar (Duncan, 2011).

Rethink: It is related to rethinking the changing nature of beliefs, such as criticizing consumerism and finding new ways to indicate oneself creatively concerning socio-cultural pillar (Duncan, 2011).

Reflect: It means to provide opportunities for people to reflect on various cultures and situations for serving the socio-cultural pillar (Duncan, 2011).

Recycle: It entails sorting waste, recycling waste, and creating compost that others can use concerning the economic pillar (Duncan, 2011)

Redistribute: It aims to use resources more equitably, like arranging a fund drive to serve the economic pillar (Duncan, 2011).

CHAPTER 2

LITERATURE REVIEW

In this part of the study, the related literature and summaries of national and international studies about Education for Sustainable Development (ESD) and cartoons are introduced.

2.1. Education for Sustainable Development

Fundamentally, the background of Education for Sustainable Development (ESD) is grounded on Environmental Education. Because of the human impact on nature, environmental movements began to arise and challenge this degradation during the latter half of the last century. The Tbilisi Declaration pointed to the significance of environmental education as "*priority of priorities*" in 1977 (UNESCO, 1990). Davis (2010) stated that the Tbilisi conference could be thought of as the origin of ESD. Following the declaration, the Brundtland Report was released by World Commission on Environment and Development (WCED, 1987). This influential report describes sustainable development as development that satisfies the needs of the present uncompromising the next generations' capacity to meet their own needs (WCED, 1987). It was considered and accepted by United Nations General Assembly. Thereafter leaders from around the world presented their suggestions at the UN Conference on Environment and Development (UNCED) in 1992 (UNESCO, 2014). UNCED (1992) reported that sustainable development refers to three interrelated pillars: the environmental, socio-cultural, and economic. Also, this report stated the role of education for sustainable development and developing the capacity of humankind in Chapter 36. Thereafter the United Nations specified the term between 2005 and 2015 as the Decade of Education for Sustainable Development and stated that ways, the application process, and the components

of ESD should include all terms and aspects of education regarding all pillars (UNESCO, 2005).

Education for Sustainable Development (ESD) persists social unity, respect for rights, saving and protecting natural sources, gender equity, empathic public, etc., to achieving sustainability (UNESCO, 2005). The social development pillar covers the well-being and perpetuation of humankind in diplomacy, culture, and society, such as participatory decision-making, respect for diversity, and equity for all. The economic development pillar addresses sustainable consumption practices in meeting basic needs and utilizing energy, items, and tools in ways that are less harmful to the environment and natural resources. The environmental sustainability pillar refers to the protection of natural resources to save the future and the raising of awareness about environmental issues like air and water pollution, solid waste management, ecosystem management, biodiversity, etc. (UNCED, 1992). The three pillars are interconnected and affect each other. For example, food consumption is related to economic sustainability, but it also affects the environment and environmental sustainability (Moschis et al., 2020). It is clearly seen that the inevitableness of Education for Sustainable Development (ESD) has become much apparent in the life of all humanity (Spearman and Eckhoff 2002).

2.1.1. Education for Sustainable Development for Young Children

It is well known that Education for Sustainable Development (ESD) has become a worldwide priority in Early Childhood Education over the last ten years (Li et al., 2021). After UNCED, a workshop known as "The role of early childhood education for a sustainable society" was organized in Gothenburg in 2007 (Pramling-Samuelsson & Kaga, 2008). The Gothenburg Recommendation (2007) proposed that Education for Sustainable Development (ESD) should start in the early years of life because very young children have the necessary potential to achieve sustainable development. It is clear that the early years are known as the optimum time to learn values, skills, and issues (Didonett, 2008).

Moreover, Education for Sustainable Development and Early Childhood Education have common characteristics such as inquiry learning, problem-solving, etc. (UNESCO, 2005).

After this attempt, OMEP (2011) undertook a project whereby educators, researchers, parents, and other associated stakeholders were joined for applying Education for Sustainable Development (ESD) in real life in 2010, and to enhance the OMEP project on ESD. The project concluded into two parts. First, researchers conducted interviews with children to get their ideas on the OMEP Congress Logo. The consequences of this part showed that children are knowledgeable about environmental subjects and the role of the human in it. In the second part actions were addressed resulting in the 7R framework (Reduce, Reuse, Respect, Respect, Rethink, Reflect, Recycle and Redistribute) as referred to firstly in Brundtland Report in 1987 and as offered by OMEP (2011), concerning all pillars of ESD. Duncan (2011) explained 7R as:

Reduce- we can do more with less

Reducing unnecessary material and source usage. Consider the things we buy.

Reuse – make more use of old things

Both sheets can be used for drawing and copying. Create a "exchange center" where parents can bring items their kids no longer need and receive items their kids do. Create new toys out of rubbish or old items, as well as instruments and decorations (from empty cans). Parents should be asked to deliver any outdated materials.

Respect – the rights of the child

It entails learning to appreciate and respect nature as well as to respect kids and their abilities. To discuss the kids that live in various living situations without the 'sorry-for-the-ones-living-abroad'- feelings.

Rethink – value other things

Challenge the consumerism culture and encourage children's creativity.

Reflect – on the cultural differences in the world

Making discussions about how children live in various countries.

Recycle – someone else can use it again

Separating trash, and using reclaimed wood to make birdhouses. Start composting so that the kids may observe the entire process, from waste sorting through harvesting. Wastes can be art projects.

Redistribute – resources can be used more equally

Donate toys, clothes, books to children in need. Exchange projects with other schools.

The OMEP study was devised with the aim of determining how ESD could be applied to young children in early childhood settings and what young children's views and thoughts about the ESD practices are currently. 28 nations, including Türkiye, participated in this project's scope, and 396 local projects were suggested as a way to present effective examples of various contexts for ESD in young children (OMEP, 2011).

In the same scope, there are examples that support how children can learn about ESD. For example, a case study from a Swedish Preschool stressed the audio-recorded conversations of children about the Earth subject (Arlemalm-Hagser, 2013). The results showed that children care about the Earth; they give attention to energy consumption, like turning off lights when they are not using them. Another exploratory study was conducted by Madden and Liang (2017) in three kindergartens. The researchers applied an intervention about nature using a storybook and field trips on nature. After the intervention, the results showed that children started to talk about diverse interactions like human-nature, animal-human, plant-animal, and biodiversity. Likewise, Loughland (2003) revealed that children are aware of their connectedness with nature and the environment. In another study, Spiteri (2021) investigated the knowledge of children about environmental issues. The study results indicated that children could talk about ecological problems and ecological awareness develops in early years.

Additionally, Cengizoğlu (2013) examined children's replacement of perception concerning deforestation, climate change, and biodiversity by applying an

Education for Sustainable Development (ESD) program. This implementation included diverse activities like art, science and drama, etc., and the data was collected from drawings of children and interviews. The results showed that children started to think of humans as the midpoint of sustainable development; they could connect humankind and deforestation, climate change, and biodiversity after the implementation. Also, they proposed their solutions to these issues. Another study was conducted by Kahriman-Öztürk, Olgan, and Güler (2012) exploring children's ideas about all pillars of sustainable development and 7R. The research results showed that children are more knowledgeable about the reduce and reuse concepts most pertinent to the environmental pillar. A few of the children mentioned recycling in terms of the economic pillar. Regarding the socio-cultural pillar, children show higher levels of respect for nature and animals. In another qualitative study; Lewis, Mansfield, and Baudains (2010) emphasized that sustainability projects are very meaningful for early ages because children are successfully able to express their thoughts about the respecting, reducing and recycling issues of sustainability. Lastly, Alici (2013) investigated an implementation regarding 3R (Reduce, Reuse, Recycle) activities with preschool children. The results showed that children's eco-management and persuasion behaviors significantly changed after the implementation. As supported by the related studies, young children can show sustainable actions apparently. Apart from the above mentioned studies, it is clear that children are community participants, and their rights and ideas should be considered with respect (United Nations Convention on the Rights of the Child, 1989). Clearly we know that young children are essential stakeholders of sustainable development.

2.2. Effects of Cartoons on Children

The presentation of culture and daily lives in the mass media has changed over the last few years (Huesmann, 2007). Today, mass media tools are centered on children's daily lives (Rehman, 2018). TV programs have directly become a part of children's lives and affect their attitudes and behaviors (Rai et al., 2016).

Moreover, they mostly prefer to watch cartoons (TSI, 2019) and these cartoons have lots of symbols and pictures that can convey various messages and concepts (Dalacosta et al., 2009). Young children adopt and perceive the characteristics of the cartoon characters that they love (Gönenç, 2005) because they see the cartoon characters as models (Laureati et al., 2014; Horne et al., 2004) and show their behaviors in real lives (Polman et al., 2008).

The topics that educators want to be taught with cartoons can be presented with a realistic approach, and these topics can be delivered in any way that can develop children's imagination; therefore, the learning process of the children can be improved by making the teaching process entertaining (Maltin & Beck, 1980). Cartoons also contributed to children's understanding and getting to know the world through correct content (Potter, 1993). In many recent studies we see references to cartoons that are used as teaching material in different disciplines and are considered as educationally significant material (Borzekowski, 2018; Kanellidou & Zacharia, 2019; Vitasmoro, Chandra & Jatmiko, 2020). Cartoons for educational purposes was initiated as early as 1910 by Thomas Edison. Edison (1910) argued that they had unlimited teaching potential; they would revolutionize the education system and replace books. It is now known that watching cartoons affects children's behavior and attitudes significantly (Yousaf et al., 2015; Rai et al., 2016; Ghilzai et al., 2017; Julia & Isrokatun, 2019; Rodríguez & Cumming, 2017). Nair (2019) states that cartoons have positive and negative impacts on children. Positively, they help them get a head start on learning, aid cognitive and language development, boost creativity, promote laughter, decrease stress, and assist children in learning about various topics. Negatively, they can encourage hostile and aggressive behaviors, use of foul language, and antisocial behavior. Watching cartoons make children more sensitive towards others, also cartoons improved their ability to grasp concepts, and the sharing, and helping behaviors of children (Rai et al., 2016). It has also been found that cartoons improve children's language acquisition (Ghilzai et al., 2017); educational cartoons also enhance drawing abilities, shape knowledge, numeracy, and English skills (Borzekowski, 2018). Children can also learn

unknown words via cartoons (Horn & Kan, 2016). Cartoons reduce anxiety towards mathematics and help children build up positive beliefs about the subject (Gökbulut & Kus, 2019). Keinonen et al. (2014) stated that the media is a great source to learn about environmental issues; it changes children's perception and knowledge, according to their research. Also, (Silva Caixeta et al., (2021) applied a quasi- experimental design study by using three different cartoons to see the effects of cartoon on children' environmental knowledge. They found that children increased their scores for questions about environmental issues. Cartoons evoke children's passion for science and make a significant contribution to their devotion to it by presenting and interacting with science images (Aytekin, 2020). Also, they are effective on the executive functioning of children (Huber et al., 2018). Together these studies showed that cartoons have a diverse impact on children's attitude formation and daily lives.

2.3. Theoretical Background of the Study

Previously time, children's stories were told by parents, teachers, etc., but with the effect of the mass media, they became mass-produced. Television served to narrate a significant number of these stories, and its use has increased each day. Children are born in homes with televisions, and from them they learn life – who is strong, who lost, who is right, etc. TV became a primary source for obtaining information and remains a universal source of socialization. It also gives critical messages considering power, consumption, race, etc., (Morgan et al., 2016). In this respect, cultivation theory was presented as a theoretical framework of the present study.

2.3.1. Cultivation Theory

Communication is interaction via coded messages, as believed by Gerbner (1973). Stories of cultures legitimize and give significance to what culture individuals take for granted, identifying and preserving that "makes sense" to them. The mediated information and pictures around us represent and recreate

our perspectives on the world. This is accomplished through a process known as "cultivation" (Gerbner, 1973).

Gerbner and his colleagues established Cultivation Theory in the 1960s and 1970s as a methodology for examining the effect of mass-produced tales on people's understanding of social reality (Morgan et al., 2016). In action, Cultivation has centered on TV because of its enduring function as the leading narrator of the culture and the commercial emphasis of its information production system. Gerbner's study paradigm was created to look into (1) the institutional mechanisms that underpin media and content development; (2) the most common pictures in media content; and (3) the links between TV exposure and user attitudes and actions (Gerbner, 1973). Although cultivation analysis can be extended to any dominating medium, it was created specifically to analyze the role of TV exposure in people's perceptions of social reality (Morgan et al., 2009).

Traditionally, media influence research considered how particular messages impact human behaviors, such as how portrayals of violence on TV can affect children's actions immediately. Contrary, this theory focuses on the long-term effect of television (Morgan et al., 2014). It is clear that children are exposed to television from birth. Therefore, television supports the persistent border of beliefs and ideas about real life (Gerbner & Gross, 1976).

Cultivation theory is unconcerned about the effects of specific programs or genres (Gerbner, 1973). It makes no mention of aesthetic merit or individual viewers' interpretations of mass media. Cultivation does not dispute that selective watching, personal programming, or variations in interpretations exist or are important; it simply views them as different research problems. Instead, it concentrates on the most widely shared or common across programs and huge groups of otherwise disparate viewers (Morgan et al., 2016). According to cultivation theory, the systematic repercussions of television as a medium and organization cannot be detected in isolated pieces of the totality.

Nonetheless, much recent study on Cultivation has looked at the effects of exposure to particular genres or kinds of programs. Studies that focus on the nurturing possibility of a given genre may be more widespread now than research that concentrates on total viewing time (Morgan et al., 2016). Some researchers say that cultivation studies should be focused on specific genres of broadcasts since they feel that various types of the broadcast display multiple perspectives on the world and develop different social realities (Morgan et al., 2014). Cohen and Weimann (2000) introduced that different types of programs have various impacts on audiences. Similarly, Grabe and Drew (2007) stated that content analyses often demonstrate variance in depictions among genres, which is among the reasons why scholars have looked into possible genre-related cultivation variations. Also, some studies showed that genre-particular broadcasts, in particular crime-associated broadcasts, impact the belief of viewers on fear and violence. Holbert, Shah, and Kwak (2004) found that viewing crime dramas was not associated with indicators of fear of violence, whereas watching news and cob reality shows was found to be associated with fear of violence. This study also discovered that nonfiction viewing (such as police reality shows) was more significantly linked to social reality perceptions than watching fictional police shows. In keeping with these findings, some research suggests that experiences that are more likely to be used in television are more easily remembered than those that are really lived. As a result, individuals who frequently watch shows about these kinds of scenarios are more likely to exhibit cultivation-related attributes (Busselle & Shrum, 2003). This idea was supported by the study of Ward, Merrywether, and Caruthers (2006), considering gender stereotypes programs. Also, Busselle and Crandall (2002) showed that various genres of broadcasts affect people's thoughts differently about whites and blacks. Therefore, it is supported that multiple genres of broadcasts affect people's views about the world and reality (Morgan et al., 2014). Furthermore, genre-specific cultivation studies have become not only more widespread but maybe the most common sort of cultivation research (Morgan et al., 2014). It is clear that cartoons can be investigated with the root of the Cultivation Theory.

Moreover, Cultivation Theory is indeed one of the two or three most prominent theories across all mass communication studies, according to evaluations of the media impacts literature (Bryant & Miron, 2004). Also, Cultivation was the most mentioned theory in a study of 962 publications on media effects released in 16 journals between 1993 and 2005 (Potter & Riddle, 2007).

2.3.2. Social Cognitive Theory

As indicated before, children can learn from the cartoons; they can behave like their favorite cartoon characters (Unlüsoy, 2007). It is clear that children show the character as role models because of their power and prestige (Bandura & Walters, 1963). The social cognitive theory of Bandura was used as a theoretical framework for role model studies. Therefore, it will provide the theoretical framework of the study. Children have restricted information about the world at an early age; therefore, they use television as a window to learn about it (MacBeth, 1996). On the other hand, television is highly effective in the social world for children (Bandura, 1989).

According to social cognitive theory, children learn about beliefs, values, behaviors, etc., via role models. This information is given purposely or unconsciously by the models in the environment of children. Humans learn behaviors by observing their models and imitating them (Bandura, 1977). Indeed, all types of social behavior are acquired by observing (Albert & Porter, 1988). Though Bandura does not neglect the impact of first-hand actions, he indicates that learning via response consequences may block growth (Bandura, 1977). Consequently, the indirect learning ability of humans is highlighted heavily. There are two main processes to acquire knowledge: Acquisition and performance. In the acquisition step, humans should pay attention to the model and remember the model's behavior repeatedly. At the performance step, humans should perform the behavior with motivation (Bandura, 1989).

Bandura (1977) states that humans borrow other people's practices to utilize them like guidelines and shape the behaviors. Also, Bandura (1989) indicated that people could learn lots of knowledge just via observing their environment instead of constantly trying. All acquisition processes coming from first-hand knowledge can arise vicariously by monitoring human actions and their consequences (Bandura, 1986).

This theory states that symbols are the fundamental instrument of thinking. As the interactive link between human beings and the environment persists, the experiences are transferred into cognitive models through verbal and visual signs (Bandura, 1989). Television always sends both verbal and visual messages to the audience (Gerbner, 1973). Also, as stated above, children mostly watch cartoons on the television, and they attract children most of the time. Therefore, cartoons can shape children's behaviors so that this theory was presented as a theoretical framework of the study.

There are both national and international studies that use cultivation theory and social cognitive theory to make investigations on cartoons. For example, Klein and Shiffman (2006) investigated cartoons regarding physical attractiveness considering cultivation theory and social cognition theory. Similarly, Yousaf et al. (2015) investigated the impacts of cartoons on children in the light of cultivation theory. In another example, Hentges and Case (2013) made a content analysis study to find gender representations on the three most-watched cartoon channels in their country using cultivation theory and the social cognitive theory framework. Likewise, Klein and Shiffman (2005) examined cartoons to look for messages about bodyweight in the light of cultivation theory and social cognitive theory. Lastly, Luther and Legg Jr. (2010) investigated social and physical aggression in cartoons considering social cognitive theory.

In terms of national studies, Güder et al. (2017) investigated the Niloya cartoon in terms of gender stereotypes in the light of cultivation theory. Similarly, Muratoğlu (2009) examined cartoons considering social deviance using the

cultivation theory framework. Also, Yurt and Dursun (2017) examined the Maysa and the Bulut cartoon in popular culture by considering cultivation theory. Unlüsoy (2007) examined children's understanding of superheroes in cartoons with a framework devised according to social cognitive theory. Lastly, Pehlivan (2019) examined channel cartoons from the point of mother and father roles considering cultivation theory and social cognitive theory.

It is also known from cultivation research that heavier television viewing results in individuals giving less importance to nature because content analysis of entertainment programs showed that such programs rarely offer environmental content (Good & Shanahan, 2002; Shanahan, 1993; Shanahan & McComas, 1999; Shanahan et al., 1997). Moreover, Good (2007; 2009) states that people show materialistic and wasteful behaviors because of the messages that are given on television. Therefore, the pros and cons of cartoons can be examined using cultivation theory and the social cognition framework.

2.4. Content Analysis Studies

Flick et al. (2004) states that the purpose of content analysis is the systematic evaluation of communicative information (originally from the mass media in particular), including the systematic, objective, quantitative study of message characteristics. It involves text investigation, the systematic examination of transcribed speech, and methods that concentrate on nontextual message content, including images, graphical elements, gestures, music, and sounds (Neuendorf & Kumar, 2015). All types of materials that contain verbal or visual data can be used as materials for content analysis studies (Van Leeuwen & Jewitt, 2004). As proposed by Stemler (2015) given that the ratio of archived data was increasing because of technology, content analysis is very useful to working with large bodies of data that includes both texts, visual and audio records.

Van Leeuwen and Jewitt (2004) stated that content analysis is an experimental and nonsubjective process for measuring gathered audio-visual data. Content

analysis studies allows researcher to investigate big data systematically (Stemler, 2015). It can be a useful research type for understanding the relations between diverse topics. Words and sentences are the ways of gathering data for content analysis studies because a word is the smallest building block of any written source and a sentence is an analytical unit with a distinct beginning and end, it will constitute both an important tool for the researcher to use in creating categories and the analysis unit of the research. The use of words/sentences as a unit of analysis provides some convenience to researchers because of its clear boundaries and easy recognition (Creswell, 2013). As an example, Mosteller and Wallace (1964) found the writer of the Federalist papers by looking at the frequencies of words that were used in them. Moreover, content analysis is a useable technique to determine trends and systems in texts and visuals (Stemler, 2000). For example, Alan (2015) examined visuals and plot in children's storybooks by using the content analysis technique. The researcher concluded that such storybooks have at least one sustainable action. Picture storybooks included the Respect category of 7R concept of ESD mostly.

Stemler and Bebell (2004) also used content analysis to investigate the mission of schools. They found that ones which revised their missions tended to focus on cognitive development rather than citizenship, and other areas of development. Also, Symeonidis et al., (2021) used the content analysis method to investigate the education system of the EU during the pandemic by using discourse analysis and education system documents.

Besides education, the content analysis method is used for examining linguistic patterns. For example, in one study, Woodworth et al., (2012) investigated the linguistic patterns of people diagnosed as psychopaths and other people that were not known as psychopaths. The finding of the study showed that psychopaths are inclined to use self-referent sentences and past related sentences more than others. Moreover, social media is one of the recent area that content analysis are used.

In one study, Winter et al., (2014) analyzed that correlation between personality and statuses updates in social media. The findings of the study showed that narcissistic people are inclined to share more self- promotional posts and deeper knowledge about themselves. Beside texts, visuals are also big data for content analysis studies (Stemler, 2000). There are various content analysis studies that used visuals, and photos as data. For example, Corney (2013) investigated children cartoons in terms of representations of criminals. The results of that study showed that the bad characters do not have a tendency to change. Also, guilty people are generally male and they have large body portions, they may also use a foreign accent.

Elsewhere, Stephanie (2015) investigated images in *Parents* magazine. The findings of this study showed that images mostly contain a White female and a single child. The study showed that this magazine represented White families more than other types of the families. Additionally, MacPherson et al., (2022) examined a large number of postpartum social media posts of the women also using the content analysis method. The findings of the study showed that most of their posts are related to exercise. Additionally, Akdemir (2019) applied a content analysis study to determine preschoolers' spatial/architectural design skills from photos of children taken during their playtime which showed that material types have impacts on children's constructive designs.

Asides from these studies, Stemler (2015) proposed that visual data has huge potential to investigate personality theoretically and empirically. Therefore, both visual data and discourse data are very crucial for content analysis studies. Such studies can be used in each area to analyze big data. The findings of the content analysis studies propose a significant amount of information about the all parts of the examined materials to do with films, books, magazines, images. It can be concluded that ESD can also be a valid issue for investigation via content analysis studies. The next part of the current study provides examples of content analysis studies about ESD both nationally in Turkey and abroad.

2.5. Previous Content Analysis Studies of Cartoons

2.5.1. International Content Analysis Studies

Different research efforts have explored cartoons in terms of the Education for Sustainable Development (ESD) pillars. Some studies have focused on the environmental pillar. In one study, environmental cartoons from the 1930s, 1940s, and 1950s were examined by Murray and Heumann (2007). It was found that these cartoons tended to focus on demonstrating nature's power, the conflict between humans and nature, and emphasizing the importance of limiting human intervention while also caring for the natural environment to strengthen their interdependence. In another study conducted by Oglesby (1998) the researcher investigated environmental messages in three children's Saturday morning cartoons with content analysis. The findings showed that when environmental messages were broadcast, they were almost always portrayed in a negative light (Oglesby, 1998). Thus it was found cartoons can be an unclear and unreliable resource in terms of the correct portrayal of environmental concerns. However, another study conducted by Toledo et al. (2014) showed that cartoons supported skills related to the issue of resolution and conceptual knowledge about environmental education.

Some researchers have also investigated various fundamental topics that need to be mentioned in cartoons to prepare young children's awareness and understanding, which could be thought part of the socio-cultural pillar of sustainable development. In this respect, researchers focused on gender stereotypes and cultural representation in the cartoons. In one study, Thomson and Zerbinos (1995) found that both male and female characters were exhibited stereotypically; males were portrayed much more frequently than females. Also, Baker and Raney (2007) found that superheroes were more likely to be portrayed as masculine. Moreover, further studies have showed that the situation is similar worldwide regarding gender representation (Götz & Lemish, 2012).

In another study, Jones (2011) examined Saturday morning cartoons regarding race and gender issues which showed that dominant groups like white and male characters were much exhibited, and there was an apparent order of race and gender. On the other hand, Suby (2019) investigated seven animated programs broadcast on the Cartoon Network, a children's channel, in terms of gender and racial representations. They found that Cartoon Network's ecosystem is lauded for its changing exhibit of liberal portrayals of race and gender and their introduction to children.

2.5.2. National Content Analysis Studies

To date only a limited number of content analysis studies have been conducted in Türkiye that relate to the field of ESD. A study carried by Yapıcı (2003) stated that television programs and cartoons are very beneficial tools to introduce the concept of sustainability to young learners. Later, the effects of cartoons were accepted by the Republic of Türkiye Ministry of Environment and Urbanisation (2017) who carried out a project named Technical Assistance for Water Ambassadors Education and Awareness Raising Project with The European Community. That project aimed to promote the protection of the environment and the sustainability of clean water by rational use of the water. The main participants of the project were children, and the primary tool of the project was the media. In the scope of this project, a cartoon was prepared and broadcasted on the most-watched national children's channel with the name of Su Elçileri (Water Ambassadors). Kartal (2019) evaluated this cartoon in terms of environmental issues and sustainability. In this study, 17 episodes were examined using the content analysis method. The results showed that the cartoon focuses on the water issues, protection of the environment, environmental problems, recycling, and protection of living beings. Also, Kartal (2019) indicated that this cartoon could be used before the sustainability or environmental issues in the schools to get attention and give essential messages about the related topic. Also related to this cartoon, Sahin and Arslan (2022) conducted a quasi-experimental study and they concluded that children who

watched it showed a significant improvement related to environmental behaviors and also they became more aware of environmental problems than the control group.

Another study conducted in Türkiye investigated children's drawings and mothers' interviews, showing that cartoons affect children's behaviors and explanations (Akyar & Sapsaglam, 2019). This study also found that media does not impact children's consuming behavior negatively. In another study Özkuzugüdenli (2021) examined cartoon in terms of environmental awareness and the researcher found that the TRT Çocuk channel was not able to sufficiently represent nature and the human-nature relationships, respect for the elements of nature to children.

Aydoğan (2019) investigated the Cedric and Pepee cartoons in terms of cultural items such as respect for animals and people, national values etc. The study showed that it is seen positively in both cartoons as it reflects their cultural characteristics. Apart from general moral rules, religious and national days specific to cultures, etc.; respect for other cultures and approaching them with tolerance were represented in the cartoons. Similarly, Akbay (2019) investigated the Pepee cartoon in terms of cultural transformation and found that this cartoon successfully represents cultural values and cultural transformation developmentally appropriately (Akbay, 2019). In another study, Deniz (2019) examined four Turkish cartoons regarding gender (in) equality. The results showed that Turkish cartoons represent gender stereotypes. Moreover, Sen (2020) has also reached similar results regarding four popular cartoons watched by children in Turkey.

Aside from the above mentioned works, some limited research has been undertaken nationally to investigate cartoons in terms of Education for Sustainable Development (ESD). Though a few studies investigated social-cultural topics such as gender equality and the environmental pillar in terms of protection of nature, there remains a lack of research on the economical and

comprehensive examination of cartoons considering ESD. In light of this situation, the present study aims to explore cartoons in terms of each pillar of ESD.

CHAPTER 3

METHODOLOGY

In this chapter, the detailed methodological procedures of the current study are explained. Indeed, the design of the study are clarified with the details of the research methodology. In addition, specific information about the sampling procedure, features of the sample, instrumentation and implementation process, the pilot study, data analysis, the validity and reliability, and the current study's limitations are presented in detail.

3.1. Design of the Study

The purpose of the current study is to examine the cartoon which was broadcast on the most-watched thematic channel according to the Television Viewing Research Board (TIAK, 2022) and Youtube (2022) data in terms of the three pillars of Education for Sustainable Development (ESD) in the way of the World Organization for Early Childhood Education (OMEP) in 2011. The content analysis method was selected to define the nature of the cartoon in terms of the environmental, socio-cultural, and economic pillars of education for sustainable development in terms of the 7Rs of Reduce, Reuse, Respect, Rethink, Reflect, Recycle and Redistribute.

According to Flick et al. (2004), the purpose of content analysis is the systematic evaluation of communicative information (originally from the mass media in particular), or the systematic, objective, quantitative study of message characteristics. It involves text investigation, the systematic examination of transcribed speech, and methods that concentrate on nontextual message content, including images, graphical elements, gestures, music, and sounds (Neuendorf & Kumar, 2015). In the present study, the related elements to the environmental,

socio-cultural, and economic pillars of ESD considering the 7R framework in the cartoon were intended to be investigated via searching the word/sentence and action visuals. In a typical content analysis data set, two types of analysis units can be mentioned: words and sentences. Since a word is the smallest building block of any written source and a sentence is an analytical unit with a distinct beginning and end, it will constitute both an important tool for the researcher to use in creating categories and the analysis unit of the research. The use of words/sentences as a unit of analysis provides some convenience to researchers because of its clear boundaries and easy recognition (Creswell, 2013). Therefore, firstly the scenes in cartoons were transformed into written text (script). The words/sentences in the texts and screenshots of the scenes were examined and coded. Each scene was examined according to the coding form.

3.2. Sampling

In the current study, the target population is children's cartoons aired on a national television channel. Four criteria were described for the target population of the presented research. First criterion is the rating scores and subscriber number of the thematic channels. Rating is the estimated audience size of a particular television or radio program (Oxford dictionary, 2021). The second criterion is becoming children's popular cartoons, according to data that was taken by the channel (Thematic channels, 2021). The third criterion is appropriateness for the early childhood age group. The last criterion is number of broadcasts in a day. In this line, the purposive sampling method was applied to the current study. This indicates that the inquirer selects persons and sites for research which they could purposefully inform an understanding of the study questions (Creswell, 2013). Also, according to Frankel et al. (2021), the researcher should choose the sample of the study according to particular research questions. Accordingly, first, thematic TV channels was chosen among other children's channels like Disney Channel, Minika Kid Channel, Planet Kid Channel, and Cartoon Network based on the TIAK rating scores and the number of the subscribers on the Youtube video channel. Cartoon Network had 0,30;

Minika Çocuk had 0.10; Disney channel had 0.24 and TRT Çocuk has 0.53 rating scores. Moreover, Cartoon Network Türkiye had 2.14 million; Minika Çocuk had 175 thousand; Disney Channel Türkiye had 3.3 million subscribers. However, TRT Çocuk had 5.75 million subscribers on the Youtube channel. Therefore, TRT Çocuk has the highest rating scores among the cartoon channels, according to TIAK (2021) annual report and has the most Youtube subscribers. Secondly, the channel has forty-seven cartoons and the most popular six children's cartoons were chosen as the sample according to the channel. The cartoons were Elif ve Arkadaşları, Aslan, Momo: Akıllı Tavşan, İbi, Pırıl, Rafadan Tayfa, and Su Elçileri. Thirdly, according to the channel; Elif ve Arkadaşları, Momo: Akıllı Tavşan and Su Elçileri are appropriate for 3-5 years old children. Rafadan Tayfa, İbi, and Pırıl for older ages. Lastly, it was found that Elif ve Arkadaşları is broadcast four times a day; Momo: Akıllı Tavşan is broadcasting once a day and Su Elçileri is no longer being broadcast. Therefore, the Elif ve Arkadaşları cartoon was chosen to be included in the current study because this cartoon represents the relevant criteria.

According to Krippendorf (2004), especially for content analysis studies, the researcher tries to obtain an appropriate population of texts. On the other hand, Neuendorf (2002) stated that there is no specific rule about the sample size. Therefore, the researcher specified the sample size. Elif ve Arkadaşları consists of 110 episodes, each lasts twelve minutes. Therefore, the researcher aimed to investigate approximately 1320 minutes of the cartoon in terms of the environmental, socio-cultural, and economic pillars of Education for Sustainable Development (ESD).

Elif ve Arkadaşları started to be broadcast in November 2018 on the TRT Çocuk channel. In the cartoon, Elif was starting kindergarten and opening the door to a new world. She had friends named as Kerem, Ayşe, Ahd, and Selim. They learned lots of new things related to the world and school with their Teacher Ipek (TRT Çocuk, 2021).

Cocuk channel was launched in 2008 as a thematic channel with a target audience of children. The channel engages in public-interest activities to support the healthy development of the target audience. It considers the following issues in its content service; abiding by the basic views, purposes, and rationale of Turkish National Education, using an easily comprehensible, proper, pure, and beautiful Turkish, avoiding issues that may damage physical and mental health (TRT Çocuk, 2021). The channel is subject to a program and broadcast guideline covering the creation of children's broadcast content and the management of children's participation in it. The producer is expected to act according to the principles contained in this manual which has twelve objectives for the early childhood age group like supporting social and language development of the children, raise awareness about different social structures, being an example for respecting diversity in terms of cultures, nations, genders and disabilities. Moreover, one of the objectives is raising environment and nature consciousness (TRT Çocuk, 2021).

3.3. Instrumentation

In the presented study, the instrumentation process had three steps. First, the categories of 7R concepts (reduce, reuse, respect, reflect, rethink, recycle, redistribute) were defined in the light of related literature. Based on predefined categories, a coding form was created. The coding form has specific units regarding elements of cartoons and the 7R framework. Secondly, the coding form was shared with four experts specialized on early childhood education and education for sustainable development, and media. In the light of expert opinions, the coding form was revised. Lastly, a pilot study was conducted on randomly selected cartoon episodes to ensure the coding form. Each steps of the process were explained detailed below.

3.3.1. Coding and Categorization

Frankel et al., (2012) introduced a categorization that can be realized in two ways. According to the first way, the researcher finalizes the categories related to the literature before the analysis process. A researcher may however determine categories during the analysis process as a second way. Nonetheless, Neuendorf (2002) states that the instrumentation process must start before the data collection process. Accordingly, the categories were defined according to related literature, mainly with the guidance of the 7Rs framework presented by UNESCO (2005), UNCED (1992), WCED (1987), OMEP (2011), and Duncan (2011). In line with the aim of the study and the research questions, the codebook was developed with these elements since there is no investigation study via cartoons in terms of environmental, socio-cultural, and economic pillars of Education for Sustainable Development (ESD). The categories are represented in Table 3.1.

Table 3. 1. Categories and items of 3 pillars with respect to 7R

Pillars	7R	Subcategories
Environmental pillar	Reduce	Using water efficiently
		Reducing unnecessary energy usage
		Using of public transport
		Using eco-friendly transportation
		Using of renewable energy sources
		Reducing unnecessary material usage
		Reuse
	Reusing old materials	
	Exchanging unused materials	
	Making unnecessary materials available to others	
	Repairing broken materials	
	Reusing rainwater	

Table 3.1. (continued)

Socio-cultural pillar	Respect	Respect for all living things
		Respect for nature
		Respect the right to live of living things
		Respect for gender equality
		Respect for the rights of others
		Respect for children's competences
		Respect for indigenous people and communities
		Respect for different cultures and lifestyles
		Respect for people of different faiths
		Respect for different ethnic groups
	Respect for physical differences	
	Respect for different opinions	
	Reflect	Reflecting the daily lives and traditions of different cultures
		Reflecting the life experiences of individuals with different religious beliefs
		Reflecting gender equality
		Reflecting on the importance of human rights
		Reflecting the importance of democracy
	Rethink	Reflecting the value of social and cultural difference
		Rethinking consumption habits
		Rethinking decision-making processes and practices related to sustainable development
Demonstrating the influence of generations on other generations		
Demonstrating the impact of people's lives on other people and other living things		
Encouraging creativity		

Table 3.1. (continued)

Recycle	<p>Separating waste materials and garbage</p> <p>Making compost</p> <p>Knowing about recycling Recycling waste materials</p> <p>Using/purchasing recycled materials</p>
Redistribute	<p>Organizing charity campaigns</p> <p>Creating a penny bank</p> <p>Promoting equitable sharing of resources</p>

The codebook contains three categories including the Environmental pillar of ESD (Reduce and Reuse); the Socio-cultural pillar of ESD (Respect, Rethink, and Reflect) and the Economic pillar of ESD (Recycle and Redistribute (Duncan, 2011)

According to those categories the codebook was designed by the researcher to be used in the current study. Codebook had detailed literature articles. In the same way, a coding form was designed with the defined categories and unit of analysis according to codebook. Unit of analysis is the unit classified with the purpose of handling the big data considering administering and reporting the content analysis (Fraenkel et al., 2012). In the present study, the unit of analysis was defined as words/ sentences and actions based on the related literature. Therefore, the coding form involves subcategories based on the outlined units. Discourse in the cartoon was examined as clear and hidden. Clear discourse is referring to the messages that are given obviously and hidden discourse is referring to the messages that are given implicitly.

Then, the coding form were shared with four experts from the related fields in order to assure content-related validity of the content and language appropriateness. The experts suggested some minor changes including merging some items in the Redistribute and Reduce categories. There were also some suggestions about giving more detailed examples especially for the items included in the Respect category. Lastly, they proposed some corrections about the language of the items. The other elements of the coding form were approved by the experts. According to given adjustments, a pilot study was applied that is explained in detail in the next part.

3.3.2. The Pilot Study

According to Teijlingen and Hundley (2021), pilot study is a key element for conducting a good study design. They proposed that pilot studies increase the success of the main study. One benefit of performing a pilot study is that it may provide early warning about potential failure areas for the main research project, potential protocol violations, and if suggested procedures or instruments are appropriate or overly complicated. De Vaus (1993: 54) stated that "Don't take the risk. Pilot test first." Therefore, a pilot study was conducted to test the coding form by using the randomly selected ten cartoon episodes. Each episode and the transcripts of the episodes were examined twice before filling the coding form. Apart from the researcher, a second coder who holds a master's degree in the related field contributed to the pilot study to assure inter-coder reliability with the formula proposed by Miles and Huberman (1994). The formula generates a quantitative indicator of how closely different coders agree on how the same data should be categorized (O'Connor & Joffe, 2020). Accordingly, the percentage of agreement between coders was found to be satisfactory at .89. Following the pilot study, two items related to the Redistribute category were merged, as it was realized that the first item was included in the second item. Also, new explanations were added to the coding form to make it more understandable. The final version of the coding form and the study procedure were approved by Middle East Technical University Human Subjects Ethics Committee.

3.4. The Main Study

After finalizing the coding form according to pilot study results, the data collection procedure was started for the main study. Data collection was begun in July 2022 and took approximately three weeks. The episodes of the cartoon were reached on the official application of TRT channel and official website of TRT channel. Each cartoon episode was watched separately. Episodes were watched two times before the researcher completed the coding form. During the process, screenshots of the actions were taken in order to analyze the actions of the characters. All episodes were transcribed on a computer to analyze the words. The transcription process took six weeks. Related data was gathered by using the transcripts of the episodes and the screenshots of the characters' actions.

3.5. Data Analysis Procedure

Descriptive statistical techniques were applied to analyze the data. Content analysis studies make assumptions related to written text that have data related to a specific phenomenon (Kleinheksel et al., 2020). Commonly, the results of content analysis studies are introduced by presenting the frequency or ratios of the accurate data with respect to whole data (Fraenkel et al., 2012). Therefore, the results of the current study are proposed as frequencies and ratios of the items for each episode. SPSS package program version 26.0 was used to examine gathered data. All of the findings were entered on the program and reported as frequencies. The discourse and the actions were presented as main units. Frequencies of all items were noted separately. The discourse data were collected as clear and hidden to examine in which way the messages were given.

Hidden messages can be taught as hidden curriculum whereby young people obtain messages related to social issues like norms, ideas, beliefs unwittingly (Koch, 2003). The information is not given directly and in a clear way and uses hidden messages. Such messages include sounds, music, codes, visuals or symbols. Horn (2003) states that media is one of the most important tools for

teaching hidden subjects. According to Horn (2003); teachers, parents, and society use media to give messages about values, culture, beliefs etc. However, they should know about critical vocabulary to analyzing hidden messages. According to Gerbner (1998) television is the primary tool that represents the symbolic surrounding. Therefore, it is a powerful tool that can be used to impose hidden messages about the social environment. These messages are so crucial because Michaelides (2005) indicated that the numbers of them are increasing in the media day by day. As stated above, children mostly watch cartoons on television in Türkiye (TSI, 2019), so cartoons are a way of spreading hidden messages to the children. Raja et al., (2020) stated that each word in a cartoon has a meaning for children regardless of it be verbalized or not. Also, they proposed that children can learn about cultures, ideologies, language and beliefs through hidden messages in cartoons. Hidden messages can be presented visually. Using visuals, the message may be more permanent for children (Raja et al., 2020). Related study findings support that children' development can be affected by the hidden message that cartoons send (Aitken, 1986; Dodd 1992). Also, Kilborne (2000) says that hidden messages in the media are taken by the audiences if the audience are specifically looking for the messages. Therefore, the study investigated not only clear messages but also hidden messages in the *Elif ve Arkadaşları* cartoon in terms of the 7R concept of ESD.

3.6. Validity and Reliability

According to Neuendorf and Kumar (2015), a study's validity depends on theoretically informed design and protocols, which provide a straightforward presentation of the sampling rationale, unit of analysis, coding scheme, and textual analysis. In this line, external validity, face validity and content-related validity were checked by the researcher and the sustainable development and media experts

External validity or generalizability is connected with the being representational of the outcome in terms of repetition of the study in different settings

(Neuendorf, 2002). The purposeful sampling method was used to extend to the target population. Therefore, only one cartoon was proposed as the sample of the study.

The degree to which a test looks to assess what it is supposed to measure is referred to as face validity. A test would have great face validity if the majority of respondents concurred that the test items appeared to measure what the test was designed to evaluate (Krippendorff, 2004). In order to assure face validity, the coding form was examined by a number of researchers who concurred that the coding form is valid in terms of face validity.

Content related validity refers to the extent of the assessment in terms of addressing all factors of the measured content (Neuendorf, 2002). To assure content related validity; categories and the items of the coding form were examined by four experts in early childhood education for sustainable development and media studies before starting the study.

Aside from validity, the reliability of the coding form was measured by the researchers. The degree to which a measure in a coding scheme generates the same result when implemented by various human coders is referred to as reliability (Neuendorf & Kumar, 2015). Creswell (2013) proposes that inter-coder agreement should be checked by the different coders to assure reliability in content analysis studies. Therefore, a coder apart from the researcher joined the instrumentation process independently. The second coder was also a researcher specializing in the early childhood education field. Inter-coder reliability was checked. 10% of the episodes that was 10 episodes were used as subsample of the study and the episodes were chosen randomly. Researchers measured the inter-coder agreement by using the formula by Miles and Huberman (1994) and the agreement level was found satisfactory at 89%.

3.7. Limitations

According to the relevant criteria, only one cartoon in the channel was analyzed by the researcher and a purposive sampling method was applied to the study. Therefore, the study's findings are limited to one popular cartoon in the most watched thematic channel that is appropriate for 3-5 year old children. Also, coding and data analysis processes were conducted only by the researcher. Although other coders checked the pilot study to measure reliability, it may restrict the neutrality of the main study.

CHAPTER IV

FINDINGS

In this section, the findings of the current study were explained in a detailed way. The cartoon was investigated in terms of demographic information, discourse and actions of the characters in the way of 7R framework. Findings of the research questions are explained separately in the following paragraphs with the assistance of tables, and graphs.

General Information about the Cartoon

The Elif ve Arkadaşları cartoon has been broadcasted since November 2018. This cartoon currently consists of 110 episodes with each lasting an average of 12 minutes. The main characters of the cartoon are Elif, Kerem, Selim, Ahd, Ayşe, İpek teacher, and Elif's parents. The cartoon generally takes place in the school garden, in the classroom and in Elif's home. The school has a large garden where there are some animals like cats, a rooster, and a squirrel. In the cartoon, the events and activities in the school are focused. Each episode has a main topic and the topic is reflected with dialogues, activities, songs and games.

4.1. Sustainable actions and discourses in Elif ve Arkadaşları cartoon in terms of three pillars of ESD

The data that gathered from the one of the most popular cartoon for 3-5 years old children were investigated and in relation to the 7R framework. Results were presented in the light of the coding form.

4.1.1. Variation of sustainable actions and discourses which are demonstrated in the cartoon in terms of Reduce and Reuse addressing the environmental pillar

Sustainable actions in terms of the categories of Reduce and Reuse demonstrate the environmental pillar of the ESD. Frequencies and percentages of all items related to those two categories are demonstrated in Table 4.1. According to the discourse results of the study, 19% of the whole episodes include discourse about the category of reduce. In detail, two of them exemplify the item of *using water efficiently*; four of them exemplify the item of *reducing unnecessary energy usage*; three of them exemplify the item of *using of renewable energy sources*; five of them exemplify of using *eco-friendly transportation*; and seven of them exemplify the item of the *reducing unnecessary material usage* in terms of the words and sentences of the characters.

On the other hand, the action unit has different findings from discourse results. According to the action results of the study, 51% of the whole episodes include actions about the category of reduce. More specifically, 10 of them exemplify the item of *using water efficiently*; 24 of them exemplify the item of *reducing unnecessary energy usage*; two of them exemplify the item of *using of public transport*; 28 of them exemplify using *eco-friendly transportation*; and eight of them exemplify the item of *reducing unnecessary material usage* in terms of the actions of the characters.

Table 4. 1. Distribution of sustainable discourse and actions based on the subcategory of Reduce

		Discourse	Action
Reduce	Included	19 %	51 %
	Not included	80 %	49 %
		Frequency	
Using water efficiently		2	10
Reducing unnecessary energy usage		4	24
Using renewable energy sources		3	0
Using public transport		0	2
Using eco-friendly transportation		5	28
Reducing unnecessary material usage		7	8

An example for Using water efficiently (Episode: Labor)

(Kerem is filling water in a bucket)

Elif: Kerem your bucket is full

Kerem: oh I was dreaming

(Kerem is turning off water)



Figure 4. 1. Using water efficiently

As Table 4. 2. showed that 39% of whole episodes include sustainable words and sentences in terms of the category of Reuse. In detail, 10 episodes represent the item of *reusing old materials*; four episodes represent the item of *exchanging unused materials*; 20 episodes represent the item of *making unused materials available to others*; and 16 episodes represent the item of *repairing unbroken materials*.

As Table 4. 2. showed that 46% of whole episodes include sustainable actions in terms of the category of Reuse. In detail, 20 episodes represent the item of *reusing old materials*; four episodes represent the item of *exchanging unused materials*; 20 episodes represent the item of *making unused materials available to others*; and 18 episodes represent the item of *repairing unbroken materials*.

Table 4. 2. Distribution of sustainable discourse and actions based on the subcategory of Reuse

		Discourse	Action
Reuse	Included	39 %	46 %
	Not included	61 %	54 %
		Frequency	
Reusing old materials		10	20
Exchanging unused materials		4	4
Making unnecessary materials available to others		20	20
Repairing broken materials		16	18
Reusing rainwater		0	0

A discourse example for Reusing old material (Episode 62)

Elif Mother: When I was a child, I used to sew dresses for my dolls.

Elif: What would you sew mom?

Elif Mother: Whatever by using old clothes in the house. For example, I used to make sweaters out of my shrinking socks.

4.1.2. Variation of sustainable actions and discourses demonstrated in cartoons in terms of Respect, Rethink and Reflect addressing the socio-cultural pillar

The social- cultural pillar includes Respect, Rethink and Reflect categories. Table 4.3 demonstrated the discourse and actions are related to suitable

development in terms of the Respect category. 83% of the entire episodes include sustainable words and sentences in terms of the category of Respect.

When the discourse unit was examined, it is clearly seen that 48 episodes include the item of *respect for all living things*; 27 episodes include the items of *respect for nature*; 15 episodes include the item of *respect the right to live of living things*; 22 episodes include the item of *respect for the rights of others*; 30 episodes include the item of *respect for the children's competences*; one episode includes the item of *respect for indigenous people and communities*; two episodes include the item of *respect for different cultures and lifestyles*; 10 episodes include the item of *respect for physical difference* and 36 episodes include the item of *respect for different opinions* in terms of words and sentences of the characters in the cartoon.

When the action unit was examined in terms of the respect unit, 51% of all episodes include sustainable actions in terms of the category of Respect. It was found that; 26 episodes include the item of *respect for all living things*; 10 episodes include the items of *respect for nature*; 13 episodes include the item of *respect the right to life of living things*; 6 episodes include the item of *respect for the rights of others*; 10 episodes include the item of *respect for children's competences*; one episode includes the item of *respect for indigenous people and communities*; two episodes include the item of *respect for different cultures and lifestyles*; and 15 episodes include the item of *respect for different opinions* in terms of actions of the characters in the cartoon.

Table 4. 3. Distribution of sustainable discourse and actions based on the subcategory of Respect

		Discourse	Action
Respect	Included	83 %	51 %
	Not included	17 %	49 %
		Frequency	
Respect for all living things		48	26
Respect for nature		27	10
Respect the right to life of living things		15	13
Respect for gender equality		0	0
Respect for the rights of others		22	6
Respect for children's competences		30	10
Respect for indigenous people and communities		1	1
Respect for different cultures and lifestyles		2	2
Respect for people of different faiths		0	0
Respect for different ethnic groups		0	0
Respect for physical differences		10	0
Respect for different opinions		36	15

A discourse example for Respecting different opinions (Episode 60)

Kerem: There is another balloon there, you can play with it.

Elif: I don't want it anymore

Selim: Me too

Ayşe: I think we should play basketball

Elif: Maybe.

Selim: Let's play

As Table 4. 4. presents 13% of whole episodes include sustainable words and sentences in terms of the category of Reflect. It was found that 1 episode represents the item of *reflecting the daily lives and traditions of different cultures*; two episodes represents the item of *reflecting gender equality*; six episodes represent the item of *reflecting the importance of human rights* and seven episodes represent the item of *reflecting the importance of democracy* in terms of the words and sentences of characters. On the other hand, in terms of the actions of characters, it can be seen in Table 4.4 that 15% of whole episodes include sustainable actions in terms of the category of Reflect. It was found that 13 episodes represent the item of *reflecting gender equality*; one item represents the item of *reflecting on the importance of human rights* and two episodes represent the item of *reflecting the importance of democracy*.

Table 4. 4. Distribution of sustainable discourse and actions based on the subcategory of Reflect

		Discourse	Action
Reflect	Included	13 %	15 %
	Not included	88 %	85 %
		Frequency	
Reflecting the daily lives and traditions of different cultures		1	0
Reflecting the value of social and cultural difference		0	0
Reflecting the life experiences of individuals with different religious beliefs		0	0
Reflecting gender equality		2	13
Reflecting on the importance of human rights		6	1
Reflecting the importance of democracy		7	2

An example for reflecting gender equality (Episode: Days)

Selim: I prepared a calendar by using professions. Teacher is for Monday, doctor is for Tuesday, nurse is for Wednesday, firefighter is for Thursday, veterinarian is for Friday, scientist (bilim insan) on Saturday, and archaeologist is for Sunday.

As Table 4. 5. illustrates, 43% of whole cartoon include sustainable words and sentences in terms of the category of Rethink. It was found that 15 episodes represent the item of *rethinking consumption habits*; five episodes represents the item of *rethinking decision-making processes and practices related to sustainable development*; five episodes represent the item of *demonstrating the influence of generations on other generations*; eight episodes represent the item of *demonstrating the impact of people's live on other people and other living things*; and 30 episodes represent the item of *encouraging creativity* in terms of the words and sentences used by the characters. When the actions of characters were examined, it was seen that 24% of whole episodes include sustainable actions in terms of the category of Rethink. The findings showed that nine episodes represent the item of *rethinking consumption habits*; six episodes represent the item of *demonstrating the impact of people lives on other people and living things* and 15 episodes represent the item of *encouraging creativity*.

Table 4. 5. Distribution of sustainable discourse and actions based on the subcategory of Rethink

		Discourse	Action
Rethink	Included	43 %	24 %
	Not included	57 %	76 %

Table 4.5. (continued)

	Frequency	
Rethinking consumption habits	15	9
Rethinking decision-making processes and practices related to sustainable development	5	0
Demonstrating the influence of generations on other generations	5	0
Demonstrating the impact of people's lives on other people and other living things	8	6
Encouraging creativity	30	15

A discourse example for Demonstrating the influence of generations on other generations (Episode 49):

A song from the episode:

I see everything at a glance

I understand it's spit

I love coding 1-0-1-0

The future is in my hands

Robots are under my control

Smiling tomorrows come with us

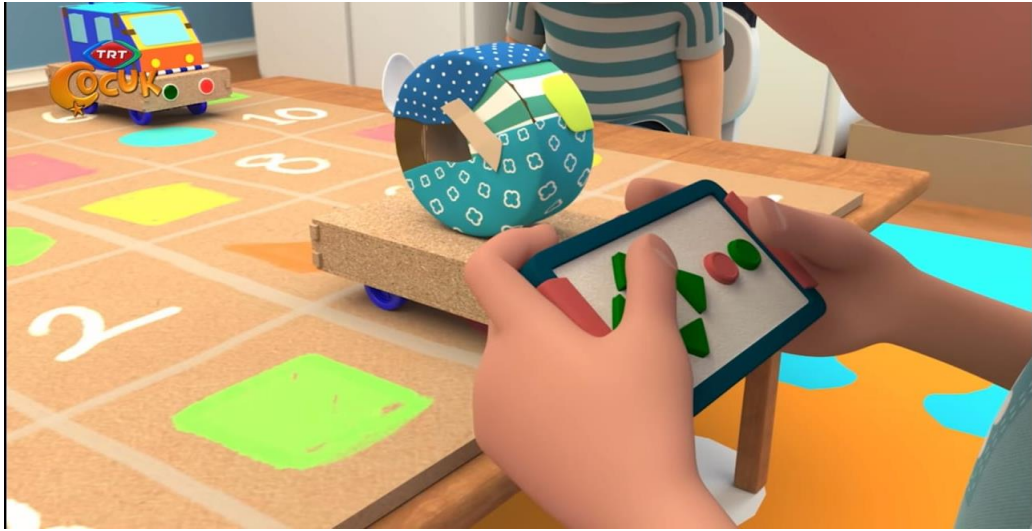


Figure 4. 2. Demonstrating the influence of generations on other generations

An example for Demonstrating the impact of people's lives on other people and other living things (Episode: Labor)

Elif: Good morning Limon. Are you thirsty? Let's get some food.

Kerem: Good morning, Elif. Are you feeding the lemon?

Elif: Good morning. Yes, Kerem. The weather is very hot, we should give water and food to animals.

Kerem: Limon loves you.



Figure 4. 3. Demonstrating the impact of people's lives on other people and other living things

4.1.3. Variation of sustainable discourses and actions demonstrated in cartoon regarding Recycle and Redistribute addressing the economic pillar

The economic pillar of education for sustainable development includes Recycle and Redistribute categories. Table 4.6 demonstrates the discourse and action frequencies of characters in terms of the recycle category. It was found that 1% of whole episodes include sustainable words and sentences in terms of the category of Redistribute. It was seen that 1 episode represents the item of *separating waste materials and garbage*; one episodes represents the item of *knowing about recycling* in terms of the words and sentences of characters. On the other hand, when the table is investigated from the point of actions; again 1% of whole episodes include sustainable actions in terms of the category of Redistribute. It was seen that one episode represents the item of *separating waste materials and garbage*; and one episode represents the item of *knowing about recycling*.

Table 4. 6. Distribution of sustainable discourse and actions based on the subcategory of Recycle

		Discourse	Action
Recycle	Included	1	1
	Not included	99	99
		Frequency	
Separating waste materials and garbage		1	1
Making compost		0	0
Knowing about recycling		1	1
Recycling waste materials		0	0
Using/purchasing recycled materials		0	0

The last category is redistribute. Table 4.7 shows the frequencies of discourse and actions of characters in terms of redistribution. It was found that one episode represents the item of *organizing charity campaigns* and one episode represents the item of *promoting equitable sharing of resources* in the words and utterances of characters. Also, one episode represents the item of *organizing charity campaigns* and one episode represents the item of *promoting equitable sharing of resources* through the actions of characters.

Table 4. 7. Distribution of sustainable discourse and actions based on the subcategory of Redistribute

		Discourse	Action
Redistribute	Included	1	1
	Not included	99	99
		Frequency	
Organizing charity campaigns		1	1
Creating a penny bank		0	0
Promoting equitable sharing of resources		1	1

The figure 4.4. clearly shows that Respect is the most represented category for both discourse and action units. On the other hand, Reduce also has a high percentage in terms of the action unit. However, the category has a low percentage in terms of the discourse unit. Moreover, the final two categories named as Recycle and Redistribute are both only presented once in terms of discourse and action. It is seen that the Economic pillar of sustainable development was not represented in this cartoon clearly.

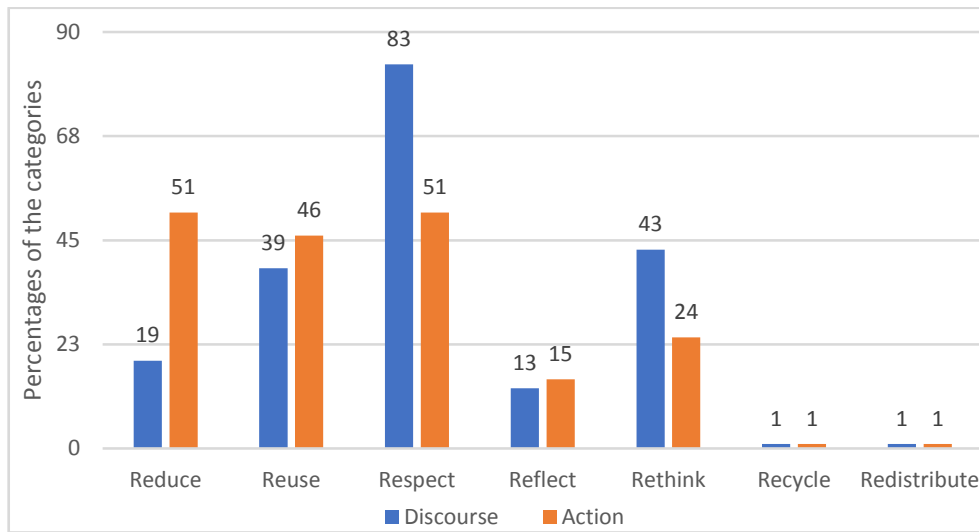


Figure 4. 4. The distribution of sustainable discourses and actions in the way of 7R

On the other hand, when the data were examined in terms of the 3 pillars of ESD, it was found that while discourse units were much presented for the social-cultural pillar, action units were preferred for the environmental pillar mostly. Although, both the environmental pillar and social-cultural pillar were exemplified many times, the economic pillar of ESD was presented in only two episodes.

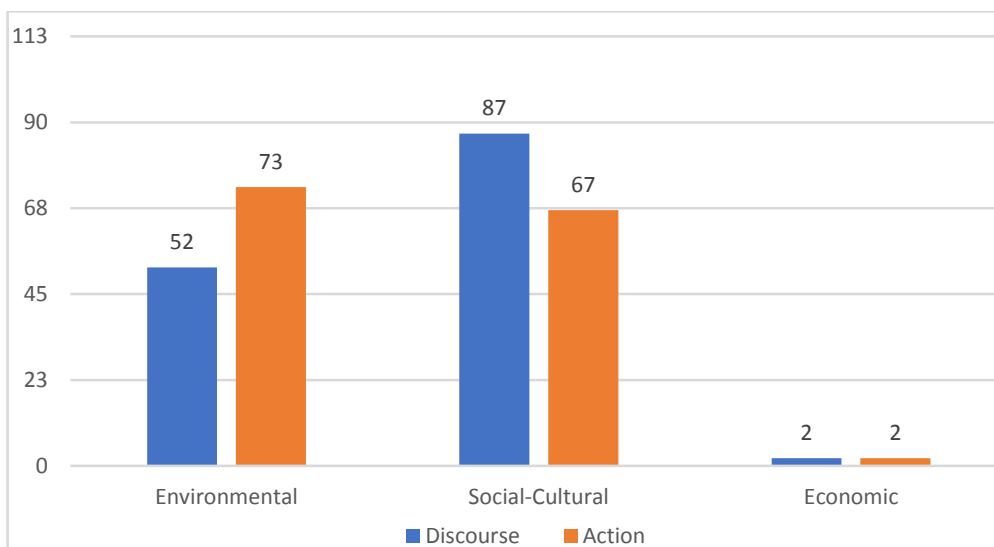


Figure 4. 5. The distribution of sustainable discourses and actions in the way of the 3 pillars of ESD

4.2. Hidden and clear ways of the discourse demonstration in Elif ve Arkadaşları cartoon in terms of involving examples of the 7R

Table 4.8 demonstrated that *Using eco-friendly transportation* (n=5) and the item *Reducing unnecessary material usage* (n= 5) were presented mostly in a clear way, on the other hand, the *Reducing unnecessary material usage* (n= 2) item was present in a hidden way mostly in terms of reduce discourse. It is clear that all items were mostly clearly presented.

Table 4. 8. Distribution of Reduce related items with respect to discourse

Reduce Discourse	Frequency
Using water efficiently	
Hidden	1
Clear	1
Reducing unnecessary energy usage	
Hidden	1
Clear	3
Using of renewable energy sources	
Hidden	1
Clear	2
Using of public transport	
Hidden	0
Clear	2
Using eco-friendly transportation	
Hidden	0
Clear	5
Reducing unnecessary material usage	
Hidden	2
Clear	5

Clear and Hidden Examples from the Data Related to Reduce

A clear example for Using of renewable energy sources item: Episode: 63
(Electricity)

Teacher: My little caterpillars, let's search and draw pictures of the power plants you see and hear.

Teacher song: We illuminated the darkness with you, we cleaned our house with you, we played games with you, the machines worked with you. Electricity is a very useful energy, you are produced from wind, water, sun, even waves.

Elif: This is a wind farm teacher; it generates electricity when it turns its propeller.

Kerem: This is also a dam. Electricity is produced by the energy of the water flowing from the dam.

Selim: This is a solar panel, which converts the sun's energy into electricity.

Ahed: This is a geothermal energy system. Electricity is produced from hot water and steam deep in the ground.



Figure 4. 6. Using of renewable energy sources



Figure 4. 7. Using of renewable energy sources

A clear example of using water efficiently for discourse unit: (Episode 41: We have not the same idea)

Kerem: I'm thirsty

Elif: I'm thirsty too.

Kerem: Elif, can you give me the jug?

Elif: But my dear, your glass is full, you don't need water!

A clear example for Using water efficiently item for action unit



Figure 4. 8. Using water efficiently

A clear example of an action for Using of eco-friendly transportation



Figure 4. 9. Using eco-friendly transportation

Table 4. 9. showed that the item *Reusing old materials* was presented mostly in a hidden way (n=7), while *Exchanging unused materials* (n=4), *Making unnecessary materials available to others* (n=19) and *Repairing broken materials* (n= 16) items were presented clearly.

Table 4. 9. Distribution of items for Reuse with respect to discourse

Reuse Discourse	Frequency
Reusing old materials	
Hidden	3
Clear	7
Exchanging unused materials	
Hidden	0
Clear	4
Making unnecessary materials available to others	
Hidden	1
Clear	19

Table 4.9. (continued)

Repairing broken materials	
Hidden	0
Clear	16
Reusing rainwater	
Hidden	0
Clear	0

Examples from the Data Related to Reuse

A clear example for Repairing broken items in respect to discourse and action (Episode: 72- Personal Belonging):

Ayşe: Where is my pencil case?

Kerem: It was on the table.

Teacher: Maybe it fell under the table

Ayşe: Fallen

Elif: Pencil case is broken

Teacher: Let's gather together kids

Ayşe: I loved this pencil case.

Kerem: I'm sorry Ayşe, I think it was because of me.

Elif: Ayşe, I think we can repair the pencil case.

Teacher: Yes, I have a very strong glue, we can stick it with it

Ayşe: Sticky



Figure 4. 10. Repairing broken materials

A clear example for Reusing old material in terms of discourse and action:
(Episode: Radio Theatre)

Elif: Book time

Father: Yes, it's book time, but today we're going to do something different.

Elif: What are we going to do daddy?

Father: We will listen to the radio theater.

Elif: Radio theater? How is that a thing?

Father: Look, I found this while rummaging through old items. A radio from my childhood. If you want, you can also use it.

Elif: Thank you daddy. Did you play with this when you were a kid?

Father: I was listening to music, programs and radio shows with it.

Elif: Is it still working?

Father: Yes, I inserted the batteries, it still works.



Figure 4. 11. Reusing old materials

Clear example for making unnecessary material available for others in terms of discourse (Episode: Get well soon)

Ayşe: Teacher, does anyone own this balloon?

Teacher: No, you can have it if you want.

An example for making unnecessary material available for others through an action:



Figure 4. 12. Making unnecessary material available for others

An example for reusing old materials through action:



Figure 4. 13. Reusing old materials

Table 4.10 shows that *Respect for all living things* (n=40), *Respect for nature* (n=22), *Respect for the right to life of living things* (n=12), *Respect for the rights of others* (n=17) items were presented in a hidden way mostly. On the other hand, *Respect for children's competences* (n=24), and *Respect for different opinions* (n= 24) items were presented in a clear way mostly.

Table 4. 10. Distribution of items of Respect with respect to discourse

Respect Discourse	Frequency
Respect for all living things	
Hidden	40
Clear	8
Respect for nature	
Hidden	22
Clear	5
Respect the right to life of living things	
Hidden	12
Clear	3

Table 4.10. (continued)

Respect for gender equality	
Hidden	0
Clear	0
Respect for the rights of others	
Hidden	17
Clear	5
Respect for children's competences	
Hidden	6
Clear	24
Respect for indigenous people and communities	
Hidden	0
Clear	1
Respect for different cultures and lifestyles	
Hidden	1
Clear	1
Respect for people of different faiths	
Hidden	0
Clear	0
Respect for different ethnic groups	
Hidden	0
Clear	0
Respect for physical differences	
Hidden	0
Clear	10
Respect for different opinions	

Table 4.10. (continued)

Hidden	12
Clear	24

Clear and Hidden Examples from the Data Related to Respect

A clear example of respecting all living things in terms of discourse: (Episode: I respect myself)

Teacher: Are you ready for the presentation, my little caterpillars?

Children: We are ready.

Teacher: So get started.

Ayşe: Teacher, we should respect animals. There are many animals that are living around us.

Selim: It is also the right of ants to walk around in the garden. So we must respect them and not offend them.

A hidden example of respecting all living things item in terms of discourse (Episode 66- Is it enough for me):

Elif: I only have the color black

Ayşe: Look at the spider

Kerem: Spider?

Selim: Let me see

Ayşe: Oh it's knitting a web

Kerem: How well does he weave?

Ayşe: She also makes it from a tiny piece of yarn.

Selim: Spiders make good webs, they work like engineers

Ayşe: Is it an engineer?

Selim: Yes, look how neatly it makes the net. In my opinion, it is no different from an engineer specializing in his field.

Ayşe: You are right, Selim. It weaves the net so well that it is obvious that it knows this business very well. It works like an engineer.



Figure 4. 14. Respecting for all living things

A clear example of respecting the rights of other item in terms of discourse unit

Elif: Oh Limon! I stopped in time, Limon is still sleeping.

Kerem: I caught you

Elif: Ahh, stop Kerem

Kerem: What happened, Elif?

Elif: Limon is sleeping

Kerem: Limoon are you sleeping?

Elif: Kerem, please be quiet, you will wake Limon. Did you see it woke up?

Kerem: What will happen, Elif? We are waking up too

Elif: But think of waking up suddenly because of the noise Kerem, would you like it?

Kerem: I don't think so, you're right, Elif.

Elif: Limon has a right to sleep comfortably, we should respect him.

Kerem: Lemon, I'm so sorry for waking you up. Promise, I'll be more careful next time.

A Clear example of respecting children's competences item in terms of action:



Figure 4. 15. Respecting children's competences

A hidden example for Respecting different opinions item in terms of discourse
(Episode: Holding pencil)

Selim: I think we should make big hand models where we can hold these big pencils.

Kerem: Yes, but this hand is a bit too big. I think it should be a little smaller.

Ayşe: I think we should draw hands as much as our own. So we can put real pencils between the fingers and try it out.

Elif: I also want to show my idea by drawing.

Kerem: Come on, Elif. Draw it now

Table 4. 11. demonstrated that Reflecting on the importance of human rights (n=5) and Reflecting the importance of democracy (n=6) items were presented mostly in a hidden way. On the other hand, Reflecting the daily lives and traditions of different cultures (n=1), Reflecting gender equality (n=1) items were presented in a clear way.

Table 4. 11. Distribution of items of Reflect with respect to discourse

Reflect Discourse	Frequency
<hr/>	
Reflecting the daily lives and traditions of different cultures	
Hidden	0
Clear	1
Reflecting the value of social and cultural difference	
Hidden	0
Clear	0
Reflecting the life experiences of individuals with different religious beliefs	
Hidden	0
Clear	0
Reflecting gender equality	
Hidden	1
Clear	1
Reflecting on the importance of human rights	
Hidden	5
Clear	1
Reflecting the importance of democracy	
Hidden	6
Clear	1

Clear and Hidden Examples from the Data Related to Reflect

A clear example of Reflecting the daily lives and traditions of different cultures item in terms of discourse: (Episode: New Friend)

Teacher: My little caterpillars, I have good news for you.

Kerem: I love good news

Elif: Are there new toys coming to our classroom?

Teacher: No, my Elif. A new friend is coming to our class.

Kerem: A new friend?

Teacher: From another country, Syria.

Elif: A foreigner. I've never had a foreign friend before.

Ayşe: Me too

Teacher: Your friend is a stranger here. Her country is far from here. She can't speak Turkish very much, she misses her home and friends very much. That's why we have to help her.

Kerem: Teacher, will we share our toys with our new friend?

Teacher: Ah that would be great Kerem.



Figure 4. 16. Reflecting the daily lives and traditions of different cultures

Hidden discourse example for reflecting gender equality:

Kerem: My truck is pulling to the right. Elif constructor, are my bricks ready?

Elif: Ready driver, I'm loading now

Kerem: Thank you constructor Elif, see you soon.

A clear example of reflecting gender equality in terms of action unit:



Figure 4. 17. Reflecting gender equality

Table 4. 12. showed that *Rethinking consumption habits* (n=9), *Demonstrating the influence of generations on other generations* (n=3), *Demonstrating the impact of people's lives on other people and other living things* (n=5) items were presented in a clear way mostly. On the other hand, *Rethinking decision-making processes and practices related to sustainable development* (n=3) item was presented in a hidden way. Lastly, the *Encouraging creativity* (n=15) item was presented equally both in clear and hidden ways.

Table 4. 12. Distribution of items of Rethink with respect to discourse

Rethink Discourse	Frequency
Rethinking consumption habits	
Hidden	6
Clear	9
Rethinking decision-making processes and practices related to sustainable development	
Hidden	3
Clear	2
Demonstrating the influence of generations on other generations	
Hidden	2
Clear	3
Demonstrating the impact of people's lives on other people and other living things	
Hidden	3
Clear	5
Encouraging creativity	
Hidden	15
Clear	15

Clear and Hidden Examples from the Data Related to Rethink

A clear example of rethinking consumption habits in terms of discourse unit (Episode: Is it enough for me):

Father: Hello girl, look! What I brought you?

Elif: Aah colored hairy strands.

Father: Yes, just as you wanted.

Elif: Thank you, daddy.

Father: Oh, is there a spider there, my daughter?

Elif: I did this dad, I made it from the black hairy wires you brought. You were right dad, I had enough.

Hidden example of Demonstrating the impact of people's lives on other people and other living things item for discourse unit (Episode: An adventure at garden)

Kerem: Elif, what sign is this?

Elif: Don't finish the hazelnuts, leave it to the squirrel sign

Kerem: Don't worry, Elif! I don't eat the squirrel's nuts anymore.



Figure 4. 18. Demonstrating the impact of people's lives on other people and other living things

Clear example of Demonstrating the impact of people's lives on other people and other living things item for discourse unit (Episode: In the market game)

Ayşe: Come on girl, let's go shopping

Elif: I'll take this, I'll take this too. There is also milk here. I'll take it all but all.

Ayşe: My daughter, what are you doing?

Elif: I'm shopping mom.

Ayşe: But if we take too much, it will be unnecessary waste. So we get more than enough. And if we buy all of them, those who need them won't get it.

Elif: Is it?

Kerem: I want milk, but there is no milk left. Someone took all the milk. I'm out of milk

Elif: Wait, don't worry, the milk is here. I took a little too much.

Clear example Demonstrating the impact of people's lives on other people and other living things item in terms of discourse (Episode 28: Lost ant)

Children: Garden time, let's get on the swing. Let's ride the slide

Ayşe: Look, the violets have bloomed.

Kerem: Well, I watered it every day, I cared it. Of course it will open.

Ayşe: I also watered in every day. So it opened.



Figure 4. 19. Demonstrating the impact of people's lives on other people and other living things

Table 4.13. represented that *Separating waste materials and garbage* (n=1) and *Knowing about recycling* (n=1) items were presented only one time and in a clear way.

Table 4. 13. Distribution of items of Recycle with respect to discourse

Recycle Discourse	Frequency
Separating waste materials and garbage	
Hidden	0
Clear	1
Making compost	
Hidden	0
Clear	0
Knowing about recycling	
Hidden	0
Clear	1
Recycling waste materials	
Hidden	0
Clear	0
Using/purchasing recycled materials	
Hidden	0
Clear	0

Examples from the Data Related to Recycle

A clear example of Knowing about recycling and Separating waste and garbage items in terms of discourse and action unit:

Teacher: What subject will you present to us Selim?

Selim: It is about recycling, teacher.

Kerem: So, are you going to tell me about this, Selim? (Kerem turns around)

Selim: This is not the transformation I was talking about anyway, I'm talking about recycling, from recycling paper, glass, plastics.

Ayşe: But how will the papers come back? I did not understand.

Selim: You think of the waste that you no longer use as garbage; you throw paper, plastic and glass in the trash.

Kerem: We all do this.

Selim: That's not what we're doing. They are not garbage; they are recyclable wastes that are thrown into recycling bins. Papers; to the recycling box reserved for papers; glass; to the recycling box reserved for glass and plastics; we should throw it in the plastic box.



Figure 4. 20. Knowing about recycling



Figure 4. 21. Separating waste and garbage

Table 4. 14. represented that *Organizing charity campaigns* (n=1) and *Promoting equitable sharing of resources* (n=1) items were represented only once and in a clear way.

Table 4. 14. Distribution of items of Redistribute with respect to discourse

Redistribute Discourse	Frequency
Organizing charity campaigns	
Hidden	0
Clear	1
Creating a penny bank	
Hidden	0
Clear	0
Promoting equitable sharing of resources	
Hidden	0
Clear	1

A clear example of organizing charity campaigns item in terms of discourse and action unit (Episode: Street Library)

Elif: I think all children in the world should have a library.

Kerem: Actually, I thought all the children in the world had as many books as we do.

Selim: No, some children don't have any books.

Ayşe: It is very sad.

Kerem: We must do something about it.

Elif: Something came to my mind

Selim: What's up, Elif?

Elif: We can make a bookcase for the streets

Teacher: It's a very good idea.

Selim: So, where do we find the books for the bookcase?

Ayşe: Yes, we need books.

Elif: We ask everyone for help, we prepare advertisements.

Teacher: Why not, I think it might work.

Selim: Let's get started right away then.



Figure 4. 22 . Organizing charity campaigns

A clear example of promoting equitable sharing of resources item in terms of discourse and action unit (Episode: Street Library)

Teacher: My little caterpillars, I have good news for you.

Kerem: What's up, teacher?

Teacher: There was news about the bookcases we made in the newspaper. It talks about our school and about you. It tells you that the bookcases that you make attract a lot of attention.

Elif: They made the news about our bookcases.

Teacher: Other schools that saw the idea of a street bookcase started to build a bookcase in their own neighborhood. We hope that this good idea will spread from city to city and all children will have beautiful books.



Figure 4. 23. Promoting equitable sharing of resources

In summary, Figure 4. 24 showed that many of the categories were represented in a clear way mostly, only the Respect and Reflect categories were represented in a hidden way mostly in terms of discourse unit. On the other hand, Raja et al., (2020) stated that visuals are also hidden messages. Therefore, the actions of the characters also give messages in a hidden way.

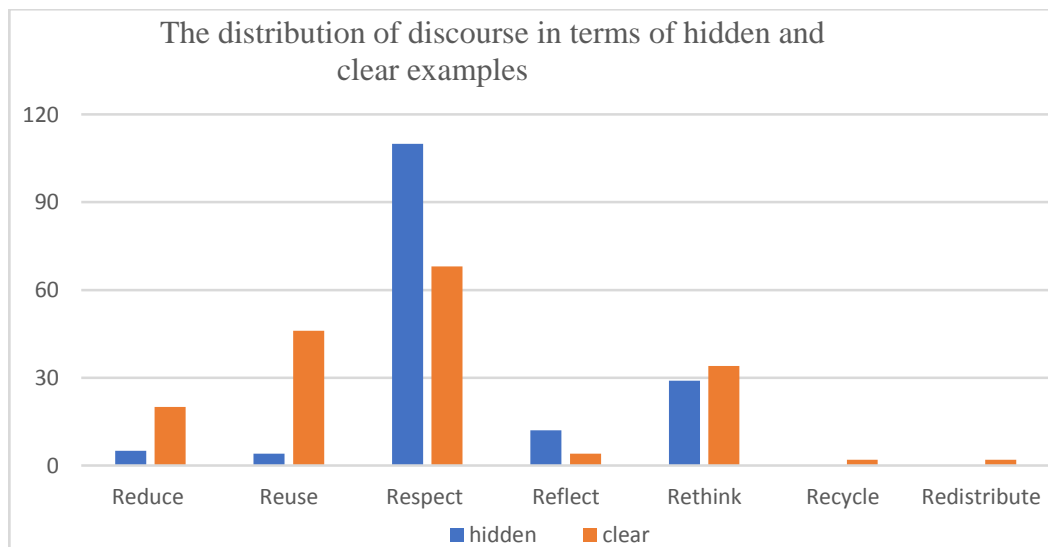


Figure 4. 24. The distribution of discourse in terms of hidden and clear examples

CHAPTER V

DISCUSSION, IMPLICATIONS, AND RECOMMENDATIONS

This chapter considers the sustainable actions and discourse present in the “Elif ve Arkadaşları” cartoon in terms of the 7R framework. The key findings of this study are compared with previous research and various implications and recommendations for further studies put forward.

5.1. Discussion

The presented study investigated sustainable action and discourse in the most popular cartoon viewed by 3-5 years olds in Türkiye in terms of 7R framework proposed by OMEP. The 7Rs were named to simplify and ease our appreciation of core concepts and practices to do with sustainability: Reduce, Reuse, Respect, Reflect, Rethink, Recycle and Redistribute.

As no previous example of the current study has been undertaken, the researcher devised a coding form with forty- two items related to 7R. This was subsequently examined and tested for reliability. A content analysis method was used to reach the study aim. The sample was defined based on various criteria obtained by considering the related literature. First, the most watched thematic channel was defined. Secondly, the most popular cartoons were determined and some of them excluded by considering age appropriateness. Finally, the “Elif ve Arkadaşları” cartoon was chosen because it was the most frequently broadcast and reached a wide audience. All episodes were watched and coded in terms of discourse and actions by the researcher.

5.1.1. Key Findings of the Study

The findings of the present study show that *Respect for all living things* was the most popular 7R related item represented in the discourse of the cartoon series. In contrast the following items were not represented in the discourse; *Using of public transportation, Reusing rainwater, Respect for gender equality, Respect for people of different faiths, Respect for different ethnic groups, Respecting the value of social and cultural difference, Reflecting the life experiences of individual with different religious beliefs, Making compost, Recycling waste materials, Using / purchasing recycled materials, Creating a penny bank.*

The most popular action related representation throughout the series was identified as *Using eco-friendly transportation*. On the other hand, *Using of renewable energy sources, Reusing rainwater, Respect for gender equality, Respect for people of different faiths, Respect for different ethnic groups, Respecting the value of social and cultural difference, Respect for physical differences, Reflecting the daily lives and traditions of different cultures, Reflecting the life experiences of individual with different religious beliefs, Rethinking decision making processes and practices related to sustainable development, Demonstrating the influence of generations on other generations, Making compost, Recycling waste materials, Using / purchasing recycled materials, Creating a penny bank* were not represented in the actions of the characters.

In summary, when the findings are categorized based on 7R, it can be concluded that the most presented category was *Respect* in the discourse unit and *Respect* and *Reduce* in the action unit. On the other hand, the least represented categories were *Recycle* and *Redistribute* both in terms of discourse and action. Additionally, when the main pillars of the ESD considered, it was found that the Socio-Cultural one was presented mostly through discourse, and the Environmental pillar was presented mostly in terms of actions. The Economic pillar was the least presented of the three, in both the discourse and action units.

Interestingly, while discourse of cartoon characters related to the 7R categories of Reduce, Reuse, Rethink, Recycle and Redistribute were represented in clear way; the Respect and Reflect categories were represented in a hidden way mostly.

5.1.2. Variation of 7R for both discourse and action units

Respect has the highest ratio among the all 7R categories with 83 percentages for discourse. It is known that respect is a cultural value, and it is investigated by some of the researchers. For instance, Cahyaningtyas (2019) focused on Battle of Surabaya and found that characters in this animated film live in harmony and they respect people from other religions. Aidmen (1999) reported that a children's animated cartoon about Pocahontas represented indigenous people more than previous Hollywood productions. The film also represented respect for nature, family and community issues as parallel to the cultural values of Native Americans. Similarly, Aydođan (2019) investigated the cartoons Cedric and Pepee in terms of their cultural items and found that both reflect cultural issues positively. Also, respect for other cultures and approaching them with tolerance were represented in these cartoons. Akbay (2019) also investigated the Pepee cartoon in terms of cultural transformation and found that this cartoon successfully represents cultural values and transformation. In another study, Deniz (2019) examined four Turkish cartoons regarding gender (in)equality and found that they represent gender stereotypes. Moreover, Sen (2020) has also reached similar results regarding four popular children's cartoons.

Respect for all living things was the more reflected item in terms of the 7R respect category in terms of the discourse of the cartoon characters. This result also was found in some other studies. For example, Kartal (2019), examined 17 episodes of a cartoon in terms of sustainability and found that a popular issue in the series was "protection of living beings". Moreover, some researchers investigated cartoons in terms of universal values and looked for respect. According to Sengül and Keskin (2019), respect is one of the most presented

universal value in the cartoon Rafadan Tayfa. Also, Kaymak and Öğretir Özçelik (2020), had similar result when they examined the “Vikings” cartoon. These results also support those of the current study. On the other hand, Özkuzugüdenli (2021) investigated respect to animals and plants in the concepts of plants and animal’s representations in the cartoons. According the researcher, protection of plants and animals were represented with a small ratio. On the other hand, items of Respect for indigenous people and communities, Respect for different cultures and lifestyles, Respect for people of different faiths, Respect for different ethnic groups were less represented or not at all in the results of the current study. These results support the findings of other studies. For example, Akyüz (2019) investigated cartoons in terms of cultural differences and found that the dimensions of race, language, religion and disability, which are among the sub-dimensions of multiculturalism, are either not included at all or given very little space in the cartoons. The same result was also found by Özer and Bozkurt Avcı (2015). The researchers examined the Pepee cartoon and could not find any result for cultural diversity. Also, Kaymak and Öğretir Özçelik (2020) investigated the Vikings cartoon in terms of tolerance that can be parallel to respect for different cultures and ideas. The results showed that the value of tolerance is one of the few values featured in the Vikings cartoon. These results are outliers however and reflect what both Norddahl (2008) and Engdahl (2015) contend that for children to learn to tolerate diversity, EfS policies must provide opportunities for them to experience living with individuals from various cultures, ethnicities, and social groups. On the other hand, the current study showed that Respect for different opinions (n=36) item was reflected with a high ratio in the respect category in discourse unit. This finding reflects the democratic situation that the Elif ve Arkadaşları characters are living in. When the findings are examined, the item of Respect for nature has a good ratio according to other items and support the findings of other research. For example, Ada and Erdaş Kartal (2019) found that the Su Elçileri cartoon represented protection of nature in all episodes to a level of 100%. In the cartoon, characters respect nature, try to keep it clean, and they try to prevent erosion, fire, etc. On the other hand, Özkuzugüdenli (2021) examined a cartoon in terms of

environmental awareness and the researcher concluded that TRT Çocuk channel was failing to represent nature and human-nature relationships, respect for the elements of nature. These studies have some different results because the Su Elçileri cartoon was specifically broadcasted to promote the protection of water and nature among children.

Notably, the present study findings showed that the cartoon did not present Respecting gender equality, although it has an average score for Reflecting gender equality. While the current study did not focus on gender equality specifically, the results showed clearly that the cartoon did not give messages that lead children to make gender stereotypes. It is important that the present study found some actions and discourses relate to reflecting gender equality as Jones (2011) proposed that cartoons should be more equitable in terms of gender. Unfortunately, a great amount of related literature showed that children's cartoons use many gender stereotypes. For example, Thomsan and Zerbinos (1995) found some gender inequalities such as behaviors, communication characteristics, and talking time of males and females. Baker and Raney (2007) investigated gender inequality representation in cartoons and found a significant difference related to representation of superheroes as male or female. Similarly, Jones (2011) concluded that males were most represented according to females, females were shown as more intelligent, not working and most loving to dance and sing songs. Tzoutzou et al., (2021) also found underrepresentation of females in cartoons. In Türkiye, Güder et al., (2017) examined the Niloya cartoon in terms of gender roles. In the research, the work done inside/outside the house, the color/type of clothing of the characters in the cartoon, the game/toy preferences, the distribution of the parents' interest in their children in the cartoons were examined in depth. As a conclusion they found that there are traditional stereotypes towards women and men in the cartoon that will enable children to form gender stereotypes. Also, Kalaycı (2015) found a similar result for the Peppe cartoon which found that the animation contains conventional preconceptions about men and women that will lead children to establish gender stereotypes. Moreover, Duman and Koçtürk (2021) reached similar results by

investigating the Pırl cartoon. It can be concluded that the present study findings can be used for reflecting gender equality by exemplifying the actions of the characters.

The other most presented 7R category was found to be Reduce in terms of action units as equal to the Respect findings. For the Reduce category, the Using eco-friendly transportation item had the highest percentages. According to Franco et al., (2010) obesity rates are increasing day by day among children, and they concluded that some policy changes should be done to decrease these. They proposed that healthy foods can be proposed by cartoon characters, so children can be willing to consume the healthy food. Also, they suggested that some physical types of transportation like walking and cycling are good ways for calorie expenditure. It is known that using eco-friendly transportation is a necessity for sustainable development. Regarding the related literature, the findings of the present study can be used as a beneficial example of using eco-friendly transportation to support sustainable development.

In addition, the Rethink category is moderately represented as the findings of the study showed. When the results are examined it is seen that the most represented item was Encouraging creativity both in terms of characters' discourse and actions. This result supports Mergin (2019) who found that cartoons improve children' creativity in terms of Formal Originality, Formal Fluency, Formal Flexibility, Semantic Originality, Semantic Fluency, Semantic Flexibility and total artistic creativity for visual arts. Thereafter, Rethink consumption habits was moderately represented in discourse and action. According to Güneş (2010) children are social consumers and they are effected by advertisements in cartoon channels. Therefore, their consumption habits are affected by the cartoons. On the other hand, Araboğa (2018) examined the effects of cartoons on children in terms of consumption habits but could not find any content that impacts children's consuming habits. Also, the researcher found that children are not interested in the products that characters of the cartoon bought. Capone et al., (2014) stated that society is currently experiencing economic, social, and

environmental problems that are strongly connected and largely caused by unsustainable patterns of consumption and manufacturing. Resources are today being used by humans more than ever, both individually and collectively. Therefore, rethinking consumption habits is crucial for sustainable development, and the study can be used to promoting meaningful consumption. Rethinking decision-making processes and practices related to sustainable development and Demonstrating the influence of generations on other generations items were not represented in this study in terms of the action unit. On the other hand, these items are thought fundamental for sustainability.

The current study found that the Recycle and Redistribute categories are the least represented both in terms of action and discourse. In detail, the Recycle category was represented with the items of Separating waste materials and garbage and Knowing about recycling only once in 100 episodes. Similarly, Özkuzugüdenli (2021) stated that the recycling issue was reflected with a 3,26 % frequency in cartoons of the most watched thematic channel with the categories of importance of recycling and waste management. Also, Oglesby (1998) found that recycling was reflected only once in Saturday morning cartoons. On the other hand, Ada and Kartal (2019) found that the Su Elçileri cartoon reflected Recycle in 9 of 17 episodes with recyclable materials referred to in six episodes, compost in two episodes and waste management in one. Actually, the results in this category are unexpected, given the prominence of the recycling issue in schools, cities, on the streets and the campaign for recycling. Furthermore, Making compost, Recycling waste materials, Using/purchasing recycled materials items were not represented in any of the episodes examined in the current study.

Prosociality, or assisting others in need voluntarily extends to actions such as donating and helping behavior (Zhang et al., 2021). This behavior is associated with the Redistribute category. Also, Zhang et al., (2021) designed an experimental study to compare the impact on children' donating behaviors between prosocial cartoons and control cartoons. The findings showed that cartoons can motive children to learn about prosocial behaviors such as donating.

However, the findings of the current study found that the redistribute category was referred to in only one episode and related to the Organizing charity campaigns and Promoting equitable sharing of resources items. Moreover, Creating a penny bank was not represented in any of the episodes. It is clear that the redistribute category was not reflected in the current study. Some other content analysis studies also examined related issues in cartoons. For example, Klein and Shiffman (2011) examined randomly selected cartoons shown between the 1930s and 1990s in terms of prosocial behaviors. They found that each cartoon present at least one prosocial behavior. Also, they stated that the number of characters representing these behaviors increased over time. Şahin (2019) examined fairness and equality in the Rafadan Tayfa cartoon, and neither of these issues were represented. On the other hand, the researcher found that equality was represented in one episode, and fairness was represented in six episodes of the Arı Maya cartoon in the same study.

5.1.3. Three Pillars based Variation of Sustainable Discourses and Actions Reflected by “Elif ve Arkadaşları” Cartoon

The findings of the present study showed that most of the episodes have at least one discourse example related to the three pillars of ESD. On the other hand, the results also indicated that a large majority of the examples are related to socio-cultural pillar of ESD while only a few episodes presented examples relevant to the economic pillar. In fact, this result was expected because the socio-cultural pillar is more related to daily life and therefore it is easier to provide examples related to it. Also, the related literature highlights that many studies are conducted to examine the socio-cultural pillar. Additionally, it is known that one of the aims of both of the National Early Childhood Education Program (2013) and the thematic channel is to support the social-emotional and social-cultural development of young children in Türkiye. Therefore, to some degree, it's understandable that the cartoon can focus on social-cultural pillar mostly because they presented that their contents are related to objectives of the Ministry of National Education (MONE, 2013). Moreover, it can also be a result of the

social- cultural environment, because all of the episodes take place in a kindergarten where the children and the teacher have a social interaction. On the other hand, when the results of action examples were examined, it was found that actions have a smaller ratio than discourses. This suggests that while the characters of the cartoon can talk about issues related to the socio-cultural pillar of ESD they were less inclined to demonstrate them in their behaviors. This is one of the important findings of the current study because, as explained in cultivation theory (Gerbner, 1973) and social-cognitive theory (Bandura, 1977), children learn the attitudes and behaviors that they are exposed to. Therefore, both discourses and actions need to reflect an issue to be more effectively adopted by children. Also, the social-cultural pillar of ESD has a broader content as seen in the coding form. Fortunately, the results of the current study are hope-inspiring in terms of the cartoon's ability to support children's social- cultural understanding of ESD.

The results of the current study showed that the episodes barely represent the examples of the economic pillar in both discourse and action examples. Hence, only two episodes represented economic issues. As Pramling -Samuelsson and Siraj-Blatchford (2014) pointed, the emergence of social-cultural pillar and economic pillar of ESD reflect equitable societies. It is accepted that the three pillars of ESD are all related and connected. Therefore, when one is not evident, the connection between them cannot be made completely, so the aim of sustainability could not be reached because recycle, as a one of the categories of the economic pillar, is accepted as a crucial pro-environmental behavior to enhance social, environmental and economic sustainability by controlling waste (Bing et al., 2015). The findings showed that economic pillar was reflected with a small ratio so the cartoon could not exemplify equitable societies, though ESD is focusing on equality and social justice as some of the main goals (Engdahl, 2015). According to the Turkish Statistical Institute (2021), the total amount of waste increased by 10.5% compared to 2018. It may mean that people need to be encouraged to more actively recycle their waste. Studies should begin from early ages to assist us in achieving a more sustainable world in the future. Also it is

known that society is impacted from the negative effects of waste (UNEP, 2015). However, this study found that the cartoon that is one of the most popular ones amongst children in Türkiye, reflected recycling only twice, and only in one episode. Other studies have showed that children can learn about recycling (Kahriman-Öztürk, 2010; Spiteri (2021). This opportunity should be evaluated and used. When the examples are examined, it was seen that the episode was scripted especially for the recycling issue, the name of the episode is “Paper Box”, also they explain recycling with a presentation of a character. On the other hand, it is clear that the character explains the idea of recycling in his discourse by showing the signs of recycling. He also prepares some boxes; however, the issue is not reflected in any other of the other episodes. Also, in the episode; waste separation was demonstrated only once. Providing different examples is important because it is clear that children learn by repetition, therefore the issue should be reflected in other episodes. As all of the episodes take place in a kindergarten setting where lots of opportunities are available and it has a nice garden area, its possible that they could talk and act for recycling in many more episodes.

The environmental pillar was included in at least one discourse per episode across 52% of the series, and 73% of it included at least one action per episode. This may mean that characters reflected the environmental pillar more in their actions than their discourses. It is not an unexpected result, because all of the episodes take place in a school and the children use many materials to do activities. However, they don't talk about the materials and their usage. The environmental pillar has good ratios but the economic pillar has not, although they are very interconnected in some points like the use of renewable energy which affects a whole economy (Swain, 2022).

When the findings are examined in terms of all three pillars of ESD, it is seen that not all of them are reflected equally across the episodes. The socio-cultural pillar was reflected mostly in discourse followed by the others; on the other hand, the Environmental pillar was mostly presented in terms of actions followed

by the other pillars. One of the reasons for this finding might be related to the nature of the socio-cultural pillar. In relation to political, cultural, and sociological foundations in both global and local contexts, which may be connected to very early social practices, the socio-cultural pillar drives our understanding of equity, peacefulness, esteem, and ethics (Alan, 2015). On the other hand, that's because the environmental and economic pillars are described as related to eco-friendly actions with goals of ensuring the continuation of life on Earth, and because the efforts related to meeting basic needs, consuming energy, products, and materials are connected to efforts that moderate the affliction in the environment and natural resources, the actions regarded in the scope of these pillars could be related to more modern practices of society (Siraj-Blatchford et al., 2010).

5.1.4. The distribution of discourse unit in terms of hidden and clear ways

The findings of the study revealed that most of the categories (Reduce, Reuse, Rethink, Recycle and Redistribute) were represented in a clear way, only two categories (Respect, Reflect) was represented mostly in a hidden way. According to Horn (2010) media is a great tool to send hidden messages to daily audiences. The messages can be negative or positive; but they are very effective for children. Therefore, the media should be critically evaluated in terms of its hidden curriculum. Similarly, Rinas et al., (n.d) stated that Disney's animated movies had lots of hidden sexual messages and they are unavoidable mostly because the messages are verbal and more children and teenagers watch these films with every passing day. Michaelides (2005) concluded that media proposed a perfect woman's body to the audience. In addition to the hidden messages in the discourse unit, actions are also hidden messages (Raja et al., 2020). The study presented that almost all of the categories had hidden messages in terms of discourse and all of them had actions related to sustainability that give hidden messages via using visuals. Sustainability is a beneficial concept to raise citizens with awareness, but as Rinas et al., (n.d) stated, animated movies are not innocent completely. Therefore, their hidden curriculum can contain and present

dangerous topics for children. As stated by the parents, children do not have specific reasons to choose cartoons, they only watch whatever they can (Sokolova, 2011). Therefore, the messages can be evaluated before cartoons are shown so as to be careful about the given messages (Aitken, 1986; Dodd 1992).

5.2. Educational Implications

The present study investigated the *Elif ve Arkadaşları* cartoon regarding the 7R framework that was proposed as an easy root to Education for sustainable development by OMEP (2011). The findings of this study may contribute some implications not only for producers of cartoons but also for teachers and parents.

Erlidawati and Siti Rahmah (2022) stated that cartoons can be used to teach educational values. In the scope of the study, the sustainability concept is reflected in many of the episodes. Some episodes are especially rich in terms of 7R practices and demonstrates that cartoons can be good materials to teach sustainability behaviors to children. On the other hands, the representation of some categories is lacking. There should be an interconnection between the categories, because the categories can reinforce each other (WCED, 1987), and it can promote a more lasting and permanent learning. In the study findings, the category of respect is a good example for both action and discourse representation. However, the other categories of the socio-cultural pillar are not reflected with a large percentage. This is followed by the category of reduce which is represented in almost the half of whole cartoon. On the other hand, the reuse category is not reflected in the same manner. Therefore, only one category stimulates learning in one pillar according to the findings of the present study. In this notion, producers and scenarists are suggested to follow a balance between the categories of ESD, because the cartoons can be appropriate tools to be used to explain this concept. As Wijethilaka (2020) defined the characteristics of cartoons as entertaining, also teaching, educating while entertaining. They can be used as one of the educational tools for children. In this way, children can learn concepts with a joyful method. Therefore, cartoons may be used more to teach

the concepts of sustainability, since Gothenburg Recommendation (2007) proposed that early years are the appropriate times to teach them about the sustainability concept.

Cartoons can be used to transmit messages by using both discourses and actions (Rai et al., 2017). In this way, the messages can become permanent for children in their life. The findings of the current study revealed that some 7R categories were not represented by using both. This finding is important because children can have different types of intelligence so the messages of ESD need to be presented by considering their individual needs in both discourse and actions. As Alkhayat et al., (2013) stated, visual and auditory learning types are popular in early ages. It means that characters can transfer the messages both by using visuals and discourses, and the message can be more effective. In the current study, reduce, reuse and reflect categories were represented via behaviors more than discourses. For instance, characters turn of water in several episodes but they do not say anything about the importance of using water efficiently. Therefore, while watching the episodes, some children may not notice the issue and they might not get the important message about the issue. As Horn (2003) stated, teachers should be aware of the hidden messages in the media critically. At this point, teachers and parents share crucial roles because they can make hidden messages more clear for children. As stated earlier, teachers are significant parts of a society and they can make valuable contributions by leading children to learning sustainability practices (Anusuya & Anusuya, 2022). Therefore, these concepts can be supported with concrete behaviors to be more meaningful for young children by teachers and parents.

The European Commission (2014) stated that cultural diversity, gender inequalities, poverty and the freedom of religion and faith are the crucial concerns of Türkiye. Although these issues were already highlighted in different documents and related action needs to be taken, the current study results revealed that some items were not represented in any episodes related to cultural diversity, respecting gender equality, respecting and reflecting different

religions, reusing rainwater, using public transportation. As Didonett (2008) stated the early years are a natural starting point for lifelong learning. Therefore, these issues can be focused on in cartoons more than ever. In this way children can learn about them from the early years of their lives. Publishers and scenarists can reflect these concepts in cartoons more to improve more responsible citizenship and to overcome such concerns in the future.

In this regard, despite the encouraging outcome in terms of the representation of sustainable behaviors and discourses that are directly related to the aforementioned issues, the economic pillar of ESD is represented very poorly in the current study both for the Recycle and Redistribute categories. Rai et al., (2016) stated that children became more sensitive towards nature after watching cartoons. In this respect, separating waste materials and garbage, making compost, knowing about recycling, recycling waste materials, using/purchasing recycled materials items can be presented in the cartoons more to enhance children's sensitivity towards nature and the environment. As also Zhang et al. (2021) concluded, cartoons can enhance children's prosocial behaviors like sharing, helping or donating as in the Redistribute category. Therefore, organizing charity campaigns, creating a penny bank, promoting equitable sharing of resources can be represented more.

As Binder et al., (2019) stated children's behaviors can be changed by modifying the actions of a model that children see every day such as parents, teachers, and cartoon characters, because children can imitate the behaviors of the role models and change their behaviors too. At this point, publishers and channels can increase the numbers of sustainable behaviors of cartoon characters. Also, parents and teachers can dwell on these behaviors and they can exemplify sustainable behaviors in real life. In this way, children can see appropriate examples from every day life and enhance their sustainable actions.

5.3. Recommendations for Further Studies

It is commonly accepted that cartoons have really important impacts on children (Rai et al., 2016; Laureati et al., 2014; Horne et al., 2004; Polman et al., 2008). Therefore, their content and messages are crucial, as Potter (1993) stated that if the content is worked carefully and correctly; children can learn the world through cartoons. At this point, content analysis for cartoons can be investigated more (Izquierdo- Iranzo et al., 2020). In the current study, one popular cartoon produced for 3-5 years old children in Türkiye was investigated. On the other hand, numerous cartoon are broadcast on TV every day and children watch cartoons all the time (Habib & Soliman, 2015; Mertol & Gündüz, 2019). In this scope, the current study can be replicated by investigating different cartoons from both local and foreign thematic channels, as there are many more cartoons that are produced abroad. In this way, researchers can compare the understandings and implications of other productions in terms of ESD and they can have a broader perspective.

Apart from that the current study can be extended and conducted as an experimental study. Researchers can use pre- and post-measures in order to assess children' sustainability understandings before and after watching cartoon series. In this way, researchers can have more data related to the relationship between cartoons and the behaviors of children. Moreover, researchers can evaluate the possible impacts of hidden and clear messages within an experimental study.

Additionally, teachers and parents' knowledge about sustainability issues in cartoons can be investigated. In this way, they can have awareness about the importance of cartoons to their children that concern issues of sustainability. And, they can be more conscious in selecting cartoons by considering their contents and when they are using them as an educational tool.

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APPENDICES

A. APPROVAL OF THE METU HUMAN SUBJECTS ETHICS COMMITTEE

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MIDDLE EAST TECHNICAL UNIVERSITY

Konu: Değerlendirme Sonucu

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İlgi: İnsan Araştırmaları Etik Kurulu Başvurusu

Sayın Prof. Dr. Refika OLGAN

Danışmanlığımı yürüttüğünüz Yonca KIZILGÜN'ün "3-5 YAŞ GRUBU İÇİN HAZIRLANMIŞ OLAN "ELİF VE ARKADAŞLARI" ÇİZGİ FİLMİNDE SÜRDÜRÜLEBİLİR EYLEMLER: 7R' YE GÖRE BİR İÇERİK ANALİZİ ÇALIŞMASI" başlıklı araştırması İnsan Araştırmaları Etik Kurulu tarafından uygun görülerek gerekli onay 0441-ODTÜİAEK-2022 protokol numarası ile onaylanmıştır.

Bilgilerinize saygılarımla sunarım.


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B. SAMPLE ITEMS FROM CODING FORM

	DISCOURSE			ACTION	
	0	1	2	0	1
ITEM (REDUCE)					
Using water efficiently					
	DISCOURSE			ACTION	
	0	1	2	0	1
ITEM (REUSE)					
Reducing unnecessary material usage					
Reusing old materials					
	DISCOURSE			ACTION	
	0	1	2	0	1
ITEM (RESPECT)					
Respect for all living things					
Respect for nature					
	DISCOURSE			ACTION	
	0	1	2	0	1
ITEM (REFLECT)					
Reflecting the daily lives and traditions of different cultures					
	DISCOURSE			ACTION	
	0	1	2	0	1
ITEM (RETHINK)					
Rethinking consumption habits					
Encouraging creativity					
	DISCOURSE			ACTION	
	0	1	2	0	1
ITEM (RECYCLE)					
Separating waste materials and garbage					
	DISCOURSE			ACTION	
	0	1	2	0	1
ITEM (REDISTRIBUTE)					
Organizing charity campaigns					

C. NAMES OF EPISODES

1. Bando Takımı
2. Kalem Tutuyorum
3. Güneş Tutulması
4. Deniz Kabuğu
5. Ay Yolcuları
6. Arkadaşım Leylek
7. Gemiler Nasıl Yüzer
8. Sonbahar Havuzu
9. Küçük Aşçılar
10. Benim Hatam
11. Montum Olmadan Asla
12. Oyuncaksız Macera
13. Kardan Adam
14. Oyunun Galibi
15. Keşif Günü
16. Yeni Arkadaş
17. Kırmızı Işık
18. İpek Restoran
19. Sıkı Dostlar
20. Ballı Süt
21. Gürültücü Sincap
22. Yağmurdan Sonra
23. Küçük Tiyatrocular
24. Ben de Yapabilirim
25. Bir Uçak Yolculuğu
26. Küçük Ressamlar
27. Bir Fikrim Var
28. Sebze Çorbası
29. Arabamın Tekeri
30. Buluta Kadar
31. Sıra Bende
32. Geçmiş Olsun
33. Israr Oyunu
34. Aynı Fikirde Değiliz
35. Masal Zamanı
36. Kağıt Kutusu
37. Erken Yatan Erken Kalkar
38. Fikirlerimizi Birleştirelim
39. Sis
40. Ayşe Neden Üzgün
41. Robotik Kodlama
42. Küçük Eleştirmenler
43. Dinazor Parkı
44. Bahçede Bir Macera
45. Kozalak
46. Aslan Geliyor Kaç
47. Ses Ayarı
48. Tatlı Ekşi
49. Fırtınadan Sonra
50. Sağlığımı Koru Dünyayı Koru
51. Yalnız Oyunlar
52. Hareket
53. En Küçüğümüz Atom
54. Dikkat Dikkat
55. Elektrik
56. Veteriner
57. Elimdeki Yeter mi?
58. Kurallar Kurallar
59. İnternetin Resmi
60. Saygı Duyuyorum
61. Kendi Örüntümü Yapabilirim
62. Canım Cıvcıv
63. Kişisel Eşyalar
64. Günler
65. İskelet Sistemi
66. En İyisi
67. Benim Canım Üzüntüm
68. Yarım Kalmasın
69. Öfkeni Nereye Sakladın
70. İlkbahar Gösterisi
71. Bulutlar Ne Söylüyor
72. Markette Oyunu
73. Ani Sesler
74. Marangoz
75. Emek
76. Macera Adası
77. Suyun Altında
78. Uğultu
79. Hava Durumum
80. Sadece Bir Taş
81. Benim Portrem
82. Sorular
83. Radyo Tiyatrosu
84. Selim'in Şiir Kodu
85. Küçük Araba Tamircileri
86. Gitarımın Teli
87. Zerzevatçı
88. Okul Korosu
89. Sokak Kitaplığı
90. Bir Parça
91. Nereye Gittin Kirpi
92. Benim Tişörtüm
93. Akıllı Saatim
94. Neşeli Sözcükler
95. Bana Göre
96. Dinazorum kaçtı
97. Yazıcı
98. Patlamış Mısır
99. Boncuk
100. Yolunu Kaybeden Karınc

D. TURKISH SUMMARY / TÜRKEÖZET

GİRİŞ

Günümüz dünyası insanlık faaliyetlerinin getirdiđi ciddi çevresel, sosyal ve ekonomik zorluklarla karşı karşıyadır. Bu faaliyetler sonucunda dünyanın iklimi ve biyolojisinde çeşitli deđişiklikler olmuştur (Chichilnisky, 1997). Bu deđişikliklerden bazıları temiz su ve havaya ulaşım, çevre ve su kirliliđi, ormansızlaşma ve bazı canlıların yok olmasıdır. Dahası temiz su ve hava, sağlıklı gıda ve doğal kaynakların oranı ürkütücü bir şekilde azalırken, küresel ısınma her geçen gün daha da fazla fark edilir bir hale gelmiştir. Bunun üzerine, sorunlarla birlikte insan nüfusu da sürekli bir artış içerisinde (Davis, 2010). Dünya Sağlık Örgütü (WHO) (2019) raporuna göre her 10 kişiden 9'u kirli hava solumaktadır. Dünya bu durumdayken, Maalesef durum Türkiye için de pek içaçıcı gözükmemektedir. OECD (2019) tahminlerine göre Türkiye'de hava kirliliđinden yaşamını yitiren insanların sayısı yaklaşık 30.000' dir; 8 su havzasında 750 akarsu ve gölden sadece 6'sı kirlenmemiştir. Yani Türkiye'de bu havzalardaki suların %99'u kirlidir (Dünya Çevre Günü Türkiye Raporu, 2019). Maalesef, birçok araştırmacı doğal ortamların insan kaynaklı bozulmasının şu anda doğadaki türlerin yok olmasının önde gelen nedenlerinden biri olduđu konusunda hemfikirdir (Silva Caixeta vd., 2021). Buna benzer pek çok başka istatistik de insanların ihtiyaçlarını karşılamakta şu an bile büyük güçlük çektiđini ve birkaç yıl içinde mücadele etmenin daha da zor olacağını öngörmektedir. Diđer bir yönden de Murphy (2017) insan nüfusunun artmasını pozitif yönde deđerlendirerek, harekete geçecek daha fazla insan olduğunu ve sorunlara çözüm bulmak için daha fazla fikir üretilebileceđini sonucunu çıkarmıştır. Başka bir deyişle, daha fazla insanın bu sorunları çözmek için harekete geçebileceđi ve bir şeyler yapabileceđi anlamına gelmektedir. Bugüne kadar, Sürdürülebilir Kalkınma için Eğitim (SKE) alanında bazı adımlar atılmıştır. Nitekim; WCED, 1987 yılında sürdürülebilir bir dünya için harekete

geçmeye başlamış ve Sürdürülebilir Kalkınmayı "Bugünün ihtiyaçlarını, gelecek nesillerin kendi ihtiyaçlarını karşılama yeteneğinden ödün vermeden karşılayan kalkınma" olarak tanımlamıştır (Brundtland Raporu, 1992). Bu terim daha önce bazı kurumlar tarafından kullanılmış olmasına rağmen (WWF, UNEP, 1980); Brundtland Raporu (Pervis vd., 2018) ile ön plana çıkmıştır. Bu rapor daha sonra da 1992'de Birleşmiş Milletler (BM) Genel Kurulu tarafından onaylanmıştır. Ayrıca, Sürdürülebilir Kalkınma için küresel bir eylem programı olan Gündem 21 ve Çevre ve Kalkınmaya ilişkin Rio Deklarasyonu 178 hükümet tarafından kabul edilmiştir (UNESCO, 2014). Dünyanın her yerinden delegeler Sürdürülebilir Kalkınma için Rio de Janeiro'da önerilerini sunmuşlar; Sürdürülebilir Kalkınmanın uluslararası bir öncelik olması gerektiğini ve sürdürülebilir kalkınmanın ekonomik, sosyal ve çevresel yönlerini faaliyete geçirmek için ulusal planların geliştirilmesi gerektiğini teyit etmişlerdir (UNCED, 1992). Sürdürülebilirlik üç ana boyut (çevresel, sosyal-kültürel ve ekonomik) içerisinde ele alınmıştır ve bu yönlerin karşılıklı olarak ayırt edici olmadığını, ancak birbirini güçlendirebileceğini gösteren üç entegre elips ile temsil edilmiştir (WCED, 1987). Sürdürülebilirlik, bu üç boyutun kesiştiği noktada yer almaktadır (Purvis vd., 2018).

Üç boyuttan biri Ekonomik kalkınmayı temsil eder. Doğa ve çevre üzerindeki zararlı etkileri azaltabilecek enerji, ürün ve kaynakların; temel ihtiyaçların karşılanması ile ilgili konuları ele alır. Çevresel kalkınma ise; tasarruf etme, Dünya üzerindeki yaşamın sürekliliğini destekleme, çevresel iyilişme ile ilgili konuları ele alır. Son olarak Sosyal- Kültürel kalkınma, her türlü kültürel çeşitliliğin dikkate alınması ve herkes için adaletin gerekliliğine, kültür ve toplum açısından insanlığın refahı ile ilgili konuları ele alır (Siraj-Blatchford, Smith & Pramling Samuelsson, 2010).

Sürdürülebilir Kalkınma'nın Birleşmiş Milletler tarafından onaylanmasıyla birlikte; kalkınmayı desteklemek için çeşitli araçlar sunulmuştur ve bu araçlardan birisi de eğitimidir. Eğitim, Sürdürülebilir Kalkınmayı desteklemek adına güçlü bir araç olarak kabul edilmiştir (UNCED, 1992). Ayrıca Gündem 21

(1992), Sürdürülebilir Kalkınmanın hem örgün hem de yaygın eğitim stratejileri tarafından koordine edilmesi ve ilişkilendirilmesi gerektiğini önermiştir. Zaman içerisinde küresel ısınma, afet riskinin azaltılması veya biyolojik çeşitlilik gibi sürdürülebilirliğin çeşitli yönlerine odaklanan birçok eğitim biçimi, Sürdürülebilir Kalkınma için Eğitimin (SKE) bir parçası olmaya başlamıştır. SKE, küresel değişiklikler yapmak için eğitim inovasyonunun itici gücü olarak kabul edilmiştir. Eğer ülkeler SKE için harekete geçerse, problemlerin artışı durabilir ve dünyanın yok oluşu yavaşlayabilir. Şu anda pedagoji ve SKE'nin ortak evriminin gerçekleştiği bilinmektedir. Müfredatın sürdürülebilirlikle ilgili içeriğiyle aynı zamanda pedagojinin de büyüdüğü görülmektedir (UNESCO, 2012).

Sürdürülebilir Kalkınma için Eğitimin (SKE), eğitimin her seviyesinde uygulanması amaçlanmıştır, böylece bir topluma çeşitli şekillerde katkıda bulunabilecek çeşitli yaşlardan insanlara ulaşılmış olunmuştur (Silva vd., 2019). Eğitimin ilk düzeyi erken çocukluk eğitimidir. Kahrıman-Öztürk ve diğerleri, (2012) SKE'nin amaçlarından birinin erken çocukluk döneminden başlayarak tüm örgün eğitim kademelerinde yerel ve küresel sorunlara çözüm bulmak olduğunu belirtmiştir. UNESCO (2008a) ve Gothenburg Tavsiyelerine (UNESCO, 2008b) göre erken çocukluk eğitiminin Sürdürülebilir Kalkınma için Eğitim (SKE) için en uygun zaman olarak kabul edildiği bilinmektedir. Ayrıca SKE yaşamın erken yıllarında (doğumdan itibaren) başlaması gerektiği ve daha ileriki sınıflara kadar ertelenmemesi gerektiği savunulmuştur. Erken çocukluk yılları, yaşam boyu öğrenme için "doğal başlangıç noktası" olarak kabul edilmiştir (Didonett, 2008). Bu bağlamda erken çocukluk yıllarının sürdürülebilir kalkınma zihniyetini geliştirmede çok önemli olduğunu hatırlatmak önemlidir. Kısacası ilk yıllar, sürdürülebilir kalkınmayı destekleyebilecek bilinci, iyi alışkanlıkları ve tutumları teşvik etmek çok önemli bir role sahiptir (Prammling-Samuelson & Kaga, 2008; Prammling Samuelson, Hu & Li, 2019). Bu nedenle, Sürdürülebilir Kalkınma için Eğitim, Erken Çocukluk Eğitiminde dünya çapında bir öncelik haline gelmiştir (Li ve diğerleri, 2021). Bu bağlamda, Dünya Erken Çocukluk Eğitimi Örgütü (OMEP) (2011) Sürdürülebilir Kalkınma için Eğitimi

(SKE) erken çocuklukta uygulamaya koymaya teşvik etmek için bir proje başlatmıştır. Bu proje ile Sürdürülebilir Kalkınma için Eğitim uygulamasının köklerine atıfta bulunan 7R çerçevesinden (Azalt, Yeniden Kullan, Saygı Duy, Sorgula, Yansıt, Geri Dönüştür ve Yeniden Dağıt) yararlanılmış ve birçok proje ve uygulama yapılmıştır (OMEP, 2011). 7R öncelikle Brundtland Raporu (1992) 'da tanıtılmış, daha sonra da OMEP (2011) ve Duncan (2011) tarafından çalışılmıştır.

Çeşitli projelerden toplanan veriler UNESCO tarafından paylaşılmıştır ve OMEP, bu projelerin çoğunun okul çocuklarına veya üst düzey öğrencilerle ilgili olduğu görülmüştür. Erken çocukluk döneminde yapılan çalışma sayısı ciddi derecede az bulunmuştur. Bu nedenle OMEP (2018), SKE açısından erken çocukluk döneminde önemli bir fark yaratmaya çalışmıştır ve okul öncesi alanına yoğunlaşmıştır.

Bilindiği üzere SKE çeşitli paydaşlara sahiptir. Örneğin, öğretmenler, medya, okullar ve özel işletmeler SKE 'nin önemli paydaşları arasında yer almaktadır (UNCED, 2005). Birleşmiş Milletler Çevre ve Kalkınma Konferansı (2005)'e göre medya SKE'yi destekleyen yaygın öğrenme araçlarından birisidir. Medya düşünüldüğünde ise çocukların en çok çizgi film izlemeyi tercih ettikleri ve bu çizgi filmlerin onlar üzerinde ciddi etkileri olduğu sonucuna varılmıştır (Silva Caixeta et al., 2021; TSI, 2019). Çünkü çizgi filmler izliyiciye sürekli ve çeşitli şekillerde mesajlar göndermektedir (Dalacosta et al., 2009). Birçok çalışma desteklemiştir ki, çizgi filmlerin eğlendirici özelliklerinin yanısıra öğretici yanları da bulunmaktadır (Engstrom, 1995). Bu bağlamda, çizgi filmler hem resmi ortamlarda hem de evde, SKE öğretilmesi için avantajlı ve etkili bir yöntem olma potansiyeline sahiptir. Bu sebeple, bu çalışmanın odağını çizgi filmler oluşturmaktadır.

Çalışmanın Amacı

Bu çalışma, 3-5 yaş grubu çocuklar arasında popüler olan Türk çizgi filmi Elif ve Arkadaşları'nı Sürdürülebilir Kalkınma için Eğitim'in (SKE) tüm boyutları (çevresel, sosyal-kültürel ve ekonomik) açısından; OMEP (2011) tarafından tanıtılan 7R (Azalt, Yeniden Kullan, Saygı Duy, Sorgula, Yansıt, Geri Dönüştür ve Yeniden Dağıt) çerçevesinde incelemektir. Ayrıca çalışma, karakterlerin söylem ve eylemlerini inceleyerek çizgi filmlerde Sürdürülebilir Kalkınma için Eğitime ilişkin unsurları betimlemeyi amaçlamaktadır.

Yukarıda aktarılan bilgiler ışığında, bu çalışma aşağıdaki araştırma sorularına cevap vermeyi amaçlamıştır:

1- Elif ve Arkadaşları çizgi filmi, Sürdürülebilir Kalkınma için Eğitim'in (SKE) üç boyutunu temsil eden 7R ile ilgili sürdürülebilir eylem ve söylem örneklerini ne ölçüde sunuyor?

a) Sürdürülebilir Kalkınma için Eğitimin (SKE) çevresel boyutunu ele alan Azalt ve Yeniden Kullan açısından çizgi filmde gösterilen sürdürülebilir söylem ve eylemlerin çeşitliliği nedir?

b) Sürdürülebilir Kalkınma için Eğitimin (SKE) sosyal- kültürel boyutunu ele alan Saygı Duy, Sorgula ve Yansıt açısından çizgi filmde gösterilen sürdürülebilir söylem ve eylemlerin çeşitliliği nedir?

c) Sürdürülebilir Kalkınma için Eğitimin (SKE) ekonomik boyutunu ele alan Geri Dönüştür ve Yeniden Dağıt açısından çizgi filmde gösterilen sürdürülebilir söylem ve eylemlerin çeşitliliği nedir?

2- Elif ve Arkadaşları çizgi filmi 7R'ye ilişkin sürdürülebilir söylem örneklerine hangi açılardan yer vermektedir?

İlgili Terimlerin Tanımı

Sürdürülebilir Kalkınma için Eğitim (ESD): SKE, kültürel çeşitliliği onurlandırırken, öğrencilerin çevresel birlik, ekonomik uygulanabilirlik; mevcut ve gelecek nesiller için adil, ve akıllıca kararlar almalarını ve hesap verebilir davranışlar sergilemelerini sağlar (UNESCO, 2009).

Çizgi Film: Televizyonda yayınlanan, animasyon figürler ve sahneler tarafından tasvir edilen kurgulardır (Oglesby, 1998).

Azalt: Çevre boyutu ile ilgilidir, ihtiyaç dışı tüketimi azaltmayı destekler. Örneğin kullanılmadığı zamanlarda suyu kapatmak, enerji kullanımını azaltmak gibi daha azla daha fazlasını yapmaya çalışır (Duncan, 2011).

Yeniden kullan: Eski tuvalet kağıdı rulolarını kullanarak çevreyle ilgili bir aktivite yapmak gibi eski malzemeleri yeniden kullanmayı amaçlar (Duncan, 2011).

Saygı Duy: Çocuklara, onların yeteneklerine ve haklarına, ayrıca doğaya ve sosyal-kültürel ayağı ilgilendiren diğer yaşam koşullarına saygı duymayı içerir (Duncan, 2011).

Sorgula: Tüketiciliği eleştirmek ve sosyal-kültürel temele ilişkin kendini yaratıcı bir şekilde ifade etmenin yeni yollarını bulmak gibi değişen tutumları sorgulamakla ilgilidir (Duncan, 2011).

Yansıt: Sosyal-kültürel ayağa hizmet etmek için insanlara çeşitli kültürler ve durumlar üzerinde düşünme fırsatı sağlamak anlamına gelir (Duncan, 2011).

Geri Dönüştür: Atıkları ayırmayı, atıkları geri dönüştürmeyi içerir. (Duncan, 2011).

Yeniden Dağıt: Ekonomik temele hizmet etmek için bir fon yönlendirmesi düzenlemek gibi, kaynakları daha adil bir şekilde kullanmayı amaçlar (Duncan, 2011).

YÖNTEM

Araştırma Deseni

Bu çalışmanın amacı, Televizyon İzleme Araştırma Kurulu (TİAK, 2022) ve Youtube (2022) verilerine göre en çok izlenen tematik kanalda yayınlanan en popüler çizgi filmi Sürdürülebilir Kalkınma için Eğitim'i (SKE), 2011 yılında Dünya Erken Çocukluk Eğitimi Örgütü'nün (OMEP) sunduğu 7R çerçevesinde içerik analizi ile incelemektir.

Flick ve arkadaşlarına göre (2004), içerik analizinin amacı, bilginin (özellikle kitle iletişim araçlarından) sistematik olarak değerlendirilmesi veya mesaj özelliklerinin sistematik, nesnel, nicel olarak incelenmesidir. İçerik analizi, yazıya dökülmüş konuşmalar, resimler, grafikler, jestler, müzik ve sesler dahil olmak üzere hem metinsel hem de metinsel olmayan mesaj içeriklerini incelemeye odaklanan yöntemleri içerir (Neuendorf & Kumar, 2015).

Örnekleme

Bu çalışmanın hedef kitlesi ulusal bir televizyon kanalında yayınlanan çocuk çizgi filmleridir. Sunulan araştırmanın hedef kitlesi için dört kriter tanımlanmıştır. İlk kriter tematik kanalların reyting puanları ve Youtube abone sayısıdır. Reyting, belirli bir televizyon veya radyo programının tahmini izleyici boyutudur (Oxford sözlüğü, 2021). İkinci kriter, çizgi filmin popüler olma durumudur. Üçüncü kriter erken çocukluk yaş grubuna uygunluktur. Son kriter ise çizgi filmin gün içindeki yayınlanma sayısıdır. Bu doğrultuda mevcut çalışmada amaçlı örnekleme yöntemi uygulanmıştır. Buna göre öncelikle Disney Channel, Minika Kid Channel, Planet Kid Channel, Cartoon Network gibi diğer

çocuk kanalları arasında TIAK reyting puanları ve Youtube video kanalının abone sayısına göre tematik TV kanalları seçilmiştir. Cartoon Network kanalının 0,30 reytingi; Minika Çocuk kanalının 0.10; Disney Channel kanalının 0,24; TRT Çocuk kanalının ise 0,53 reyting puanına sahip olduğu belirlenmiştir (TIAK, 2021). Üstelik Youtube verilerine göre Cartoon Network Türkiye 2.14 milyona; Minika Çocuk 175 bin; Disney Channel Türkiye 3,3 milyon aboneye sahiptir. Ancak TRT Çocuk'un Youtube kanalında 5.75 milyon abonesi bulunmaktadır. Bu nedenle TRT Çocuk, TIAK (2021) faaliyet raporuna göre çizgi film kanalları arasında en yüksek reyting puanlarına sahip ve en çok Youtube abonesine sahip kanaldır. İkinci olarak kanalda kırk yedi çizgi film bulunmakta ve kanala göre en popüler altı çocuk çizgi filmi örneklem olarak seçilmiştir. Bunlar Elif ve Arkadaşları, Aslan, Momo: Akıllı Tavşan, İbi, Pırıl, Rafadan Tayfa ve Su Elçileri çizgi filmleridir. Üçüncü olarak kanala açıklamalarına göre Elif ve Arkadaşları, Momo: Akıllı Tavşan ve Su Elçileri 3-5 yaş arası çocuklar için uygundur. Son olarak Elif ve Arkadaşları'nın günde dört kez yayınlandığı görülmüştür; Momo: Akıllı Tavşan günde bir kez yayın yaparken, Su Elçileri yayından kaldırılmıştır. Bu nedenle Elif ve Arkadaşları çizgi filmi ilgili ölçütleri temsil ettiği için bu çalışmaya dahil edilmiştir.

Veri toplama aracının geliştirilmesi

İlgili alanyazına bakıldığında çalışmada kullanılmak üzere hazırlanılmış olan bir ölçek bulunulamıştır. Bu nedenle ölçek araştırmacı tarafından oluşturulmuştur. Sunulan çalışmada, veri toplama aracının geliştirilmesi süreci üç aşamadan oluşmaktadır. İlk olarak ilgili literatür ışığında 7R kavramlarının kategorileri tanımlanmıştır. Önceden tanımlanmış kategorilere göre bir kodlama formu oluşturulmuştur. Kodlama formu, çizgi film öğeleri ve 7R çerçevesi ile ilgili belirli birimlere sahiptir. İkinci olarak kodlama formu, erken çocukluk eğitimi, medya ve sürdürülebilir kalkınma için eğitim konusunda uzmanlaşmış dört uzmanla paylaşılmıştır. Uzman görüşleri ışığında kodlama formu revize edilmiştir. Son olarak, kodlama formunun güvenilirliğini test etmek amacıyla

için rastgele seçilen çizgi film bölümleri ile bir pilot çalışma yapılmıştır. Sürecin her adımı aşağıda ayrıntılı olarak açıklanmıştır.

Kodlama ve Kategori oluşturma

Kodlama formunda bulunan maddeler esas olarak UNESCO (2005), UNCED (1992), WCED (1987), OMEP (2011) ve Duncan (2011) tarafından sunulan 7R çerçevesinin rehberliğinde ilgili literatüre göre tanımlanmıştır. Kodlama formunun son hali 3 ana kategori, 7 alt kategori ve 42 maddeden oluşmaktadır. Çizgi filmde bulunan karakterlerin söylem ve eylemleri her madde için iki kategoride incelenmiştir. Bu kategoriler şunlardır; ilgili madde belirtilmiş, ilgili madde belirtilmemiş. Ayrıca, karakterlerin söylemleri üç kategori altında incelenmiştir. Bu kategoriler şunlardır; ilgili madde açık bir şekilde belirtilmiş; ilgili madde üzeri kapalı bir şekilde belirtilmiş ve ilgili madde belirtilmemiş.

Pilot Çalışma

Teijlingen ve Hundley'e (2021) göre pilot çalışma, iyi bir çalışma tasarımı yürütmek için kilit bir unsurdur. Bundan dolayı Elif ve Arkadaşları çizgi filminin rastgele seçilen 10 bölümü pilot çalışmaya dahil edilmiştir. Araştırmada kodlayıcılar arası kodlayıcı güvenilirliği Miles and Huberman (1994) formülü kullanılarak ölçülmüştür. Bu formül, farklı kodlayıcıların aynı verilerin nasıl kategorize edilmesi gerektiği konusunda ne kadar yakın fikir birliğine vardığına dair nicel bir gösterge oluşturmaktadır (O'Connor & Joffe, 2020). Buna göre kodlayıcılar arası uyum yüzdesi .89 olarak tatminkar bulunmuştur.

Ana Çalışma

Kodlama formuna son hali verildikten sonra, 2022 Haziran ayında çizgi filmin her bölümü ve her bölüme ait yazı dökümü incelenmesiyle veri toplama süreci başlamıştır. Veri toplama süreci yaklaşık olarak üç hafta sürmüştür. Araştırma

soruları ışığında Elif ve Arkadaşları çizgi filminin tüm bölümleri (100 bölüm) çalışmaya dahil edilmiştir.

Verilerin analizi

Verilerin analizinde tanımlayıcı istatistiksel teknikler kullanılmıştır. Fraenkel ve arkadaşlarına göre (2012), içerik analizi çalışmalarının sonuçları, toplanan verilerin frekans veya oranlarını sunarak ortaya konur. Bu nedenle, mevcut çalışmanın sonuçları, her maddenin bulunma sıklığı ve oranı olarak sunulmuştur. Toplanan verilerin incelenmesinde IBM SPSS İstatistik Programı versiyon 26 kullanılmıştır. Araştırma verileri sıklık ve oran olarak sunulmuştur.

Geçerlilik ve Güvenilirlik

Geçerlilik, Neuendorf (2002) göre “bir ölçme aracının yalnızca amaçlanan kavramı ölçmesidir. Yapılan çalışmanın iç güvenilirliğini sağlamak amacıyla, kodlama formu ilgili alanlardan 4 uzman tarafından incelenmiş ve çalışma için geçerli olarak görülmüştür. Geçerlilik dışında, kodlama formunun güvenilirliği araştırmacılar tarafından ölçülmüştür. Creswell (2013), içerik analizi çalışmalarında güvenilirliğin sağlanması için kodlayıcılar arası uyumun farklı kodlayıcılar tarafından kontrol edilmesi gerektiğini önermektedir. Bu nedenle araştırmacı dışında bir kodlayıcı bağımsız olarak veri toplama aracının geliştirme sürecine katılmıştır. İkinci kodlayıcı da erken çocukluk eğitimi alanında uzmanlaşmış bir araştırmacıdır. Kodlayıcılar arası güvenilirlik kontrol edilmiş ve kodlayıcılar arası uyum düzeyi %89 olarak yeterli bulunmuştur.

Çalışmanın Sınırlılıkları

Bu çalışmada çizgi filmlerde bulunan sürdürülebilir eylem ve söylemlerin incelenmesi amaçlanmıştır. Çalışma kapsamında Elif ve Arkadaşları çizgi filminin tüm bölümleri analiz edilmiştir. Örneklem, amaçlı örnekleme yöntemi kullanılarak belirlenmiştir. Çalışma iki temel sınırlılığa sahiptir. İlk olarak

örneklemin Elif ve Arkadaşları çizgi filmi ile sınırlı olmasıdır. İkinci olarak, çalışmanın nesnelliği ile ilgilidir. Pilot çalışma ikinci bir kodlayı ile tamamlansa da, ana çalışma için veriler araştırmacı tarafından toplanmış ve analiz edilmiştir.

BULGULAR VE TARTIŞMA

Çizgi Filme İlişkin Genel Bilgiler

Elif ve Arkadaşları çizgi filmi Kasım 2018'den beri yayınlanmaktadır. Bu çizgi film, her biri ortalama 12 dakika süren 110 bölümden oluşmaktadır. Çizgi filmin ana karakterleri Elif, Kerem, Selim, Ahed, Ayşe, İpek öğretmen ve Elif'in anne-babasıdır. Çizgi film genellikle okul bahçesinde, sınıfta ve Elif'in evinde geçmektedir. Okulun kedi, horoz ve sincap gibi bazı hayvanların bulunduğu geniş bir bahçesi vardır. Çizgi film, okuldaki olay ve etkinliklere odaklanmıştır. Her bölümün bir ana konusu vardır ve konu; diyaloglar, etkinlikler, şarkılar ve oyunlarla yansıtılır.

Çalışmanın Temel Bulguları

Mevcut çalışmanın bulguları, *Tüm canlılara saygı duy* maddesinin çizgi filmde söylem açısından en çok temsil edilen madde olduğunu göstermektedir. Buna karşılık aşağıdaki maddeler söylemde temsil edilmemiştir; *Toplu Taşıma Kullanımı, Yağmur Suyunun Yeniden Kullanılması, Cinsiyet Eşitliğine Saygı, Farklı İnançlara Saygı, Farklı Etnik Gruplara Saygı, Sosyal ve Kültürel Farklılıkların Değerine Saygı, Farklı Dini İnançlara Sahip Bireylerin Yaşam Deneyimlerini Yansıtma, Kompost Yapma, Atık Malzemeleri Geri Dönüştürme, Geri Dönüştürülmüş Malzemeleri Kullanma/Satın Alma, Kumbara Oluşturma.*

Çizgi film boyunca eylemler ilgili en çok yansıtılan madde, *Çevre Dostu Ulaşımın Kullanılması* olmuştur. Öte yandan, *Yenilenebilir Enerji Kaynaklarının Kullanılması, Yağmur Sularının Yeniden Kullanılması, Cinsiyet Eşitliğine Saygı, Farklı İnançlara Saygı, Farklı Etnik Gruplara Saygı, Sosyal ve Kültürel Farklılıklara Saygı, Fiziki Farklılıklara Saygı, Farklı Kültürlerin ve*

Geleneklerin Günlük Yaşamı Yansıtma, Farklı Dini İnançlara Sahip Bireylerin Yaşam Deneyimlerinin Yansıtma, Sürdürülebilir Kalkınma İle İlgili Karar Verme Süreçleri ve Uygulamalarını Sorgulama, Kuşakların Diğer Kuşaklar Üzerindeki Etkisini Gösterilme, Kompost Yapma, Atık Malzemeleri Geri Dönüştürülme, Geri Dönüştürülmüş Malzemeleri Kullanma/Satın Alma, Kumbara Oluşturma, maddelerinin karakterlerin eylemlerinde temsil edilmediği bulunmuştur.

Özetle bulgular 7R'ye göre kategorize edildiğinde en çok sunulan kategorinin söylem açısından *Saygı Duy*; eylem açısından ise *Saygı Duy* ve *Azalt* olduğu sonucuna varılmıştır. Öte yandan, hem söylem hem de eylem açısından en az temsil edilen kategoriler *Geri Dönüştür* ve *Yeniden Dağıt* kategorileridir. Ek olarak, SKE'nin ana boyutları dikkate alındığında, Sosyal-Kültürel boyutun daha çok söylem yoluyla, Çevresel boyutun ise daha çok eylemler yoluyla sunulduğu görülmüştür. Ekonomik boyut, hem söylem hem de eylem açısından da en az sunulan boyut olmuştur. Karakterlerin *Azalt*, *Yeniden Kullan*, *Sorgula*, *Geri Dönüştür* ve *Yeniden Dağıt* kategorilerine ilişkin söylemleri net bir şekilde sunulurken; *Saygı Duy* ve *Yansıt* kategorilerinin çoğunlukla örtük bir şekilde temsil edildiği bulunmuştur.

Çizgi Filmin Sürdürülebilir Kalkınma için Eğitimin Bileşenlerini İçermesi Açısından Dağılımı

Bu çalışmanın bulguları, bölümlerin çoğunun SKE'nin üç boyutuyla da ilgili en az bir söylem ve eylem örneğine sahip olduğunu göstermiştir. Öte yandan, sonuçlar, örneklerin büyük çoğunluğunun SKE'nin sosyal-kültürel ayağıyla ilgili olduğunu, sadece birkaç bölümün ekonomik ayağıyla ilgili örnekler sunduğunu da göstermiştir. İlgili alanyazın, sosyal-kültürel yapıyı incelemeye yönelik birçok çalışmanın yapıldığını vurgulamaktadır. Ayrıca, Ulusal Erken Çocukluk Eğitimi Programı'nın (2013) ve tematik kanalın amaçlarından birinin de Türkiye'deki çocukların sosyal-duygusal ve sosyal-kültürel gelişimlerini desteklemek olduğu bilinmektedir. Bu nedenle, çizgi filmin çoğunlukla sosyal-kültürel boyuta odaklanması, içeriklerinin Milli Eğitim Bakanlığı'nın hedefleriyle ilgili

olabileceği nedeniyle bir dereceye kadar anlaşılabilir (MEB, 2013). Öte yandan Norddahl (2008) and Engdahl (2015) da vurguladığı gibi, çocuklara farklı gruplara, kültürlere saygı duymayı öğretmek Sürdürülebilir Kalkınma için Eğitim'in temel öğelerinden birisidir. Ancak, çalışmanın sonucunda kültürel çeşitliliğin ve kültürel çeşitliliğe saygı duymanın yeterli oranda yansıtılmadığı bulunmuştur. Bu da çizgi filmin SKE' nin temel amaçlarından birini yerine getirmediğini göstermektedir.

Öte yandan eylem örneklerinin sonuçları incelendiğinde eylemlerin söylemlere göre daha az bir orana sahip olduğu görülmüştür. Bu, çizgi filmdeki karakterlerin SKE'nin sosyal-kültürel ayağıyla ilgili konular hakkında konuşabilmelerine rağmen, bunları davranışlarında göstermeye daha az eğilimli olduklarını göstermektedir. Bu, mevcut çalışmanın önemli bulgularından biridir çünkü Ekme Teorisi'nde (Gerbner, 1973) ve Sosyal-Bilişsel teoride (Bandura, 1977) açıklandığı gibi, çocuklar maruz kaldıkları tutum ve davranışları öğrenmektedirler. Dolayısıyla hem söylemlerin hem de eylemlerin çocuklar tarafından daha etkin bir şekilde benimsenmesi için bir konunun iki yöntemle de yansıtılması önemlidir. Mevcut çalışmanın sonuçları, çizgi filmin çocukların SKE'ye ilişkin sosyal-kültürel inançlarını desteklemek açısından umut vericidir.

Maalesef çalışmanın bulguları göstermiştir ki; çizgi film hem söylem hem de eylem açısından ekonomik boyut ile ilgili örnekleri çok az bir oranda temsil etmektedir. Pramling-Samuelsson ve Siraj-Blatchford'un (2014) işaret ettiği gibi, SKE'nin sosyal-kültürel boyutunun ve ekonomik boyutunun birleşimi eşitlikçi toplumları yansıtmaktadır. Dolayısıyla, boyutlardan birinin yansıtılmaması ya da az yansıtılması aralarındaki bağlantının tam olarak kurulamamasına neden olabilir. Öte yandan, Geri Dönüştür, Ekonomik Boyutun bir alt kategorisidir ve çok az bir oranda yansıtılmıştır. Fakat Türkiye İstatistik Kurumu'na (2021) göre, toplam atık miktarı 2018'e göre %10,5 oranında artmıştır. Bu da insanların atıklarını daha aktif bir şekilde geri dönüştürmeye teşvik edilmesi gerektiği anlamına gelmektedir. Ayrıca toplumun atıkların olumsuz etkilerinden negatif bir şekilde etkilendiği bilinmektedir (UNEP, 2015). Ancak bu çalışmada

Türkiye'de çocuklar arasında en popüler olan çizgi filmlerden birinin sadece bir bölümünün geri dönüşümü yansıttığı tespit edilmiştir. Birçok araştırma çocukların geri dönüşümü öğrenebileceğini göstermişken (Kahrıman-Öztürk, 2010; Spiteri, 2021), çizgi filmler bir fırsat olarak değerlendirilebilir ve çocuklar geri dönüşüme teşvik edilebilir. Çevresel sütünun, çizgi filmin %52'sinde bölüm başına en az bir söylemle dahil edildiği ve %73'ünde bölüm başına en az bir eylemle dahil edildiği bulunmuştur. Bu da çizgi filmdeki karakterlerin çevresel sürdürülebilirlikle ilgili eylemlerine söylemlerinden daha çok yer verdiği anlamına gelmektedir.

Bulgular incelendiğinde görülmüştür ki, çizgi film Sürdürülebilir Kalkınma için Eğitim'in her boyutuunu eşit oranda yansıtılmamaktadır. Sosyal-kültürel boyut en çok söylemlerle yansıtılırken. Çevresel boyut çoğunlukla eylemlerle yansıtılmıştır. Hem eylem hem söylem açısından da en az yansıtılan boyut ise Ekonomik Boyut olmuştur.

ÖNERİLER

Çizgi filmlerin çocuklar üzerinde önemli etkileri olduğu genel kabul görmektedir (Rai vd., 2016; Laureati vd., 2014; Horne vd., 2004; Polman vd., 2008). Bu nedenle içerdikleri mesajlar, Potter'ın (1993) da belirttiği gibi, çizgi film içerikleri dikkatli ve doğru bir şekilde işlenirse; çocuklar dünyayı çizgi filmler aracılığıyla öğrenebilir. Bundan dolayı çizgi filmlere yönelik içerik analizi çalışmaları arttırılabilir (Izquierdo- Iranzo vd., 2020). Bu çalışmada Türkiye'de 3-5 yaş arası çocuklar için üretilmiş popüler bir çizgi film incelenmiştir. Öte yandan televizyonlarda her gün çok sayıda çizgi film yayınlanmakta ve çocuklar sürekli olarak çizgi film izlemektedir (Habib ve Soliman, 2015; Mertol ve Gündüz, 2019). Bu kapsamda hem yerli hem de yabancı tematik kanallardan farklı çizgi filmler incelenerek mevcut çalışma çoğaltılabilir. Bu şekilde araştırmacılar, diğer ülkelerin görüşlerini ve etkilerini SKE açısından karşılaştırabilir ve daha geniş bir bakış açısına sahip olabilirler.

Bunun dışında mevcut çalışma genişletilebilir ve deneysel bir çalışma olarak yürütülebilir. Araştırmacılar, çizgi filmi izlemeden önce ve izledikten sonra çocukların sürdürülebilirlik anlayışlarını değerlendirmek için ön ve son testler kullanabilir. Bu sayede araştırmacılar çizgi filmler ile çocukların davranışları arasındaki ilişkiye dair daha fazla veriye sahip olabilirler. Ayrıca, araştırmacılar gizli ve açık mesajların olası etkilerini deneysel bir çalışma içinde değerlendirebilirler.

Son olarak, çizgi filmlerdeki sürdürülebilirlik konuları hakkında öğretmen ve velilerin bilgileri araştırılabilir. Bu sayede sürdürülebilirliği konu alan çizgi filmlerin önemi konusunda farkındalık yaratılabilir. Ayrıca öğretmenlerin ve velilerin çizgi filmlerin içeriğine göre seçerek ve eğitim aracı olarak kullanımları desteklenebilir.

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