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# Preschool Children's Metaphoric Perceptions of Digital Games: A Comparison between Regions

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**Abstract:** Preschoolers now play digital games on touch screens, e-toys and electronic learning systems. Although digital games have an important place in children's lives, there needs to be more information about the meanings they attach to games. In this context, the research aims to determine the perceptions of preschool children studying in different regions of Turkey regarding digital games with the help of metaphors. Four hundred twenty-one preschool children studying in seven regions of Turkey participated in the research. The data were collected through the "Digital Game Metaphor Form" to determine children's perceptions of digital games and through "Drawing and Visualization", which comprises the symbolic pictures children draw of their feelings and thoughts. Phenomenology, a qualitative research model, was used in this study. The data were analyzed using the content analysis method. When the data were evaluated, the children had produced 421 metaphors collected in the following seven categories: "Nature Images, Technology Images, Fantasy/Supernatural Images, Education Images, Affective/Motivational Images, Struggle Images, and Value Images". When evaluated based on regions, the Black Sea Region ranked first in the "Fantasy/Supernatural Images and Affective/Motivational Images" categories. In contrast, the Central Anatolia Region ranked first in the "Technology Images and Education Images" categories, and the Marmara Region ranked first in the "Nature Images and Value Images" categories. In addition, it was determined that the Southeast Anatolia Region ranks first in the "Struggle Images" category.

**Keywords:** preschool education; metaphor; digital game



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## 1. Introduction

Today's children have a more comprehensive range of modern digital technologies, such as tablets and smartphones, than previous generations [1]. Modern digital technology has changed children's play platforms and how children interact with materials. In this change process, contemporary children benefit from digital developments called "digital play" [2]. Digital developments and the affordability of mobile devices have made digital games an increasingly common phenomenon among children [3]. For this reason, the "digital game" concept is seen as a new game form [4].

Digital games are entertainment and media played on digital tools and have learning opportunities [5]. Nevski and Siibak [6] defined digital play as the actions children perform on the touch screen, while Kinzie and Joseph [7] defined it as fun and exciting actions where the rules are followed in line with a goal. In short, digital play is expressed as an area where children use digital technologies [8]. Based on these definitions, it is seen that digital games include learning through exploration and inquiry, as well as learning through play in a broader context. In particular, a digital game can be played individually or in groups, with or without adult support, with devices such as computers or tablets [9].

For this reason, children have become able to use digital technology devices anytime and anywhere [10]. This shows that the digital age has reached the early childhood age,

and its usage by children has become widespread. At the same time, it stated in studies that 30% of children aged six years and under play digital games [11]. In a study by the Hong Kong Ministry of Health, 70.3% of children aged 4–14 years played video and computer games five days a week on average [10]. In addition, it is stated that 86% of children aged 5–6 years in Russia can use digital tools [12]. From this point of view, it is noteworthy that children's games in this period have gradually changed from traditional to digital games [3].

Children no longer play face-to-face but with their friends on screens; they have begun socializing in virtual environments rather than in real life. When it comes to playing games, digital games come to mind first, and children prefer to play with digital tools, not with their friends [13]. Studies also indicate that digital technologies limit children's activities with the individuals around them [14,15]. On the other hand, it is stated that children who play these games and are in the developmental period face many negative consequences, including worsened vision and hearing, delay in development, aggressive behaviour, addiction, inability to socialize, decrease in creative activities, deficiencies in language development, and emotional problems [12]. In short, digital games are criticized for causing problems such as children's inactive lifestyles, sleep disorders, and a lack of physical activity [14]. However, it was pointed out that digital games, like all other game types, are not low-level game modes and provide more opportunities for children to play [3]. It is an active component of children's playing and learning [16].

When the positive and negative aspects of digital games are evaluated in general, the significant point depends on the design of digital games. Digital games should have meaning for children and be designed to suit their abilities and desire to play and explore [17] because the rules, challenges, and feedback of digital games can be rewarding or frustrating, build or destroy self-confidence, help to develop desirable or undesirable skills or create engaging experiences. Children learn in a well-designed digital game because they need to, and motivation is built into it. In other words, if digital games are designed to serve children's interests and abilities, their desire to play and explore, and their inner learning needs, children will be more likely to develop and strengthen their curiosity and attention [11,18]. In short, digital games should provide rich, fun, and interactive experiences by supporting children's learning, cognitive development, skill development, social interaction, physical activities, and health behaviours [19]. In this way, children will gain competence in self-management, competence, and a desire to learn. Children's early years lay the groundwork for their lifelong development, and therefore, it is crucial to know how to design games that will serve them well and to choose games that are designed for them [11,20].

From this point of view, digital games that support holistic development should not be compared with traditional game formats and should not be differentiated from them. Digital games should be considered an educational activity that allows children to interact with a digital environment and explore the world [9]. Digital games support effective learning and activate children's interests [21]. They help children reach their academic expectations. They connect in-school and out-of-school learning experiences. They improve children's social skills and benefit their problem-solving skills [14,18]. They also support the development of creativity and imagination, the basic building blocks for children's future emotional and cognitive development and academic skills. In this way, children master various skills and knowledge [11,19,20].

The context in which children play should be re-evaluated, as children's games have now become an area that includes technology and the latest tools. Based on the developmentally appropriate practice philosophy, it is essential to consider how children's experiences change during this process and how current play strategies affect their learning [22]. For this reason, the relationship between play and technology should be addressed in the early childhood curricula, and the existing gap should be closed. Therefore, it is crucial to properly select, use, integrate, and evaluate digital games in order to develop children's learning and discovery skills. In this process, digital games should be used as pedagogical tools

that serve the basic features of "learning through play" and "playing through learning" by combining games and technology. The point here is how to escalate the positive outcomes of these new media in a way that enriches children's play experiences [9,23].

Digital games have become indispensable for children growing up in the technology age; therefore, children's games have been extensively studied in the last decade [24]. These studies generally focus on how long digital games are played [25], advantages [5,19,26,27], disadvantages [28], and types of digital games [1]. However, adult opinions (educators, software, parents) are included in these studies [2,3,12,21,24]. Although these studies provide essential information, we know that young children growing up in the age of technology are playing games and spending more time with the increasingly common digital tools. Topics related to children's understanding of digital games still need to be adequately researched. The present research is one of the original studies that reflect children's perceptions of digital games since it is a candidate to be the first in the field as a metaphorical study on how children conceptualize and perceive digital games in seven regions of Turkey and at least three cities from each region. A metaphor is an essential tool that directly compares a concept in one field to another unrelated field. At the same time, metaphors are seen as a fundamental element of human cognition, shaping how we think and reason about the world. They provide a new way of thinking about general concepts. Metaphors are complex cognitive mechanisms that affect thinking, learning, and reasoning [29,30].

Therefore, children must acquire new knowledge. Specifically, reflective learning mechanisms can help children create new explanations and analogies and imagine alternative possibilities. As a result, these mechanisms can expand children's conceptual repertoire to create new ideas and solutions. Because metaphors bring new perspectives to general knowledge, they are fundamental mechanisms for childhood learning and creating conceptual change. Metaphors and metaphorical thinking can contribute to preschoolers' remarkable conceptual innovation and learning abilities [29]. With the recent increase in the number of studies on metaphors, this phenomenon is a robust mental mapping and modelling tool used for understanding and structuring children's worlds and was reported to be effective. Metaphors are significant, especially in acquiring complex concepts and terms and concretizing and visualizing abstract concepts. From this point of view, this research aims to examine the views of preschool children studying in different regions of Turkey on digital play through metaphors. In line with this purpose, sub-objectives are given below.

- What are the metaphors of preschool children regarding digital play in terms of education in different regions?
- Considering the standard features of these metaphors, under which conceptual categories are the metaphors included?

## 2. Materials and Methods

### 2.1. Research Model

In phenomenology, the researcher tries to reveal perceptions about a phenomenon. The researcher tries to understand the participants' world and describe their perceptions and reactions [31].

### 2.2. Working Group

The study group of this research consisted of 48–66-month-old children attending preschool education institutions in 7 regions of Turkey (Black Sea, Mediterranean, Marmara, Aegean, Eastern Anatolia, Southeastern Anatolia, and Central Anatolia) in the 2022–2023 academic year—this study group was collected using the convenience sampling method [32]. The study group of this research included a total of 421 children who were from the Black Sea Region ($n$:62), Mediterranean Region ($n$:50), Marmara Region ($n$:66), Aegean Region ($n$:57), Eastern Anatolia Region ($n$:53), Southeastern Anatolia Region ($n$:66) and Central Anatolia Region ($n$:67).

### 2.3. Data Collection Tool

The "Personal Information Form", "Digital Game Metaphor Form", and "Drawing and Visualization" were used as data collection tools in the research.

- Personal Information Form. This form, developed by the researchers, contains information about the children and their families. The children's classroom teachers filled out the forms.
- Digital Game Metaphor Form. The expression 'Digital game is like ... Because ... ' was used to determine children's perceptions regarding digital games. It is a data collection tool prepared by the researchers. Children were given an approximate time to complete this statement and were asked to focus on only one metaphor. This statement given by the children constitutes the data source of the research as a "document". The class teachers recorded the answers of the children.
- Drawing and Visualization. This technique is a powerful tool for gathering information from children. The aim is to reveal children's feelings and thoughts about the world through pictures [33]. In this study, children were asked to draw pictures reflecting the metaphor sentence to examine digital game-themed metaphors deeply.

### 2.4. Data Collection

To collect the research data, firstly, the cities representing the seven regions of Turkey were determined. At least three cities and independent kindergartens or kindergartens affiliated with the Ministry of National Education in these cities were selected from each region. Interviews were held with the teachers of the selected institutions via telephone and email. While determining the study group in the research, the principle of voluntarism was taken as a basis. The teachers were informed about the purpose of the research and the points to be considered during the application. The expression "Digital game ... like this. Because ... " was introduced for this. It was explained how the children should complete the dotted parts in the expression. This form has been presented within the framework of ethical rules. The study was conducted following ethical principles (E-78187535-050.06-290724).

The children were told they should be given time to think about their metaphors. At this stage, it was stated that the children should be given general information, that they should mention a single concept, and that the children should explain why they thought about this concept. Afterwards, it was explained to the children that they should be given A4 size paper and crayons, draw a picture describing their feelings and thoughts about their metaphor, and briefly describe the picture they drew. It was also emphasized that the interviews should be individual with each child, as they could be affected by the discourses and drawings of their friends. The papers containing these expressions, written by the classroom teachers in their handwriting, are documents and constitute the primary data source of this research. The data were transmitted to the researcher via digital media.

### 2.5. Analysis of Data

The data were analyzed using the content analysis method. Content analysis is one of the qualitative methods and is used to analyze and interpret data. This analysis reduces the data to concepts representing the research phenomenon [34]. Analyses were performed in five stages [35] (Figure 1).

1. Coding and debugging phase. The metaphors produced by the researchers regarding the concept of digital games were examined individually in the context of the regions, and a tentative list was created. In this framework, forms that did not include a metaphor or a justification did not produce any metaphors and were incompatible with a justification sentence related to the metaphor in question were elected. Then, the metaphor presented by each child was coded. In this context, 75 out of 496 forms were excluded from the research scope due to the evaluation of the metaphors for the concept of digital games. A total of 421 forms were included in the study.

2. Sample metaphor image compilation phase. After the first stage was completed, the raw data were reviewed again. Sample metaphors were selected from the expressions representing each metaphor. During the selection process, attention was paid to the metaphor's ability to express the analogy clearly, how much it emulated the analogy and their relationship. In addition, information about who produced the metaphor image is given in parentheses before the metaphor expression in question. The codes BSRC1 (Black Sea Region Child 1), MERC1 (Mediterranean Region Child 1), MRC1 (Marmara Region Child 1), ARC1 (Aegean Region Child 1), EARC1 (Eastern Anatolia Region Child 1), SARC1 (Southeast Anatolia Region Child 1), and CARC1 (Central Anatolia Region 1), which comprise a region and a number, refer to a child who attends a preschool education institution in that region. For example, the code (BSRC1) is used for the number one child in the Black Sea Region.
3. Category development phase. Each metaphor image produced by children was analyzed in terms of the subject of the metaphor and its typical features. Then, considering the codes given to the metaphors, metaphors with similar themes were included in the same category, and a total of 7 conceptual categories were created.
4. The stage of ensuring validity and reliability. The data in the research process are presented objectively, and the data analysis process is explained in detail. In addition to the code/category tables, detailed descriptions are made. For this reason, direct quotations from the children's statements are frequently included. However, the findings are presented quantitatively as well as qualitatively. Expert opinion was used for reliability. Expert and researcher category pairings were compared. Miles and Huberman's [36] formula was used for comparisons, and the reliability was determined as 0.93. Since it was thought to make the research results reliable, the application was more comprehensive than just completing the metaphor. However, data variations (triangulation) such as drawing and visualization were also used.
5. Transferring and interpreting data to a computer environment. In the last stage, all data were transferred to the computer environment. Then, the frequency of children's use of metaphors was calculated, and tables suitable for the categories were created. The data were interpreted according to the findings obtained.

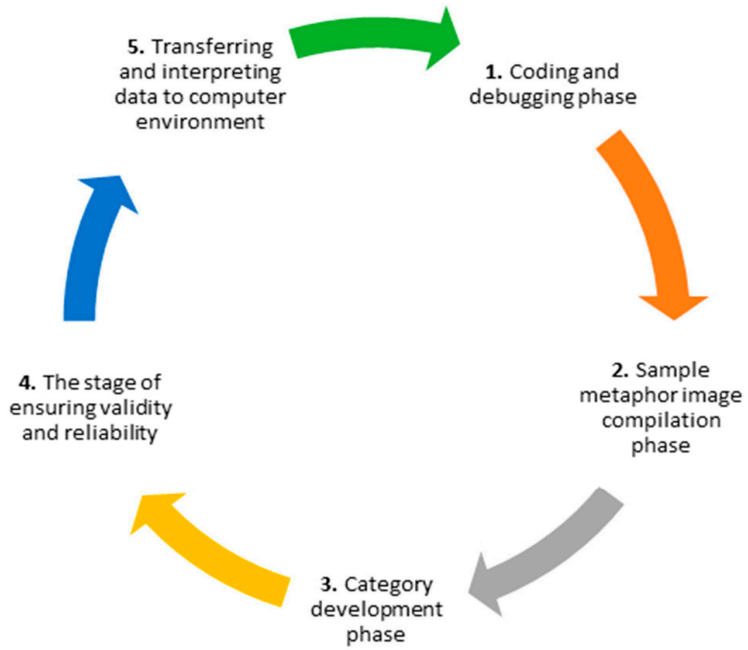



**Figure 1.** Stages of the data analysis process.

## 3. Results

In this section, the research results are presented in tables.

Table 1 shows the distribution of metaphors created by children regarding "digital games" by region.

**Table 1.** Distribution of metaphors produced by regions.

| Regions | Metaphors | f | % |
|---|---|---|---|
| The Black Sea Region | House (2), Sky (2), Lipstick, Park, Car, Animal, Flower, Space, Fish, Fun (7), Feeling Good (2), Boring, Changing Clothes, Good Play, Bad, Dare, Surprise, Emotion, Good Thing, Funny, Minecraft (4), Roblox (3), Tom, FIFA, Monster, Dinosaur, Flying, Alien, Internet (3), Tablet (2), Phone (2), Robot, Television, Computer, Game (2), Educational Toy, Color, Picture, Race Car, Parkour, Car Game, Football, Human | 62 | 14.72 |
| The Mediterranean Region | Car, Balloon, Park, Dog's Nest, Rabbit, Cat, Bear, Rainbow, Watermelon, Strawberry, Snake, House, Truck, Eating, Jumping, Dentist, Minecraft (3), PUBG (3), Roblox, Princess, Ghost, Hacker, Dinosaur, Computer (3), Tablet (2), Robot (2), Phone, Memory Game (4), Drawing (2), Color (2), Card Game, Toy, Shape, Parkour, Chase, Friendship, Man | 50 | 11.87 |
| The Marmara Region | Car (4), Bus (3), Money (3), Balloon (2), Truck (2), Motor, Dog, House, Panda, Bear, Caravan, Horse, Tower, Ball, Diamond, Garden, Sheep, Flower, Animal, Beauty, Bathing, Making Happy, Fight, Very Good, Chocolate, Headache, Roblox (2), Mario (2), Lightning McQueen, Barbie Doll, Freezing Crew, Telephone (3), Computer, Electromagnetic Item, Chess (2), Game, Puzzle, Jigsaw, Card, Line, Coloring, Numbers, Parkour (2), Catch, Football, Basketball, Fishing, Miner, Boxer, Soldier, Human | 66 | 15.67 |
| The Aegean Region | Car (2), House, Ferris Wheel, Bucket, Bicycle, Seat, Pillow, Dog, Spider, Red Bull, Ship, Grandpa Moon, Lipstick, Money, Buckle, Fun (2), Driving, War, Cat Play, Eye Pain, Minecraft (2), Roblox (2), Rabbit Game (2), Wing Game, Pop It, Angela, Snake Game, Dinosaur, Unreal, Electric, Video, Toy (2), Game, Coloring, Puzzle, Doll Dress Up, Painting, Cat Game, Car Game (4), Race (2), Race Car, Parkour, Ball Game, Balloon Game, Soldier, Hairdressing, Help | 57 | 13.53 |
| The Eastern Anatolia Region | Eating, Pizza, Cake, Car Racing, Song, Heart, Barbie Doll (5), Pop It (2), Roblox, Elsa, Toca Boca, Dinosaur, Car (4), Airplane (3), Cake (3), Ball (2), Ice Cream, Bed, Butterfly, Key, Bracelet, Forest, Shop, World, Box, Flower, Tablet (2), Game (2), Puzzle, Figure Racing (3), Fighting, War, Shark, Child (2) | 53 | 12.53 |
| The Southeastern Anatolia Region | Train (2), Ball (2), Grape, Stone, Tree, Sheep, Slide, Strawberry, Cave, Rain, Cat, Field, Eraser, Machine, Oven, Telephone (7), Computer (4), Television (2), Technology, Tablet, Cat Game (3), Nail game (2), Game (2), Dress Up, Mind Game, Baby Game, Rectangle, Match (2), Racing Game, Flamingo Racing, Gold Collecting, Football, Robot War, Car Game, Horse Racing, Motor, Fun (3), Affection, Cartoon, Papchi (3), PUBG, Tom, Minecraft, Monster | 66 | 15.67 |

**Table 1.** *Cont.*

| Regions | Metaphors | f | % |
|---|---|---|---|
| The Central Anatolia Region | Car (4), Sun (2), Bus, Rainbow, Slide, Money, Cat, Ladybug, Pen, Fridge, Fun, Heart, Jumping Game, Mario, Roblox, Galaxy, Monster, Tablet (9), Computer (6), Telephone (5), Television (5), Internet, Technology, Mobile Phone, Game (3), Sauce Game (2), Shape (2), Wrestling, Tennis, Toy, Coloring, Chess, Brain Game, Race Car, Football Race, Car Game, Catch, King | 67 | 15.91 |
| **Total** | | **421** | **100** |

The numbers in brackets indicate how many times the metaphor is repeated.

When Table 1 is examined, it is seen that 421 metaphors were produced based on all regions. When the metaphors produced by the children are evaluated, it is found that the number of metaphors in each region is as follows: Central Anatolia Region, f = 67 (15.91%); Marmara and Southeastern Anatolia regions, f = 66 (15.67%); Black Sea Region, f = 62 (14.72%); Aegean Region, f = 57 (13.53%); Eastern Anatolia Region, f = 53 (12.53%); and the Mediterranean Region, f = 50 (11.87%).

In Table 1, the metaphors produced based on regions are given. It was suggested that they be divided into groups. They are divided into groups according to regions. Table 1 presents the general situation.

According to the analysis results, seven "Digital Games" categories were created when all regions were considered. A visual presentation of the seven categories of the metaphors obtained is presented in Figure 2.

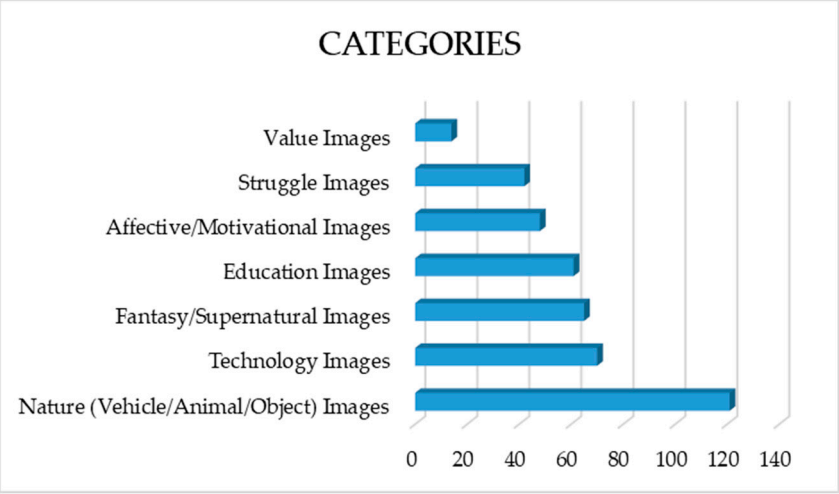



**Figure 2.** Categories created for digital games related to all regions.

When Figure 2 is examined, it can be seen that 28.34% (f = 121) of the answers given by children in the regions included in the study are nature (vehicle/animal/object) images, 16.62% (f = 70) are technology images, 15.43% (f = 65) are fantastic/supernatural images, 14.48% (f = 61) are educational images, 11.40% (f = 48) are affective/motivational images, 9.97% (f = 42) are struggle images, and 3.32% (f = 14) seem to be related to value images.

The responses for each category were evaluated based on regions and are presented below.

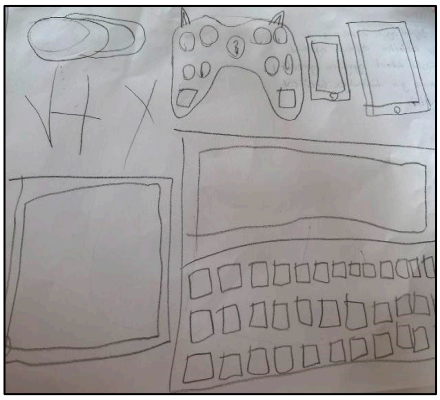
When Table 2 is examined, it is seen that 43 different metaphors related to digital games were produced in the Black Sea Region, and the metaphors produced are grouped under seven different categories according to their similarity. Among these, the Affective/Motivational Images category (f = 18 (29.03%)) is the area where the most intense

metaphors were produced. In comparison, the Value Images category (f = 1 (1.61%)) is where the least number of metaphors were produced. The children's expressions for the relevant categories and examples of pictures (Figure 3) are given below.

**Table 2.** Metaphoric perception categories of children attending preschool education institutions in the Black Sea Region regarding "Digital Games".

| Categories | Metaphors | No. of Metaphors | f | % |
|---|---|---|---|---|
| 1. Affective/Motivational Images | Fun (7), Feeling Good (2), Boring, Changing Clothes, Good Play, Bad, Dare, Surprise, Emotion, Something Good, Funny | 11 | 18 | 29.03 |
| 2. Fantasy/Supernatural Images | Minecraft (4), Roblox (3), Tom, FIFA, Monster, Dinosaur, Flying, Alien | 8 | 13 | 20.96 |
| 3. Nature (Veh./Anim./Obj.) Images | Home (2), Sky (2), Lipstick, Park, Car, Animal, Flower, Space, Fish | 9 | 11 | 17.74 |
| 4. Technology Images | Internet (3), Tablet (2), Phone (2), Robot, Television, Computer | 6 | 10 | 16.12 |
| 5. Education Images | Game (2), Educational Toy, Color, Picture | 4 | 5 | 8.06 |
| 6. Struggle Images | Race Car, Track, Car Game, Football | 4 | 4 | 6.45 |
| 7. Value Images | Human | 1 | 1 | 1.61 |
| | Total | 43 | 62 | 100 |

The numbers in brackets indicate how many times the metaphor is repeated.



***BSRC12***

***BSRC4***

**Figure 3.** Examples of children's drawings.

***Category 1. "Affective/Motivational Images"***
*BSRC20—"Digital game is like courage. Because if someone attacks me, I have the feeling of protecting myself. Moreover, I think I can make armour to protect myself when I grow up."*
***Category 2. "Fantasy/Supernatural Images"***
*BSRC4—"Digital game is like a monster. Because monsters have extraordinary powers, they can do anything with these powers. You can do anything in digital games. You can even create new monsters."*
***Category 3. "Nature (Veh./Anim./Obj.) Images"***
*BSRC17—"Digital game is like flowers. Because, like flowers, it is colourful. It has as many games as you want in it."*
***Category 4. "Technology Images"***
*BSRC12—"Digital game is like a computer. Because, like him, he is swift, and we can do whatever we want."*

***Category 5. "Education Images"***
*BSRC6—"Digital games are like a painting. Because I carry paints and I take beautiful pictures. Whatever colour shows the paint, I take that colour and paint it."*
***Category 6. "Struggle Images"***
*BSRC34—"Digital game is like parkour. Because there are obstacles on the track, there are also obstacles in the digital game. Then you win the game by going through the obstacles, but if you are fast."*
***Category 7. "Value Images"***
*BSRC56—"Digital game is like a human. Because people help each other, the game also helps me and teaches me everything. I also like to help."*

In Table 3, the answers given by the children in the Mediterranean Region regarding digital games are given. It is seen that the children produced 37 different metaphors, and these metaphors are separated into seven different categories. The Nature (Veh./Anim./Obj.) Images category (f = 13 (26.00%)) is the area where the most intense metaphors were produced. In comparison, the Value and Struggle Images categories (f = 2 (4.00%)) are the areas where minor metaphors were produced. The children's expressions for the relevant categories and examples of pictures (Figure 4) are given below.

**Table 3.** Metaphoric perception categories of children attending preschool education institutions in the Mediterranean Region regarding "Digital Games".

| Categories | Metaphors | No. of Metaphors | f | % |
|---|---|---|---|---|
| 1. Affective/Motivational Images | Eating, Jumping, Dentist | 3 | 3 | 6.00 |
| 2. Fantasy/Supernatural Images | Minecraft (3), PUBG (3), Roblox, Princess, Ghost, Hacker, Dinosaur | 7 | 11 | 22.00 |
| 3. Nature (Veh./Anim./Obj.) Images | Car, Balloon, Park, Dog Nest, Rabbit, Cat, Bear, Rainbow, Watermelon, Strawberry, Snake, House, Truck | 13 | 13 | 26.00 |
| 4. Technology Images | Computer (3), Tablet (2), Robot (2), Phone | 4 | 8 | 16.00 |
| 5. Education Images | Memory Game (4), Drawing (2), Color (2), Card Game, Toy, Shape | 6 | 11 | 22.00 |
| 6. Struggle Images | Parkour, Chase | 2 | 2 | 4.00 |
| 7. Value Images | Friendship, Man | 2 | 2 | 4.00 |
| | Total | 37 | 50 | 100 |

The numbers in brackets indicate how many times the metaphor is repeated.

***MERC56*** ***MERC6***

**Figure 4.** Examples of children's drawings.

***Category 1. "Affective/Motivational Images"***
*MERC22—"Digital games are like eating food. Because I am happy when I play, just as I am happy when I eat."*

***Category 2. "Fantasy/Supernatural Images"***
*MERC6—"Digital game is like a princess. Because princesses are omnipotent, they can fly and become invisible at any moment. Furthermore, I am the princess of the game."*
***Category 3. "Nature (Veh./Anim./Obj.) Images"***
*MERC1—"Digital games are like a park. Because there are too many toys in the park for us to play with, I can ride any toy I want when my mom takes me there. There are also many games when playing games on the phone. I can play however I want."*
***Category 4. "Technology Images"***
*MERC12—"Digital game is like a robot. Because when you set the robots, you can get everything done. I can also adjust my game while playing the game. For example, I can choose the car and person I want."*
***Category 5. "Education Images"***
*MERC48—"Digital game is like a memory game. Because I am playing a game of finding fruits, you must find the same one when the strawberry picture appears. When found, another fruit emerges. When you find all the fruits, you move to another level."*
***Category 6. "Struggle Images"***
*MERC37—"Digital game is like a chase. They are trying to catch me because I am running in the game. If I do not get caught, I win the game. Of course, I have strategies for that."*
***Category 7. "Value Images"***
*MERC56—"Digital game is like a friend. Because he is always playing games with us, I think it helps us to make us happy."*

When Table 4 is examined, it is seen that 51 different metaphors were produced by the children in the Marmara Region regarding digital games. The metaphors are grouped into seven different categories according to their similarities. Among these, the Nature (Vehicle/Animal/Object) Images category (f = 28 (42.42%)) is the field where metaphors were produced the most. In comparison, the Value Images category (f = 4 (6.06%)) is where metaphors were produced the least. The children's expressions for the relevant categories and examples of pictures (Figure 5) are given below.

**Table 4.** Metaphoric perception categories of children attending preschool education institutions in Marmara Region regarding "Digital Games".

| Categories | Metaphors | No. of Metaphors | f | % |
|---|---|---|---|---|
| 1. Affective/Motivational Images | Beauty, Bathing, Making You Happy, Fighting, Adorable, Chocolate, Headache | 7 | 7 | 10.60 |
| 2. Fantasy/Supernatural Images | Roblox (2), Mario (2), Lightning McQueen, Barbie Doll, Rafadan Tayfa | 5 | 7 | 10.60 |
| 3. Nature (Veh./Anim./Obj.) Images | Car (4), Bus (3), Money (3), Truck (2), Balloon (2), Dog, House, Panda, Bear, Caravan, Horse, Motor, Tower, Ball, Diamond, Garden, Animal, Sheep, Flower | 19 | 28 | 42.42 |
| 4. Technology Images | Telephone (3), Computer, Electromagnetic Equipment | 3 | 5 | 7.57 |
| 5. Education Images | Chess (2), Games, Puzzles, Jigsaw, Card, Line, Coloring, Numbers | 8 | 9 | 13.63 |
| 6. Struggle Images | Track (2), Catch, Football, Basketball, Fishing | 5 | 6 | 9.09 |
| 7. Value Images | Miner, Boxer, Soldier, Human | 4 | 4 | 6.06 |
| | Total | 51 | 66 | 100 |

The numbers in brackets indicate how many times the metaphor is repeated.

***MRC60*** ***MRC44***

**Figure 5.** Examples of children's drawings.

***Category 1. "Affective/Motivational Images"***
*MRC6—"Digital games are like making children happy. Because when a child goes to a house as a guest, the owner does not give toys to the child; the child plays with his mother's phone and is happy."*
***Category 2. "Fantasy/Supernatural Images"***
*MRC47—"Digital gaming is like Lightning McQueen. Because cars talk and fly, I wish my cars could talk too."*
***Category 3. "Nature (Veh./Anim./Obj.) Images"***
*MRC33—"Digital gaming is like a tower. Because towers are very tall, and too many people are in them. Digital games are also very long. Moreover, there are many games in it."*
***Category 4. "Technology Images"***
*MRC29—"Digital game is like an electromagnetic object. Because there are hoses connected inside, they make us play nice games. Nevertheless, we cannot see them."*
***Category 5. "Education Images"***
*MRC44—"Digital game is like chess. Because while playing chess, I always think and place the pieces in the right place. I cannot move forward if I do not put the animals in their nests in the digital game."*
***Category 6. "Struggle Images"***
*MRC29—"Digital gaming is like fishing. Because the one who catches the fish wins, there is also winning in digital games."*
***Category 7. "Value Images"***
*MRC60—"Digital game is like a miner. Because miners are always helping others, and they are your friends."*

When Table 5 is examined, it is seen that 47 different metaphors related to digital games were produced in the Aegean Region, and they are grouped under seven different categories according to their similarity. Among these, the Nature (Vehicle/Animal/Object) Images category (f = 16 (28.07%)) is the area where the most intense metaphors were produced. In comparison, the Technology Images category (f = 2 (3.50%)) is where the most minor metaphors were produced. The children's expressions for the relevant categories and examples of pictures (Figure 6) are given below.

**Table 5.** Metaphoric perception categories of children attending preschool education institutions in the Aegean Region regarding "Digital Games".

| Categories | Metaphors | No. of Metaphors | f | % |
|---|---|---|---|---|
| 1. Affective/Motivational Images | Fun (2), Driving, War, Cat Play, Eye Pain | 5 | 6 | 10.52 |
| 2. Fantasy/Supernatural Images | Minecraft (2), Roblox (2), Rabbit Game (2), Wing Game, Pop It, Angela, Snake Game, Dinosaur, Unreal | 9 | 12 | 21.05 |
| 3. Nature (Veh./Anim./Obj.) Images | Car (2), House, Ferris Wheel, Bicycle, Bucket, Seat, Pillow, Dog, Spider, Red Bull, Ship, Grandpa Moon, Lipstick, Buckle, Money | 15 | 16 | 28.07 |
| 4. Technology Images | Electricity, Video | 2 | 2 | 3.50 |
| 5. Education Images | Toy (2), Game, Coloring, Puzzle, Doll Dress Up, Picture, Cat Game | 7 | 8 | 14.03 |
| 6. Struggle Images | Car Game (4), Race (2), Race Car, Parkour, Ball Game, Balloon Game | 6 | 10 | 17.54 |
| 7. Value Images | Soldier, Hairdressing, Helping | 3 | 3 | 5.26 |
| | Total | 47 | 57 | 100 |

The numbers in brackets indicate how many times the metaphor is repeated.

***ARC13*** ***ARC9***

**Figure 6.** Examples of children's drawings.

***Category 1. "Affective/Motivational Images"***
*ARC25—"Digital gaming is like eye pain. Because if I play games for a long time, my eyes hurt. My mother is also angry with me. It hurts your eyes, and you will be wearing glasses soon."*
***Category 2. "Fantasy/Supernatural Images"***
*ARC50—"Digital game is like Wing game. Because they wear orange, it has blue and white stripes. Planes are fighting each other. They have extraordinary powers."*
***Category 3. "Nature (Veh./Anim./Obj.) Images"***
*ARC13—"Digital game is like a car. Because the car runs on gasoline, it works with a charge on the tablet we play games on. That is why I liken it to a car."*
***Category 4. "Technology Images"***
*ARC41—"Digital gaming is like electricity. Because there are robots and robots are powered by electricity. Electricity goes into them, and the robots can move."*
***Category 5. "Education Images"***
*ARC54—"Digital game is like a toy. Because we are playing games with both of them, my toys teach me a lot, too, and the games I play on the tablet."*

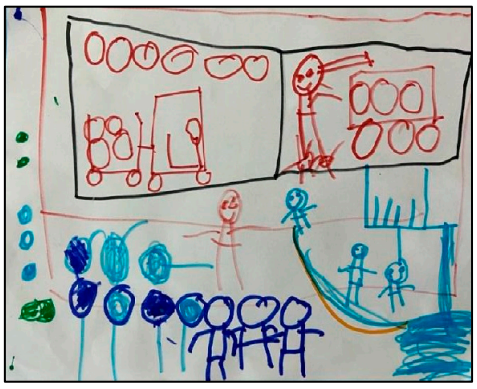
***Category 6. "Struggle Images"***
*ARC9—"Digital game is like a ball game. Because you are throwing it, you are trying to get it up and down the hole. The winner gets a prize."*
***Category 7. "Value Images"***
*ARC38—"Digital games are like helping; for instance, I learned numbers thanks to the game. Even the colours. It helps me by teaching me so many good things. Everyone asks me how do you know this."*

Table 6 shows that the children in the Eastern Anatolia Region produced 35 different metaphors about digital play, and these metaphors are grouped under seven categories. Among these, the Nature (Vehicle/Animal/Object) Images category (f = 22 (41.50%)) has the most intense metaphors, while the Technology and Value Images categories (f = 2 (3.77%)) have the most minor metaphors produced. The children's expressions for the relevant categories and examples of pictures (Figure 7) are given below.

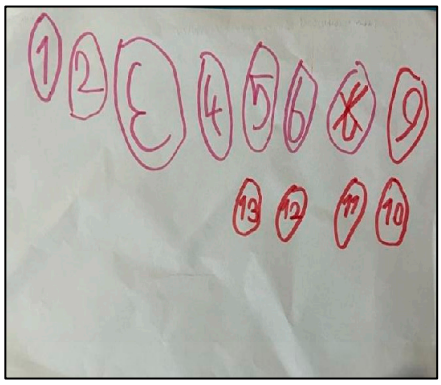
**Table 6.** Metaphoric perception categories of children attending preschool education institutions in Eastern Anatolia Region regarding "Digital Games".

| Categories | Metaphors | No. of Metaphors | f | % |
|---|---|---|---|---|
| 1. Affective/Motivational Images | Eating, Pizza, Cake, Racing Car, Song, Heart | 6 | 6 | 11.32 |
| 2. Fantasy/Supernatural Images | Barbie Doll (5), Pop It (2), Roblox, Elsa, Toca Boca, Dinosaur | 6 | 11 | 20.75 |
| 3. Nature (Veh./Anim./Obj.) Images | Car (4), Airplane (3), Cake (3), Ball (2), Ice Cream, Bed, Butterfly, Key, Bracelet, Forest, Shop, World, Box, Flower | 14 | 22 | 41.50 |
| 4. Technology Images | Tablet (2) | 1 | 2 | 3.77 |
| 5. Education Images | Game (2), Puzzle, Number | 3 | 4 | 7.54 |
| 6. Struggle Images | Racing (3), Fighting, War, Shark | 4 | 6 | 11.32 |
| 7. Value Images | Child (2) | 1 | 2 | 3.77 |
| | Total | 35 | 53 | 100 |

The numbers in brackets indicate how many times the metaphor is repeated.



***EARC3***



***EARC41***

**Figure 7.** Examples of children's drawings.

***Category 1. "Affective/Motivational Images"***
*EARC15—"Digital games are like eating food. Because it is both fun and beautiful."*
***Category 2. "Fantasy/Supernatural Images"***
*EARC45—"Digital game is like a Barbie doll. Because she is talking to me, and I am talking to her. I make her eat, drink and sleep like my sister. Moreover, sometimes, she shows me magical powers."*
***Category 3. "Nature (Veh./Anim./Obj.) Images"***

*EARC3—"Digital game is like a shop. Because there are many surprise games for kids in it."*
***Category 4. "Technology Images"***
*EARC19—"Digital game is like a tablet. I can play games with a tablet because there are so many games on it. Nevertheless, I cannot play all the time."*
***Category 5. "Education Images"***
*EARC41—"Digital game is like numbers. Because we can play forever, the numbers are endless. I am counting, but it never ends."*
***Category 6. "Struggle Images"***
*EARC28—"Digital game is like an adventure. Because there are obstacles, I get gifts as I surpass them."*
***Category 7. "Value Images"***
*EARC33—"Digital game is like a child. Because children help everyone, digital games also help us. It entertains us when we are bored."*

In Table 7, it is seen that 45 different metaphors related to digital games were produced in the Southeastern Anatolia Region, and they are grouped under seven different categories according to their similarity. Among these, the Nature (Vehicle/Animal/Object) Images category (f = 17 (25.75%)) is the area where metaphors were produced the most. In comparison, the Value Images category f = 1 (1.51%) is where the most minor metaphors were produced. The children's expressions for the relevant categories and examples of pictures (Figure 8) are given below.

**Table 7.** Metaphoric perception categories of children attending preschool education institutions in Southeastern Anatolia Region regarding "Digital Games".

| Categories | Metaphors | No. of Metaphors | f | % |
|---|---|---|---|---|
| 1. Affective/Motivational Images | Fun (3), Love, Cartoon | 3 | 5 | 7.57 |
| 2. Fantasy/Supernatural Images | Papchi (3), PUBG, Tom, Minecraft, Monster | 5 | 7 | 10.60 |
| 3. Nature (Veh./Anim./Obj.) Images | Ball (2), Train (2), Grape, Stone, Tree, Sheep, Slide, Strawberry, Cave, Rain, Cat, Field, Eraser, Machine, Oven | 15 | 17 | 25.75 |
| 4. Technology Images | Phone (7), Computer (4), Television (2), Technology, Tablet | 5 | 15 | 22.72 |
| 5. Education Images | Cat Game (3), Nail Game (2), Game (2), Dress Up, Mind Game, Baby Game, Rectangle | 7 | 11 | 16.66 |
| 6. Struggle Images | Match (2), Racing Game, Flamingo Racing, Gold Collecting, Football, Robot Battle, Car Game, Horse Racing, Motorbike | 9 | 10 | 15.15 |
| 7. Value Images | Spider-Man | 1 | 1 | 1.51 |
| | Total | 45 | 66 | 100 |

The numbers in brackets indicate how many times the metaphor is repeated.

***Category 1. "Affective/Motivational Images"***
*SARC7—"Digital gaming is like love. Because if we love someone, we always want to see them. I always want to play on a tablet too. Because I have much love."*
***Category 2. "Fantasy/Supernatural Images"***
*SARC40—"Digital gaming is like a beast. Because we do not know what happened, we do not know about monsters either. What do I do with it if it comes off my tablet while playing? I do not know."*
***Category 3. "Nature (Veh./Anim./Obj.) Images"***
*SARC13—"Digital game is like an eraser. Because it can be easily cleaned."*
***Category 4. "Technology Images"***

*SARC22—"Digital gaming is like a phone. Because it is speedy and has a lot of stuff, you can find friends while playing games. You can also talk to your friends on the phone."*

***Category 5. "Education Images"***

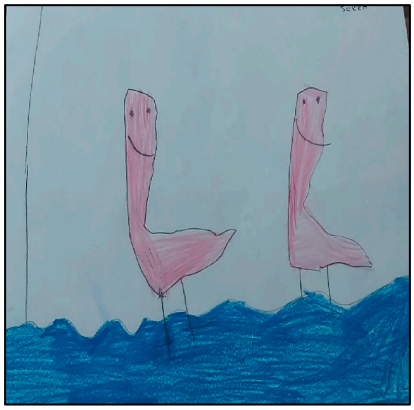
*SARC41—"Digital game is like nail game. Because you paint the nails how you want according to their colour, we apply nail polish on the same nail; it becomes like that."*

***Category 6. "Struggle Images"***

*SARC33—"Digital game is like a flamingo. Because we are always trying to win, we overcome obstacles. You have to be fast, of course."*

***Category 8. "Value Images"***

*SARC16—"Digital game is like Spider-Man. Because spider-men can go anywhere with their webs, he helps everyone. I think games help us too. It teaches a lot."*



***SARC33***

***SARC41***

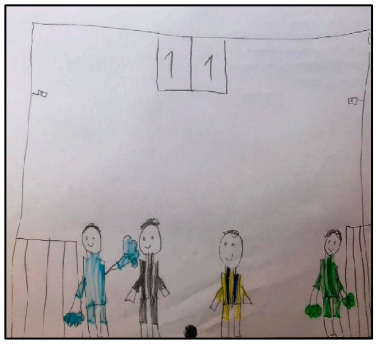
**Figure 8.** Examples of children's drawings.

When Table 8 is examined, it is seen that children in Central Anatolia produced 38 different metaphors for their digital game. These metaphors are grouped under seven categories based on their similar characteristics. Among these, metaphors were produced the most in the Technology Images category (f = 28 (41.79%)). In comparison, the Value Images category (f = 1 (1.49%)) is where the most minor metaphors were produced. The children's expressions for the relevant categories and examples of pictures (Figure 9) are given below.

**Table 8.** Metaphoric perception categories of children attending preschool education institutions in Central Anatolia Region regarding "Digital Games".

| Categories | Metaphors | No. of Metaphors | f | % |
|---|---|---|---|---|
| 1. Affective/Motivational Images | Fun, Heart, Jumping Game | 3 | 3 | 4.47 |
| 2. Fantasy/Supernatural Images | Mario, Roblox, Galaxy, Monster | 4 | 4 | 5.97 |
| 3. Nature (Veh./Anim./Obj.) Images | Car (4), Sun (2), Bus, Rainbow, Slide, Money, Cat, Ladybug, Refrigerator, Pen | 10 | 14 | 20.89 |
| 4. Technology Images | Tablet (9), Computer (6), Phone (5), Television (5), Internet, Technology, Cell Phone | 7 | 28 | 41.79 |
| 5. Education Images | Game (3), Sauce Game (2), Shape (2), Wrestling, Tennis, Toy, Coloring, Chess, Intelligence Game | 9 | 13 | 19.40 |
| 6. Struggle Images | Race Car, Football Racing, Car Game, Catch | 4 | 4 | 5.97 |
| 7. Value Images | King | 1 | 1 | 1.49 |
| | Total | 38 | 67 | 100 |

The numbers in brackets indicate how many times the metaphor is repeated.



***CARC34***

***CARC11***

**Figure 9.** Examples of children's drawings.

***Category 1. "Affective/Motivational Images"***
*CARC11—"Digital game is like a heart. Because I love heart shape so much, I love the games too. Who does not love to have fun."*
***Category 2. "Fantasy/Supernatural Images"***
*CARC39—"Digital game is like a galaxy. Because you are going to galaxies, they are very mysterious places. You do not know what will happen. I think they send me nice things."*
***Category 3. "Nature (Veh./Anim./Obj.) Images"***
*CARC23—"Digital game is like a rainbow. Because the rainbow is colourful. A variety of games. All are very beautiful. Moreover, I always want to play with them, but my mother will not let me."*
***Category 4. "Technology Images"***
*CARC64—"Digital game is like a computer. Because there are many games on computers, I find everything I am looking for."*
***Category 5. "Education Images"***
*CARC51—"Digital game is like intelligence game. Because games develop our brains, I always play games like this. My mom will not let me play any other games."*
***Category 6. "Struggle Images"***
*CARC34—"Digital game is like a football match. Because they always compete in matches. I also compete with my friends. Sometimes I win; sometimes they win."*
***Category 7. "Value Images"***
*CARC7—"Digital gaming is like a king. Because kings punish people, when we make mistakes in games, we cannot progress. The bad guys are catching us."*

## 4. Discussion

The results obtained from the children's pictures and discourses are handled and discussed in the framework of each category.

Among these categories, "Nature (Vehicle/Animal/Object) Images" is seen as the category in which the most metaphors were produced from all regions (f = 121, 28.34%). The Marmara Region (6.65%) ranks first in this category, followed by Eastern Anatolia (5.22%), Southeastern Anatolia (4.03%), Aegean (3.80%), Central Anatolia (3.32%), Mediterranean (3.08%), and Black Sea (2.61%) regions. In this context, it is remarkable that the children expressed digital games primarily using analogies with nature images. In support of these results, Hazar et al. [37] stated in their study that children try to explain digital games by using nature images. As the related literature states, nature is an unknown and abstract image for children. Many objects found in nature are intertwined with the game. Nature is children's most crucial educational channel [38]. Children's direct experiences with nature are compelling in their development and learning. At this point, qualified early childhood education programs should aim at their holistic development by ensuring children have these opportunities. The importance of children's experiences with nature constitutes a solid basis for establishing sustainable relations between humans and nature [39]. Since children interact with natural elements in their daily lives, it is an

expected developmental feature that children include metaphors for nature images in their analogies about digital games.

Secondly, the metaphors produced by children regarding digital games in all regions were collected in the category of "Technology Images" (f = 70, 16.62%). The Central Anatolia Region (6.65%) ranks first in this category. The Southeastern Anatolia (3.56%), Black Sea (2.37%), Mediterranean (1.90%), Marmara (1.18%), Aegean, and Eastern Anatolia regions (0.47%) follow, respectively. In support of this category, Hazar, Tekkurşun Demir and Dalkıran [37] stated in their study that children try to explain digital games by using technology images. In the related literature, a digital game is generally defined as a game that uses technology [40]. Bers [41] sees technological resources as playgrounds. It is stated that the number and variety of digital games that children aged 3–6 years can play using many technological resources (such as tablets, electronic toys, and learning systems) in these playgrounds are increasing gradually [11]. Australian parents report that a third of preschool children have access to a tablet or smartphone [4]. According to a Common Sense Media [25] report, while 61% of children aged 0–8 years use a computer, almost all (91%) children aged 5–8 years use a computer (Common Sense Media, 2013, as cited in [42]). Since the game tools used in digital games are computer-based (tablet, phone, game console, etc.) game tools [37], it can be considered a natural result that children associate digital games with technological images.

Thirdly, the metaphors produced by children regarding digital games in all regions were collected in the category of "Fantasy/Supernatural Images" (f = 65, 15.43%). The Black Sea Region (3.08%) ranks first in this category, followed by the Aegean Region (2.85%), the Mediterranean and Eastern Anatolia regions (2.61%), the Southeast Anatolia and Marmara regions (1.66%), and finally, the Central Anatolia Region (0.95%). The related literature states that digital games, which develop rapidly with the development of technology, attract children's attention with their attractive, fantastic, and rich content [43]. Children have difficulty grasping the boundaries between fiction and reality. Nevertheless, game scenarios need to be more realistic regarding their content. Some game heroes have superpowers, while others contain magic and supernatural creatures. Often children take on the role of superheroes or invoke this mythical mood by settling in a fantasy space whose action is characterized by supernatural figures [44,45]. Children forget that they are small and weak for a while when they are playing games. By magically thinking of people and objects, they can recreate the world as they please [46]. In this respect, children's use of expressions related to fantasy/supernatural images in their metaphors for digital games is consistent with the relevant literature.

Fourthly, the metaphors produced by children regarding digital games in all regions were collected in the category of "Education Images" (f = 61, 14.48%). In this category, Central Anatolia (3.08%) ranks first, followed by Mediterranean and Southeastern Anatolia (2.61%), Marmara (2.13%), Aegean (1.90%), and Eastern Anatolia (0.95%). In support of these results, Hazar, Tekkurşun Demir and Dalkıran [37] stated in their study that children try to explain digital games by using educational images. In addition, it is noteworthy that in the relevant literature, digital games are seen as the main activity of children's imaginary and cognitive development, and digital games are not a low-level game mode [3]. A study conducted with children aged 8–10 years argued that digital games could be considered qualified educational tools that develop creative thinking skills [9]. Digital games offer children many learning opportunities and also enable children to participate actively in the learning process [47]. It supports the development of memory, attention, imagination, and manual skills in children and ensures that they are disciplined [48]. Interaction, control over action, feedback, external rewards or punishments, and identification with character(s) during play support children's interpersonal and internal learning and development [9]. Matching games with age, abilities and skills means they are used educationally [49]. Longitudinal research shows that using games as an educational tool increases learning and productivity [50,51]. From this point of view, it is a natural result that interactive and visually stimulating digital games are likened to educational images by children.

Fifth, the metaphors produced by children regarding digital games in all regions were collected in the category of "Affective/Motivational Images" (f = 48, 11.40%). The Black Sea Region (4.27%) ranks first in this category. It is followed by the Marmara Region (1.66%), the Aegean and Eastern Anatolia regions (1.42%), the Southeast Region (1.18%), and finally, the Central Anatolia and Mediterranean regions (0.71%). In support of these results, Hazar, Tekkurşun Demir and Dalkıran [37] stated in their study that children evaluate digital games through motivational images. When the relevant literature is examined, touch screen technologies have come to the forefront strongly as a way to engage and entertain children simultaneously [40]. In a broader framework, digital games combine education with entertainment and stimulate learning motivation [52]. Many emotional reactions, such as happiness, joy, fear, anxiety, pain, hatred, and independence, are gained through play. In a well-designed game, children learn because they need to play it, and motivation is built into it [20]. This provides interactive experiences that support children's skill development and learning [9]. These experiences include sensory stimuli that trigger children's motivation to focus on the goal and increase their familiarity with thematic concepts. In other words, digital games offer alternative ways of motivating children to understand complex topics better [53]. In this context, the relevant literature and research results are consistent with the current research findings. Children can evaluate digital games through affective/motivational images when these processes are reviewed.

Sixth, the metaphors produced by children regarding digital games in all regions were collected in the "Struggle Images" category (f = 42, 9.97%). The Southeastern Anatolia Region (2.85%) ranks first in this category. The Aegean (2.37%), Marmara, and Eastern Anatolia regions (1.42%), Black Sea and Central Anatolia regions (0.95%), and finally, the Mediterranean Region (0.7%) follow, respectively. In support of these results, Hazar, Tekkurşun Demir and Dalkıran [37] stated that children evaluate digital games through images of struggle. In the related literature, the struggle feature of digital games is emphasized. This emphasis is explained by expressing digital games as rule-based systems that involve the player's struggle to reach a goal [9,11]. In addition, games are based on challenge and curiosity [54]. Additionally, it is stated that one of the seven intrinsic motivation features to guide the processes in game design is a struggle [20]. According to Prensky (2001), it was stated that games have 12 elements that occupy the players, and these include winning situations and challenges (competition, conflict, etc.) (Prensky, 2001, as cited in [55]). As stated in the literature, the fact that there are elements such as struggle or competition among the features of digital games may have caused children to notice these features and to make similarities in this direction.

Seventh, the metaphors produced by children regarding digital games in all regions were collected in the "Value Images" category (f = 14, 3.32%). In this category, the Marmara Region (0.95%) ranks first. Next comes the Aegean Region (0.71%), then the Mediterranean and Eastern Anatolia regions (0.47%), and finally, the Central Anatolia, Southeastern Anatolia, and the Black Sea regions (0.23%). In support of these results, Hazar, Tekkurşun Demir and Dalkıran [37] stated that children evaluate digital games through value images in their study. In the literature, value is expressed as the thoughts, feelings, behaviours, and rules adopted or accepted in society. Children begin to assimilate values early in their lives. Values manifest themselves in playtime, an essential activity for the child [56]. Developing values and teaching behaviour is better achieved through digital games. Games can be used as an opportunity for children to gain and feel some values earlier [57]. Therefore, game-based learning models can be used and developed to guide the design and development of value-based digital games [56]. In light of this information, the analogies made by the children regarding digital games in the present study may indicate that they have a perception of value. In addition, the children's association of value images with daily life may show that they perceive play as a part of real life.

## 5. Conclusions

Today's children have a more comprehensive range of modern digital technologies, such as tablets and smartphones, than previous generations [1]. Digital technology has changed the platforms children can access to play and interact with materials. Digital technology must guide children to engage with information, navigate ideas, and represent their thoughts [4]. The advent of the digital age is changing the available game resources and improving different game genres. Among these game types, the digital game is accepted as a new game category [3]. Digital games are tools that have meaning and interest for children and are designed to fit their talents and desire to play and explore. In this way, children can develop critical thinking and creativity, develop representations, identify connections through actions, solve problems, gain cognitive skills, and, ultimately, construct knowledge [9]. In this respect, digital games have become an essential part of contemporary culture, and at the same time, children's games with technologies have turned into a controversial activity. Therefore, digital games have become a new topic of educational research [3].

Contemporary children benefit from various digital advances, including a new form of play called "digital play". Following the digital culture of children worldwide, numerous reports were conducted in different countries focusing on children's use of digital media. Most of these studies focus on children's use, participation, attitude, understanding, and interaction with digital technology [2]. International studies show that children use digital technology daily. Australian parents report that a third of preschool children have access to a tablet or smartphone and spend up to 26 h using that device per week [4].

For this reason, digital gaming is accepted as a form of gaming. Unlike traditional play activities, digital play was defined as a context in which children use digital technologies [8]. Recently, a growing interest has been in investigating the link between digital games and children. Therefore, more research is needed in this direction. However, gaining young children's perspectives is difficult, so more research should focus on digital games and young children. From this point of view, this research aims to use metaphors to examine the views of preschool children studying in different regions of Turkey on digital play.

Based on the study's purpose, 421 metaphors were obtained in this study. These metaphors produced by children were collected in the following seven categories for all regions: "Nature (Vehicle/Animal/Object) Images, Technology Images, Fantasy/Supernatural Images, Education Images, Affective/Motivational Images, Struggle Images, and Value Images".

It was determined that children developed metaphors in the category of "Nature Images" the most and "Value Images" the least. When evaluated based on regions, the Black Sea Region ranked first in the "Fantasy/Supernatural Images and Affective/Motivational Images" categories. In contrast, the Central Anatolia Region ranked first in the "Technology Images and Education Images" categories, and the Marmara Region ranked first in the "Nature Images and Value Images" categories. In addition, it was determined that the Southeast Anatolia Region ranked first in the "Struggle Images" category.

In line with the research results, it was seen that preschool children convey their feelings and thoughts about digital games through different metaphors. Thanks to the metaphors produced, meaningful information about how the children conceptualized the learned information was obtained. In short, it was seen that children used metaphors to express digital games from different perspectives. In light of all this information, asking children to directly produce metaphors about digital play and questioning the reason for this is considered the best way to evaluate them. The answers given by the children in this process show that they could produce detailed descriptions of digital games. Therefore, this study contributes to a more holistic understanding of how children make meanings out of digital games. As a result, it was determined that the students expressed digital games from different perspectives through metaphors.

## 6. Recommendations

In similar studies, using perceptions, interviews, and observation techniques related to digital games can be essential in obtaining more in-depth and comprehensive data about the subject. From another point of view, the data collected were obtained from children in the same age group. Comparisons can be made by collecting data from different grade levels. Findings containing multi-dimensional explanations for digital games can be reached by working with the parents of children attending preschool education institutions in different regions. Scientific research can be conducted to reveal the content of the games played by children and their contribution to education.

## 7. Limitations

Due to the nature of qualitative research, the inability to make generalizations is a limitation. In addition, this research is limited to the data collected from classroom teachers and the use of digital tools to send these data.

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