CHAPTER 6

Contributions of Watery Interactive Playgrounds to Children's Development

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Introduction

Games and toys help children develop their physical skills. During the games, children use their bodies to move, expend energy, and develop their motor skills. They are also important for mental development. Games contribute to the development of children's thinking, problem-solving, and exploration abilities. Toys encourage children's creativity and develop their imagination in this process.

When parents choose games for their children, they prefer interactive playgrounds that develop emotional intelligence, social skills, physical activity, use of technology, and originality and creativity. In interactive playgrounds, children develop their decision-making mechanism at a young age with the experience of changing or directing games according to their wishes.

Aim and Problem of the Research

Research model

In this study, research on the place of interactive playgrounds in the development of children was obtained and articles published in various sources were used.

The place of play in the development of the child

What is a game?

TDK defined the game as "Entertainment that develops talent and intelligence, has certain

rules, and is used to have a good time". While games help children explore the world, develop social skills, and learn, it is an important phenomenon that does not support the physical, mental, and emotional development of children, develop their social skills, and encourage them to learn while having fun (Başal, 2007).

Historical development of the game

The history of games and toys dates to ancient times (Başal, 2007). When the historical background of the concept of game is examined, its origins date back to ancient times. In ancient Egyptian, Greek, and Roman civilizations, simple games such as dice, stones, and board game boards were common. When these games are examined, it is seen that children create their games by changing the games played by adults. Games have developed and changed in the historical process and kept up with the requirements of the age and technological developments (Başal, 2007).

When the games of the 20th century are examined, the development of computer technology has enabled the digitalization of games (Başal, 2007). With this digitalization, children's games have become a versatile activity and game design has been handled for many different purposes (Başal, 2007). We can take educational games as an example. Games for educational purposes have begun to be used for children not only for entertainment purposes but also for educational purposes. Designed as interactive educational materials that help educators and teachers, games help children develop problem-solving abilities while teaching math, language, science, and other subjects. Such games have fostered abilities such as reasoning, analytical thinking, and strategic planning. As a result of all these developments, children's games, which have changed with digitalization, have become a versatile activity. Instead of focusing solely on entertainment, game designers now design games for a variety of purposes, such as education, problem-solving, communication, strategy development, and more.

This provides a fun learning experience while contributing to children's development. But at the same time, it is an important factor for parents and educators to balance children's gaming habits and choose appropriate content.

Holiday choices for families with children and interactive playgrounds

TDK defines vacation as "the time spent without working to have fun and rest". While families offer the opportunity to relax and have fun for their children during the holiday, they also want to include activities that support learning and development by offering different experiences to their children. Hotel businesses want to create areas where children and families can spend time together to be preferred within the scope of families with children. Children have different experiences with their families with the interactive playgrounds they offer to families with children (Kahvecioğlu & Topaloğlu, 2018).

Research Questions

Interactive playgrounds are areas that are specifically designed to provide a safe and fun play environment for children and adults. To integrate such areas into summer holidays, interactive playgrounds with wet floors are created using water and water jets. Generally, water-themed playground equipment is used in these areas. This equipment offers a variety of activities, such as slides where water is sprayed or flowed, water guns, and water fountain games. However, products used in traditional water areas usually have a fixed structure and are only capable of being splashed directly in front of them by users. These products cease to be interesting for children after a certain period since they do not allow any interaction other than static spraying of water.

Within the scope of this study, it will be ensured that the animations, figures,

and water resources in the product tree, which we call splash products, can interact with children in children's playgrounds. The fact that water can rotate around its axis with the flow rate has attracted a lot of attention. While making the rotational movement, it will both carry its weight and prevent angles that may overflow out of the pool or wetting area. It is desired to create a leak-proof joint that will work with water-containing pool chemicals, as it will act as a plumbing part where this angle can be adjusted according to the area where it is installed.

Hypotheses of the Research

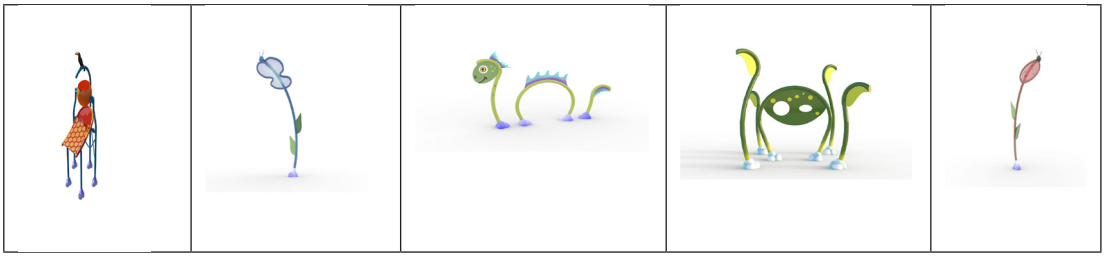
Polgün has changed the static structure of animation products in wet playgrounds with the articulated water gun he developed. Articulated water guns, unlike traditional water guns, have allowed users to direct water over a larger area and spray it from different angles. Articulated water guns provide greater maneuverability during water battles or water games and can help the water hit the target more effectively. In this way, it is a situation that we do not want to use as decorative products because the splash products used in playgrounds with wet floors are not subject to any activity. Thanks to this structure, decorative products are turned into interactive games. That is, with the use of a sealed knuckle water gun, animation products will be able to rotate on their own depending on the flow rate of the water. The sealed joint is resistant to pressure, temperature, or other external factors and is designed to prevent leakage, besides, the rotational movement will be quite easy due to the low friction force.

Interactive changes have contributed to the playgrounds providing visitors with a more fun and unique experience. Children and adults can interact with the animation products in the playgrounds with wet floors, and it offers more entertainment options to children as the users can direct them according to their wishes, apart from the rotation of the products themselves. Playgrounds established with this articulated structure offer the opportunity to teach simple engineering principles to the children who are users. By using this type of toy, children can understand how water is diverted and how such mechanisms work. This mechanism can be integrated into new and existing products, thanks to its structure, it is integrated into the animation products in the field. In this case, it has been ensured that the playgrounds established with traditional methods are made interactive.

Since water guns with an articulated structure can operate between 30-360 degrees according to needs, animation products used in interactive areas have made it a unique fastener because it is an element of hydromechanical installation and can adapt to environmental conditions. Creating a sealed joint that will work with water containing pool chemicals is a critical element for the health and safety of children. This joint protects the quality of the water by preventing water from spilling out of the children's playground and ensures that children can play safely. In addition, the use of such plumbing parts is also beneficial in the use of technology by providing children with a technology-compatible play experience.

As a result, interactive playgrounds and especially splash products in holiday resorts are an important game option that contributes to the development of children. These products have great potential in terms of improving emotional intelligence, social skills, physical activity, use of technology, and creativity, and at the same time, attention should be paid to safety measures.

Figure 1.
Design registered animation products used in water parks



Results of the Research

Families make choices based on some factors such as age-appropriateness, intelligence and strategy games, emotional intelligence development, social skills, physical activity, use of technology, and originality and creativity. In this context, juicy interactive children's playgrounds have become the preferred recreation areas. The interactive water playgrounds in this study are places where children can run and play in the water, pass under the water, and spend time with different water games.

In interactive playgrounds, special space is provided for modular sections that children can create according to their wishes (Unal, 2009). In the water areas, swinging, climbing, and interactive games are included (Ünal, 2009). These areas give children the advantage of gaining problem-solving ability; however, it takes time for designers to create these areas in the desired form (Unal, 2009). Flexible elements that can be rotated, moved, or changed by children are interesting for children (Unal, 2009). In addition, games in interactive playgrounds support children's creativity and independence (Unal, 2009). These areas include activities such as running, jumping, jumping, sliding, and climbing (Unal, 2009). These physical activities provide children with unique experiences and skills (Unal, 2009). One of the most important effects of these areas on children is that they support positive self-development (Unal, 2009).

Rather than the animation products used in the projects remaining static and creating only a visual feast, Polgün has turned each of the animation products into a game by including them in interactive playgrounds. In this way, it is designed as a track where children, who interact with the animated figures they use, can play with the spirit of competition by having adventures on wet ground. With the geometric shapes, warm-cold colors, and activities of different difficulty levels used throughout the track, it was aimed to improve the physical development of the children as well as their memory, repetition, sequencing, and mathematics knowledge through games. The reward system dropped water from above at each destination, allowing the child to experience feelings of achievement, and reward and enjoy the moment. From physical activities to climbing, jumping, synchronous walking, holding on, and balance games, the track has become an adventure.

These playgrounds have been indispensable for families as they encourage social interaction among children, improving emotional intelligence, social skills, physical activity, use of technology, and originality and creativity.

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