

PRESCHOOL TEACHERS' VIEWS AND PRACTICES
ON USING LOOSE PARTS IN DAILY ACTIVITIES

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ON USING LOOSE PARTS IN DAILY ACTIVITIES**

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ABSTRACT

PRESCHOOL TEACHERS' VIEWS AND PRACTICES ON USING LOOSE PARTS IN DAILY ACTIVITIES

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This case study aims to investigate preschool teachers' views, self-reported practices, and actual practices with respect to the use of loose parts in daily activities. The study was conducted with 10 preschool teachers. Semi-structured interviews, 120 hours systematic observations, and children's work samples were used to obtain research data and triangulate findings. The findings of the study derived from the data sources suggest that these materials are easily accessible and can be used effectively and beneficially in children's development and learning, that children play longer with loose parts compared with ready-made toys, and that loose parts contribute significantly to creative and different thinking skills. Moreover, the teachers stated that they also had the opportunity to observe the children more closely by participating in the process together with them and that there were many opportunities to carry the children's learning processes one step further. They listed the activities that they thought the loose parts were used most effectively in as follows: mathematics, symbolic play, sensory-motor play, configuration play, art, science-nature, and language activities. When looking at the practices in addition to the teachers' views, it was observed that the teachers had an encouraging, participatory, and supportive role and that many opportunities arose for the children to use many skills, such as creativity,

different thinking, problem-solving, sharing, strategy development, and asking questions. Teachers used very rich documentation techniques in activities with loose parts. Lastly, further implications were suggested related to loose parts materials and various learning activities.

Keywords: Loose parts, play, teachers, teacher role, documentation

ÖZ

SERBEST PARÇALARIN GÜNLÜK ETKİNLİKLERDE KULLANIMI KONUSUNDA OKUL ÖNCESİ ÖĞRETMENLERİNİN GÖRÜŞ VE UYGULAMALARI

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Bu örnek durum incelemesinin amacı, serbest parçaların günlük etkinlikler içerisinde kullanımı hakkında okul öncesi öğretmenlerinin görüş, kendi söylemlerine dayanan uygulamaları ve gerçek uygulamalarını araştırmaktır. Bu çalışma, 10 okul öncesi öğretmeni ile yürütülmüştür. Araştırma verilerinin elde edilmesi için yarı-yapılandırılmış mülakatlar, toplam 120 saat süren ve sistematik olarak yürütülen gözlemler ve çocukların çalışma örnekleri kullanılmıştır. Araştırma sonuçları serbest parçaların kullanımı konusundaki öğretmen görüşleri, kendi beyanlarına dayalı uygulamaları ve öğretmenlerin gerçek uygulamaları olarak üç farklı açıdan değerlendirilmiştir. Öğretmenlerin görüşlerine ilişkin bulgular, öğretmenlerin bu materyallerin kullanımının çocukların gelişim ve öğrenme alanlarında oldukça etkili olduğunu, çocukların hazır oyuncaklara göre serbest parçalarla daha uzun süreler oynadıklarını, yaratıcı ve farklı düşünme becerilerine önemli katkılar sağladığını göstermiştir. Bu materyaller sayesinde öğretmenler kendilerinin de çocuklarla birlikte sürece katılarak, onları yakından gözleme fırsatı bulduklarını, öğrenme süreçlerini bir adım öteye taşımak için çok fazla fırsat ortaya çıktığını ortaya koymuştur. Serbest

parçaların en etkili kullanıldığını düşündükleri etkinlik ve oyunları şu şekilde sıralamışlardır: matematik, sembolik oyun, duyuşal-motor oyun, yapılandırma oyunu, sanat, fen-doęa ve anadili etkinlikleri. Öğretmen görüşlerinin yanında, onların kendi söylemlerine dayalı uygulamaları ve asıl uygulamalarına bakıldığında da çocukların serbest parçalarla oynarken yaratıcılık, farklı düşünme, problem çözme, paylaşma, strateji geliştirme, soru sorma gibi pek çok beceriyi kullanmaları yönünde öğretmenlerin teşvik edici, katılımcı ve destekleyici bir rol üstlendikleri ve bunlar için çok fazla fırsatın ortaya çıktığı gözlenmiştir. Serbest parçaların yukarıda belirtilen etkinlik türleri içerisinde farklı rollere sahip olduğu ortaya çıkmıştır. Öğretmenlerin ayrıca serbest parçalarla yapılan çalışmalarda oldukça zengin dokümantasyon tekniklerini kullandıkları da gözlenmiştir.

Anahtar Kelimeler: Serbest parçalar, oyun, öğretmenler, öğretmen rolü, dokümantasyon

To my sons Ahmet Azat & Ömer Civan

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CHAPTER I

INTRODUCTION

‘Have you ever noticed that if you leave old junk lying around, kids will almost inevitably play with it? Whether it be old cardboard boxes, wooden pallets, pieces of wood, old tires [sic], bits of rope, or string, kids will use their imagination and ingenuity to make something. This may make your garden look like a junkyard sometimes, but the experience for the kids is invaluable and it will keep them occupied for hours. Don't try and direct the kids in their play just let them get on with it’ (Nicholson, 1971, p. 30).

Among the several definitions of play, one of the most enduring definitions was made by Susan Isaacs (1971): “Play covers self-directed behaviors that are freely chosen by the child's inner motivation. These behaviors, which occur without an external target or reward, are the most basic and integral parts of healthy development. Play is a crucial phenomenon not only for the child but for everybody (Isaacs, 1971, p.133)”.

Besides Isaacs, Linn (2008, pp. 19-26) also described play as an essential part of a healthy childhood and suggested that play is inextricably bound up with learning and creativity, necessary to the development of critical thinking, empathy, creativity, making meaning, and problem-solving. She explained that play is central to the capacity to take risks, to experiment, to act rather than react. In fact, children often prefer “pretend play” to reflect on their lives, echoing the journal writing practiced by many adults.

Research has shown that child-led “play” facilitates school adjustment and classroom behaviors (Pellegrini & Bohn, 2005), with a balance between various learning facilities during the day (Jarrett et al., 1998; Pellegrini & Davis, 1993). Those learning and development opportunities are more effective when the activities are planned as unstructured and child-led (Pellis & Pellis, 2007). Unstructured and child-led play (or activities) enables children to build their own activities, create their own social networks, decide independently, and explore the outcomes of their own behaviors (Eisenberg, Valiente & Eggum, 2010). As a result, unstructured play is a valuable tool

for children's acquisition of several developmental and learning skills, such as self-regulation, independence, high thinking skills, self-confidence, and improved social behaviors (Pellis & Pellis, 2007).

To create an environment where the core element is "play," a play-based curriculum is needed in early childhood settings. It has been determined that the self-regulation skills of the children who attend preschool education using the play-based curriculum are much more developed and they got higher scores in some measurements compared to the children who did not benefit from such a curriculum (Diamond et al., 2007). Moreover, according to Barker et al. (2014), 6-year-old children can use their cognitive and self-control skills more effectively when they spend time with less structured activities.

In a group study conducted with 3,000 children from disadvantaged families in England, it was determined that play-based preschool experience had positive effects on the social-emotional development of these children (Sylva et al., 2004). Furthermore, according to another study conducted in 50 play-based kindergartens and 50 early learning centers in Germany, it was found that children from play-based kindergarten were more advanced in reading, math, and social skills when they reached the 4th grade (Darling-Hammond & Snyder, 1992). As can be seen, there are studies and results that explain how effective the role of play is in the development of children.

While children are exploring the world and their environment through play, toys and materials accompany this process. Playing with objects is a major way of getting to know the environment. According to Piaget (1962), play is an ability to employ symbolic skills to produce scenarios by transferring images. Shabazian and Li Soga (2014) proposed that play improves children's developmental skills, and this can be supported using different types of toys and materials.

During the moments of children's play or activity, open-ended materials, objects, or toys are important tools that they would like to play with. There is no single correct or wrong way to use those materials or toys (Drew & Rankin, 2004; Shabazian & Li Soga, 2014). Some researchers have identified open-ended materials or toys. For instance; Daly and Begovlovsky (2016) noted reusable and easily obtainable materials (e.g., fabrics, cotton, pieces of wood); Drew and Rankin (2004) suggested everyday

materials that could facilitate thinking in science, technology, engineering, and mathematics (STEM) (plastic construction toys, wooden blocks); Bairaktarova et al. (2011) suggested unstructured materials that are available for children whenever they want to use them, and they presented various opportunities for play (e.g., sensorial materials, such as sand, dirt, or water). Additionally, many researchers defined open-ended materials in their studies and documented their benefits and potential effects on children's play (Bairaktarova et al., 2011).

Playing with objects is an important form of play that enters the child's life during babyhood through the skill of grasping. Those efforts accompany them in the process of recognizing and exploring the environment. During infancy, the child exhibits behaviors such as biting, turning, rubbing, patting, hitting, and observing while playing with objects. This may also be accompanied by the sounds it makes from time to time.

From 18-24 months, children begin to do activities such as sorting and classifying objects. When they reach the age of 4, they start to set up games to “build, change, and re-build” using objects. Vygotsky (1978) emphasized that children's describing skills develop when playing with objects. Stroud (1995) has the same perspective as Vygotsky and explained that once children start to build models of real objects, their describing and symbolizing skills begin to develop through their play.

Vygotsky (1978) also argued that play with objects is particularly related to the development of thinking, reasoning, and problem-solving strategies. Before Vygotsky, this proposal was particularly addressed by Bruner et al (1972), who designed a study to solve a simple problem with two groups of children aged between 3 and 5. One group was given the opportunity to play freely with the relevant objects, while the other group was taught how to use the objects to solve a problem. As a result, it was revealed that children who were given the opportunity to play with objects beforehand put forward more creative ideas and produced more strategies when solving problems while the other group used just one strategy taught beforehand (Bruner, 1972).

Similarly, Smith & Dutton (1979) stated that for some types of problem-solving skills, play experience and instruction can be equally effective, but for more challenging problems that require creative and innovative approaches, play with objects is much more effective and supportive. In a study conducted by Pellegrini and Gustafson

(2005), it was found that children aged 3 to 5 used their problem-solving skills at a very high level in building-construction and exploration games in which they play with objects, similar to the studies of Bruner et al.

Playing with open-ended objects is also one of the important opportunities for children's "private conversations." During the "private conversation" that the child creates with an object and a toy, skills such as concentrating, directing his own process, developing strategies, and using self-control emerge. In addition, children who play with open-ended objects based on construction and problem-solving develop the ability to be patient and cope with challenging work (Sylva, Bruner & Genova, 1976).

In some studies, open-ended materials are associated with natural materials, which are simple and can inspire children with imaginative play (Shabazian & Li Soga, 2014). Likewise, Kiewra and Veselack (2016) defined open-ended materials as materials having no prescribed usage and associated them with natural materials, loose parts, and flexible items, such as dirt, sand, parts of trees (sticks, branches, logs), acorns, or leaves (p. 84). All of these materials, due to their nature, have no pre-determined purpose and they offer many possibilities for children's play. Moreover, they can be used in multiple ways due to their open-ended nature (Segatti et al., 2003, p. 13).

According to Pepler and Ross (1981), children in different play conditions manage the materials and objects in different ways, demonstrating exploration, construction, categorizing by properties, and symbolic play. Accordingly, using these open-ended materials can promote children's divergent problem-solving skills and allow them to find various possible solutions to a problem or task (Pepler and Ross, 1981). To let children use, explore, or manipulate the open-ended materials, they should be provided with high-quality opportunities with the time and the environment to spend in child-led or unstructured activities (Trundle, 2018).

The quality of these opportunities is related to the different types of play or activities that children engage in, the children's enjoyment, and the benefits of those activities for learning and development (Powell, 2007; White, 2013). Loose parts play is one of the techniques found as a means to improve the quality of opportunities for children's "play preferences" that enrich the possibility of child-led activities. Loose parts play

includes placing moveable materials or equipment in children's play areas and inviting them to engage as they desire with little if any adult direction (Van Rooijen, 2017).

The introduction of loose parts for enhancing play has its roots in the principles of the "Theory of Loose Parts" founded by Nicholson (1972). Nicholson proposes that in any environment, not only the degree of inventiveness and creativity but also the possibility of discovery are directly proportional to the number and types of variables in it (Nicholson, 1972, p. 6). Nicholson's opinions were improved in the context of design theory and how an individual's environment can be arranged to maximize creativity and engagement. When this idea is employed in the context of a school, the aim is to introduce children to various types of moveable materials that provide opportunities for creativity and exploration (Bundy et al., 2011). Currently, implementing loose parts in educational settings into different types of play and activities has come from the principle that every child has the right to play, and that child-led play improves the quality of play experiences (Fjortoft & Sageie, 2000; Maxwell, Mitchell & Evans, 2008). Seer (2016) stressed that potential loose parts can enhance children's development and learning capacity in the aspects of creativity and engagement. In short, loose parts play theory stresses the significance of those materials that permit children to play in various ways and at various levels (McClintic, 2014).

In addition to the Nicholson's theory, Gibson's Affordance Theory proposes the importance of open-ended materials for a child's recognition of environment. According to this theory, when children play in a space or play with an object, they experience it in a unique way. They may view it in terms of its 'affordances' rather than its intended purpose. American psychologist James J. Gibson (1979) suggested that environments and the objects within them have values and senses unique to the person perceiving them. The "affordances" of an object or space have the potential to be something different from what it is in real. For example, a brick wall can be built to create a boundary between a sidewalk and a garden, but for many children it will offer something to sit, walk, balance, hide behind or jump in. The interaction between children and loose parts ensures children experience a sense of freedom, space, and autonomy that is highly related with Theory of Affordances (Kiewra & Veselack, 2016)

Including loose parts in children's play in early childhood settings has gained wide acceptance around the world (The Empowered Educator, 2018; McClintic, 2014; Oxfordshire Play Association, 2014; Penn State Extension, 2019; Van Rooijen, 2017).

The Empowered Educator, 2018). Therefore, those types of materials during play or activities support children's problem-solving abilities, imagination, and creative thinking skills (Holland, 2010).

Related to Holland's statements (2010), a study conducted by Elder (1973), examined the use of a miniature sandbox as an open-ended play material, unlike classical sandboxes. The two sand environments presented at the table in the study were different from each other. The children chose the materials according to their needs. The children explored the fine red sands and tumbled rocks collected from Arizona. They studied the world of shapes and colors in the sand under a small magnifying glass. Children formed the shape of the world they discovered. Then they buried it in the sand again. They made music with them. First, textured sand is sensitive to pressure. They used large insects and small crabs in the sand as living objects and observed the path they had followed on the sand. They created hills and holes in the sand. They then placed insects and crabs on the sand and observed their behavior. Children faced their fears by including live animals in their games. They took control of their fears. Although they generally used real objects in their play, they also included imaginary objects in their play. For example, a stick was sometimes a tree or a bridge. Sand flowing through a child's fingers became a storm. The materials used in the activities were obtained from hobby stores, hardware stores, and nature. Thus, simple, cheap, and easy-to-access open-ended materials let children use several learning and development skills through this semi-structured play.

Similarly, Özbakır (2009), in his study, examined the natural objects and materials that became toys in traditional Turkish children's play. The development of technology has caused changes in children's games and toys. Technology has brought different toys to children's lives, but it has also caused some toys to disappear. In this study, examples of Turkish children's play are shown. According to the study, children played mostly using natural materials as toys and it is believed that these natural toys used in their play contributed to the physical and mental development of children.

Consequently, in the research carried out by Findik (2014), the ruins called ceramic toys among the toy pieces found in the Hasankeyf and Iznik excavations were examined. These toys are rattles, miniature household items, utensils, whistles, whistle jugs, spinning tops, earthen balls, and pet figures.

As can be inferred from those studies, the materials used by children as a toy or tool were mostly derived from real or natural objects. Most researchers categorize loose parts as natural or manufactured. Examples given of natural parts are branches, seeds, twigs, bark, wood, and other bits and pieces, shrubs, bamboo poles, pumpkins, flowers, rocks, soil, seashells, and water. Manufactured parts are listed as tools, such as cameras, garden tools, magnifying glasses, and clothes pegs that could all be parts of the loose-parts experience. Loose parts for building include various types of blocks, wooden or plastic milk crates, and bricks, although these same items could be used for other purposes. Dramatic play items take the form of fabric, medical kits and props, dress-up play, and cooking items. Items that beget movement include bean bags, balls, scarves, hoops, exercise balls, and tubes. Toys are also included as loose parts, such as cars, trucks, dolls, and play props (Gull, 2017).

Teachers must include loose parts into their daily flow with careful planning (White, 2010). In addition, teachers should ensure that the setting is rich in loose parts. In this environment, children ought to be free to use those materials as they want as this is an important part of enriching the learning and development progress (Daly & Beloglovsky, 2015; Casey & Robertson, 2016; White, 2017).

Nicholson's (1971) review of loose parts play proposes that teachers should support children's divergent thinking skills, helping them adjust or canalize their play with little adult interference. Holland (2010), on the other hand, argues that the main doubt with this definition is that there is no way to say how children will use or play with loose parts, thus making it hard for teachers to realize and support learning (Houser et al., 2016).

Likewise, the literature also highlights the significance of teachers cautiously observing children's play without interfering so as not to disrupt creativity (Bruce, 2011; Leichter-Saxby and Law, 2015; Casey and Robertson, 2016). Moreover, teachers should establish a balance between assisting the child and permitting him/her

to develop as an individual (DCSF, 2009). Furthermore, researchers propose that there is a fine line between allowing creativity to come out and overwhelming children, causing their inspirations to rapidly become worn out (Bruce, 2011; Seers, 2016).

On the other hand, even though different theorists have contradictory views, they do overlap in the literature in saying that teachers ought to be highly talented in recognizing when to participate in children's play and when to depart from play and suggesting that learning should be developed and not interrupted (Vygotsky, 1978; Killiala, 2009). Moreover, Casey and Robertson (2016) stress the significance of adults' support and participation regarding loose parts play. Likewise, Dockett (2011) and Fumoto et al. (2012) claim that supporting children during an activity or play when needed could impact children's divergent thinking and creativity, recommending that this is related to the knowledge, capability, and experience that teachers already have. This point of view strongly echoes the suggestion in Vygotsky's Zone of Proximal Development (ZPD, 1978) that children need to be scaffolded by teachers to achieve one-step-further thinking, learning, or developmental ability.

Researchers point out the significant role of teachers in facilitating the progress of play and the importance of continuing professional improvement to gain insight into the relationship between play and loose parts (McInnes et al. (2011). Bernard Spodek states: "...teachers are central to all activity, directly or indirectly, they control much of the activity and are responsible for all that happens to children during school. They must respond to their needs as they become apparent during the day" (Spodek, 1985, p.1). Taking this point of view, the teacher's role in an early childhood setting is crucial.

Within the lights of these suggestions, another important issue is the determining of the views and practices of teachers to enhance the effectiveness of teaching and supporting children's developmental skills in a play-based environment (Ashiabi, 2007; Erwin & Delair, 2004). One study conducted by Wilcox-Herzog and Ward (2004) showed that there is a strong correlation between teachers' views and intents regarding teacher-child interaction and applications in classroom settings. What is more, the views of teachers are predictors of their intentions. As a result, it is proposed

that teachers' views should be investigated as an initial step for the construction of quality early childhood education.

Bodrova and Leong (2003) state that the teachers' active participation strengthens the planning of play in the class. When teachers actively participate in classroom practices, their roles become co-player (Reynolds & Jones, as cited in Perry, 2001), play leader (Johnson, Christie & Yawkey, 1999), partner, model, facilitator, communicative teacher (Bodrova & Leong, 2006). These roles can be considered characteristics that support and regulate the learning and development of children in the classroom (Bodrova & Leong, 2006). Consequently, the teacher's role is crucial for creating an effective preschool environment and learning process for children in line with the studies and scientists' views.

With the help of studies that explore teachers' views or practices about loose parts materials, the results could reveal that educators not only understand the effects of loose parts materials on children's play, but the value it adds to several developmental areas like cognitive skills (Gibson et al, 2017). Thus, it could be understood how preschool teachers outlining the connections between playing with loose parts and development skills is vital for their educational applications (Pellis and Pellis, 2007). Moreover, previous research points out that having different kinds of open-ended materials allows children to concentrate on their play and lets them focus, which could explain why teachers saw fewer conflicts and an enhancement in cooperative play (Farmer, Williams, Mann II, et al, 2017). As a result, teachers' observations, participation, views, and practices are essential to figuring out an early childhood setting relating to a specific issue.

In addition to the points mentioned, it is important to conduct several types of studies with stakeholders such as teachers to generalize the usage of loose parts materials for both indoor and outdoor spaces for children. Getting familiar with the idea of playing with loose parts materials is connected with teachers' points of view (Spencer et al., 2019). According to Casey (2016), children sometimes might need some guidance or support during the engagement with loose parts materials. In that case, some challenges by educators could open new ways for children's play or activity. Thus, teachers' practices are also very essential, not just their views.

In light of the above information, this study examined teachers' views, self-reported practices, and actual practices concerning the use of loose parts not only during play and unstructured games but also in activities that support different development and learning areas in a daily flow.

1.1. Purpose of the Study

The present study aims to investigate preschool teachers' views, self-reported practices, and their actual practices concerning the use of loose parts materials in daily activities. To settle on the research design and to obtain some findings in this study, the following four main research questions were investigated:

1. What are the views of preschool teachers on the use of loose parts in daily activities?
2. How do preschool teachers use loose parts in daily activities based on their self-reported practices and actual practices?
3. In which types of daily activities do preschool teachers use loose parts more frequently?
4. Which types of loose parts are used more frequently in daily activities?

1.2. Significance of the Study

This study aims to emphasize the importance of teacher views, self-reported practices, and actual practices to investigate the use of loose parts materials in daily activities in a play-based preschool setting. As stated above, teachers' views may affect their practices. Thus, if these views are positive, classroom practices can turn into an atmosphere that is more effective and contributes to the development of the child (McInnes et al., 2011). Therefore, obtaining teachers' views and observing their practices will provide data on how loose parts are used in different activities.

Determining these two aspects -- views and practices -- can provide effective program developments and applications for young children using easily accessible, cheap, and effective open-ended materials. Playing with loose parts has been gaining interest in the field of early childhood education around the world (The Empowered Educator, 2018; McClintic, 2014; Oxfordshire Play Association, 2014; Penn State Extension, 2019; Van Rooijen, 2017) because using loose parts as learning and development

instruments in early childhood education can enrich several skills of young children, such as increasing sensory perception, stimulating discovery skills, promoting complex play, enriching creativity and imagination, allowing children to develop their own ideas, enriching language skills, improving early numeracy skills, and supporting social-emotional abilities and fine-gross motor skills (Daly & Beloglovsky, 2016; Myskiw, 2019).

In the light of the explanations above, recent surveys have documented that there is limited research on loose parts, in particular in children's different developmental areas, such as cognitive (Gibson et al., 2017), which has remained under-researched. As a result, this study aims to focus on the use of loose parts in children's different development and learning areas from the perspectives of teachers. Drawing on the findings obtained in this study, several implications may be recommended for use in different learning areas as powerful and effective learning materials.

In addition to the points above, most of the research relating to loose parts has investigated physical activities (Dobbins, Husson, DeCorby & LaRocca, 2013; Engelen et al., 2013; Houser, Roach, Stone, Turner & Kirk, 2016; Ridgers, Carter, Stratton & McKenzie, 2011). However, there are very few studies that have explored the influences of loose parts used in indoor activities or play on children's development (Gibson et al., 2017). It is reported that loose parts in outdoor play or outdoor environments are the most frequent research areas even though loose parts are mostly used in indoor activities (Sutton, 2011). It is essential to investigate the usage of loose parts in indoor activities as effective learning materials because children and teachers spend most of the time in indoor environments in a daily flow.

Besides the points mentioned in the former paragraphs, teachers' views, self-reported practices, and actual practices are valuable in that they can help develop more qualified applications for children. McInnes et al. (2011) conducted a study on teachers' perspectives on play and found that teachers could become hesitant concerning their role in facilitating play. Moreover, *Researching Effective Pedagogy in the Early Years (REPEY)* (Siraj- Blatchford et al., 2002) proposes that children may need support to enhance their learning or development at various levels. On the other hand, if teachers are not trained enough, they may not facilitate children's learning adequately.

Furthermore, a study conducted by McInnes et al. (2011) also implies that teachers do not feel comfortable with the kind of unstructured play that permits children's preference. This results in adult-led activities, taking away the child's flexibility of preference and divergent thinking abilities. However, Nutbrown (2012) has proposed that teachers with higher proficiency skills appreciate the significance of play and that this, in turn, has a considerable effect on children's learning and development.

The majority of studies on loose parts involved school-aged children that did not include young children (Sutton, 2011). Therefore, this study focuses on children in early childhood. Since there are few studies on open-ended materials and their effects on young children, exploration of the benefits of loose parts will help understand the experiences in early childhood environments (Gibson, 2017). Thus, several educational implications can be designed for young children using loose parts. Some play-based approaches, such as Reggio Emilia and loose parts, have been used widely. This study can contribute more ideas for early childhood programs even if they do not have a specific approach or model.

Furthermore, the researcher has not encountered any studies specifically under the title of loose parts play in Turkey. Turkey's preschool education program is play-based, child-centered, and perceives the teacher in a supportive role in the child's development and learning process (MEB, 2013). The findings of this study could be added to Turkey's preschool education program, and it might lead to new studies and integrations. In particular, the overlapping of the definitions of activity types, play types, and learning areas in Turkey's ECE program and the use of loose parts materials could emerge as a contribution of the study. This study could be a basis for further research relating to teachers' practices, curriculum planning, activity design, and preparing play-based programs through the usage of loose parts.

Lastly, this study is significant with respect to the sustainability. It is a common goal for all over the world and inclusion of the term sustainability might provide quality early childhood development, care and preschool education to all children by 2030 (United Nations [UN], 2015). Education for Sustainable Development (ESD) as a key tool to achieve the Sustainable Development Goals (SDGs) "empowers students to make informed decisions and take responsible actions for environmental integrity,

economic viability and a just society for present and future generations” (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2017, p. 7). Because children are by nature open-minded and curious about the world around them, early childhood education has variety of the possibilities in the world to guide children into interests, awareness and values that will strengthen a more sustainable life and world. If the usage of loose parts in early childhood education become more widespread, both the teachers and children would make great contributions in sustainability by gaining in-depth awareness about the importance of this term. This study could attract the attentions of how loose parts might be used instead of ready-to-use and manufactured toys.

1.3. My Motivation for the Study

During my graduate years, I worked part-time at a private preschool to gain experience in my field. Back then, what impressed me the most was the differences between what we learned in theory and practice. Several lectures that we took on the programs and practices that offer children’s active participation in their development and learning process were significant. However, I observed that the majority of activities in the school environment were teacher-directed, all preparations were made in advance, and the children’s contribution was minimal. Therefore, with the help of the lectures at the university where I have been studying, I explained play-based activities to the teachers and guided their practices at a private preschool, and advised the school management.

As time progressed, I started to apply the Reggio Emilia approach in the preschool where I worked. Along with the physical conditions of the school, materials, program, teacher education, and parent education, I provided counseling as a whole. As I worked with different schools, teachers, children, and families, I began to learn more about daily flow in early childhood education settings.

After more than 15 years of observations, evaluations, and practices, the materials used during different types of plays and other daily activities started to attract my attention and I started to examine the concept of loose parts more closely.

I came across research on the use of loose parts materials in outdoor play activities and outdoor environments. However, during the other activities we implemented at the

school, I saw that children used such materials more enthusiastically and for a long time compared with ready-made and manufactured toys. Also, recently, it caught my attention that children's interest in ready-made toys is short-lived and that, as a result, the toys are discarded quickly. Thus, I decided to investigate how loose parts materials are used in different types of play and activities.

Since I was always working with teachers, I designed my work by observing their motivations in this regard. To begin with, I designed my research around a study that I would do with the teachers since I believed that practical implementation in the preschool education process would be effective and efficient.

In doing so, I observed how a simple object could become an effective learning tool. I saw that both children and teachers implemented the activities with much higher motivation. I observed that loose parts materials were an effective learning tool, not only in free play and without any instruction, but also during semi-structured activities.

I also observed that loose parts are economical and easily accessible materials that were part of everyday life and that had the features to support children's imagination, creative thinking, problem-solving, and high-level thinking skills. I believe that with my research, the concept of loose parts and play-based programs can be heard more and occupy a greater place in the field of early childhood education.

I decided to conduct this study with my belief that the more toys and materials that accompany the child's development and learning process, the more they will benefit. Hence, my greatest motivation is to contribute to improving the quality of preschool education with this study, which uses the play-based programs I am accustomed to as a substructure and which I believe will shed light on future studies with a school and teachers who started using these materials before this study.

1.4. Definitions of the Terms

Loose parts: Loose parts play materials are commonly described as open-ended and can be used imaginatively or symbolically in multiple ways (Elder & Pederson, 1978; Crum et al., 1983; Lewis et al., 2000; Drew & Rankin, 2004; Daly & Beloglovsky, 2016; Kiewra & Veselack, 2016; Shafer, 2016). For example, in children's play, acorns can become an ingredient in a soup, or they can be used as cars or animals.

Similarly, a piece of fabric can become a scarf as part of a costume in dramatic play, or an item to throw and catch, or to put in the box (Guyton, 2011). These materials can be included in children's play either alone or combined with other materials, with or without adult involvement (Daly & Beloglovsky, 2016), or in structured or unstructured play (Crum et al., 1983; Park, 2019; Forman, 2006; Trundle, 2018; Stagnitti & Unsworth, 2004).

Scaffolding: Instructional scaffolding, also known as “Vygotsky scaffolding” or just “scaffolding,” is a teaching method that helps students learn more by working with a teacher or a more advanced student to achieve their learning goals (Vygotsky, 1978)

Zone of Proximal Development (ZPD): “The distance between the actual developmental level as determined by independent problem-solving and the level of potential development as determined through problem-solving under adult guidance, or in collaboration with more capable peers” (Vygotsky, 1978, p. 86).

Activities: In this study, daily activities refer to the activities that are planned each day according to different learning and development areas. According to the Turkish Early Childhood Education framework, language, art, drama, music, movement, play, science, mathematics, and reading are identified as daily activities (MEB, 2013). Those activities could be carried out as semi-structured or unstructured both inside or outside of the classroom with small or large groups of children (MEB, 2013). Since this study was conducted in a play-based preschool setting, all activities consisted of semi-structured, language, math, science & nature, and art activities, as indicated throughout this study.

Symbolic play: This is a type of play in which the teachers keep processing the play within a framework of a scenario, although sometimes, the children themselves carry out the process right from the beginning (Goldstein, 2012).

Sensory-motor play: This is a type of play in which children can actively use their five senses. In this type of activity, in particular, children play intensely with open-ended materials, especially those having different textures and sizes (Gauvain & Cole, 2018).

Constructive play: This is a type of play in which children use plastic construction toys, blocks, boxes, and construction toys (Drew et al, 2008)

Documentation: This is an assessment method in which teachers collect children's photographs, video recordings, anecdotal records, work samples, and checklists/rating scales (Oken-Wright, 2001).

CHAPTER II

LITERATURE REVIEW

Since ancient times, “play” has been considered a phenomenon that exists in children's lives. Many philosophers and disciplines have tried to discuss the child through “play.” Starting with Plato, the value of play in children's lives has been revealed. Plato believed that the experiences gained in early childhood are very important. According to him, these experiences had a long-term effect on the child's later life. He shared that one purpose of young children playing with toys made from natural materials is “to rehearse for adulthood or to imitate adults.” And he mentioned the concept of “playing” in detail in his scholarly work *The Republic* (c.360 BC) (Gilchrist, Jeffs, & Spence, 2001).

In the 20th and 21st centuries, many studies on play were inspired by the theoretical writings of Vygotsky (1978), who says that when play emerges spontaneously, children have control over their own activities, and learning takes place very effectively with the support of an expert. Those researchers who continued Vygotsky's studies defended, in line with his views, the idea that children learn to regulate their own behavior during play and suggested that this process is an important issue in child development and learning (Karpov, 2005). One study reported that children who are actively involved in activities have a much higher ability to take responsibility than children who spend more time with activities in which they were not active (Manuilenko, 1975).

In addition, it was determined that the self-regulation skills of the children who attended preschool education using play-based curriculum were much more developed and they got higher scores in some measurements compared with the children who had not benefitted from such a curriculum (Diamond et al., 2007). Moreover, Liu (2017) found that children educated in kindergartens practicing play-based learning in the United States have better academic achievement and social motivation in primary

school than others. What is more, in a group study conducted with 3,000 children from disadvantaged families in England, it was determined that play-based preschool experience had positive effects on the social-emotional development of these children (Sylva et al., 2004).

After mentioning the importance of play and play-based learning environments in an early childhood education setting in the light of related studies, the theoretical background of this research will be explained. After that, the related literature will be explained throughout this chapter.

2.1. Theoretical Background

Three main theories were used as the theoretical background of this study. The first theory used in this study is Vygotsky's social constructivism theory (Vygotsky, 1962). The second theory is the "loose parts" theory proposed by architect Simon Nicholson in 1970. And the third theory is Gibson's Affordance Theory (1979).

2.1.1. Sociocultural Theory of Cognitive Development

One of the theories that form the basis of this thesis is the Vygotskian perspective, which is called social constructivism. Vygotsky (1962) suggested that the child learns when there is a new, diverse, or contradictory concept experienced through social interaction and is reunited with what the child already knows. A child goes through the process of creating a new version of the concept or skill affected by his/her background knowledge. Constructivism indicates actively creating a personal approach to a learning task (Bodrova & Leong, 2007). Through consecutive attempts to learn new skills or concepts coupled with feedback from the teacher or "specialist," the child eventually forms a version of this ability, such as that of the teacher or specialist.

2.1.2. Zone of Proximal Development (ZPD)

In addition to the significance of interaction in development progress, there is a vital concept in the Vygotskian perspective that is called the Zone of Proximal Development (ZPD). The learning experience is most effective if it takes place within the learner's zone of proximal development or ZPD. According to Vygotsky, the development of

children is the continuity of behavior or degrees of maturation. The word zone demonstrates this idea. Proximal describes behaviors that are most likely to occur at a given time. In this way, the ZPD contains the skills, concepts, or knowledge that are at the edge of the emergence (Roth & Lee, 2007).

Two limits border the zone. The lower limit of the ZPD defines the child's independent performance level. The upper limit is the maximum performance a child can show with the help of a more knowledgeable person like a teacher or an experienced peer. Between these two borders, performances are partially supported to varying degrees (Bodrova & Leong, 2007). Vygotsky's co-structured learning and proximal development zone are crucial for understanding the nature of knowledge-building and play-based learning that can enhance children's cognitive development. In this study, teachers' views were investigated on how effective loose parts were in enhancing children's skills and knowledge through adult assistance.

2.1.3. Vygotskian Perspective of Play

In addition to ZPD, learning through play is vital because this study was conducted in a preschool with a play-based curriculum approach. However, as Vygotsky has stated, not all play types may lead to the same social-emotional and intellectual growth. Structured from the Vygotskian perspective, play creates a proximal development zone. When learning takes place in a child's proximal development zone, it can promote and advance the student's competence. Learning occurs with the help of someone with a higher level of competence. The role of knowledgeable others may also affect a child's deductive reasoning ability (Cole, 1993). Moreover, the ability to self-regulate one's emotions, physical behavior, and social interactions, including the ability to monitor and control cognitive processes, is considered essential for success at school (Bodrova & Leong, 2003).

Furthermore, Vygotsky believed that the activity that young children would likely learn to self-regulate is a type of play called "make-believe play" (Bodrova & Leong, 2007). Play is the only school experience that naturally provides all three interactions leading to self-regulation: regulated by others, regulating others, and self-regulation (Bodrova & Leong, 2007). It is important to emphasize from the Vygotskian perspective that self-regulating play is carefully designed to facilitate interaction

between peers and teachers to improve new experiences, skills, or understandings. While constructing the research questions, what kinds of loose parts practices teachers would use in symbolic play was considered. With the help of the answers to those related questions, the effects of loose parts on children's self-regulation would be investigated.

2.1.4. Vygotskian Perspective of Play Materials

Vygotsky also stresses the significance of cultural tools in cognitive development. Cultural tools can be any technological tool or any symbolic tool that enhances interaction (Woolfolk, 2004). Moreover, the zone could be improved when a challenging task or assistance is given appropriately to a child (Woolfolk, 2004). From this perspective, concrete materials can be the tools to advance the communication of children with their peers or with adults. Many educators design activities based on concrete material that meets the level and needs of young children (FERNYHOUGH, 2008). Children are motivated to manipulate concrete objects as a part of the play as they are encountered with the learning environment (Duckworth, 2006).

The Vygotskian perspective for early childhood education is to promote skills for future academic learning. The early childhood classroom can be structured in such a way that learning takes place through developmentally appropriate practice by integrating socio-dramatic or symbolic play. Play is more than a reflection of development: more importantly, it is a mechanism for propelling child development forward (Bodrova, 2008, p. 359).

2.1.5. Loose Parts Perspective of Play

Another theoretical background of this study is the "loose parts" theory. First proposed by architect Simon Nicholson in the 1970s, it began to influence research on children's play and playground design significantly (Casey & Robertson, 2016; Daly & Beloglovsky, 2015; Nicholson, 1971; Seer, 2016). Nicholson believed that there were "loose parts" around people that would strengthen their creativity. During play, loose parts are materials that can be moved, replaced, joined, redesigned, arranged, separated, and combined in various ways. They are materials that do not have a specific set of directions. They can be used separately or combined with other materials.

Children by their nature are ready to explore their environment with endless curiosity. Loose parts materials can be very effective tools for them to invent and to learn more. Nicholson's theory firstly influenced the designs of playgrounds for children, as mentioned initially.

Another reason for benefiting from the loose parts perspective is the flexibility of using all kinds of materials that children encounter daily as a tool in their development and learning processes. For example, a stone can be a counting tool in a mathematical activity but can turn into a car in a symbolic game. These types of materials also support children's skills, such as flexible thinking, trial and error, instant feedback, creative thinking, and improving their self-control. Loose parts can be natural or synthetic. A series of loose parts would be provided, such as stones, stumps, sand, gravel, fabric, branches, wood, pallets, balls, buckets, baskets, crates, boxes, logs, stones, rope, tires, balls, shells, seeds, and flowers, for use in various play in preschool (Early Years Matters, 2018; McInnes et al., 2011; National Strategies, 2009; Siraj-Blatchford, 2002).

Furthermore, playing with loose parts triggers creativity and imagination more than most modern ready-to-use toys and develops more skills and competencies (Daly & Beloglovsky, 2015). Most of the time, it provides children with endless opportunities where they will reach the point throughout the play (Hallett, 2016). Based on this, various studies could be investigated relating to children's play through loose parts materials.

Lastly, the theory of loose parts is used as a theoretical background. There are several arguments that the role of the teacher is to accelerate, facilitate, and support the process rather than direct it. Adults or more experienced people should support the children when they aim to exchange, modify, or replace the shape or use of loose parts (Wyse, 2004; Mc Clintic, 2014; Daly & Beloglovsky, 2015; Houser et al., 2016; Gibson et al., 2017).

2.1.6. Theory of Affordance

Gibson (1979) determines affordability as the functional characteristics of the environment that provide certain options to the individual. He interprets that

individuals understand information by perceiving the relationship between objects and events, spatial arrangement and abilities. Heft (1988) explicates how defining and analyzing environments according to their functional importance changes the way we see and perceive the environment. Differentiation of environmental characteristics based on functional variation would be a more meaningful approach within a psychological perspective. Classification of external environments based on their functional characteristics can provide organization based on a standard form with psychological value (Heft, 1988). If certain environmental characteristics can be associated with children's behavior, the practical or pedagogical significance of the relationship between the global quality of the physical environment and the developmental status of children could be determined (Kontos et al., 2002). To understand the functional characteristics of an environment, the environment-behavior relation can be explored in relation to the type of activities occurring. Heft (1988) defines how each activity could be identified in relation to some functional characteristic of the environment, with reference to a particular individual. In other words, every activity is linked to some degree of affordability. Object classification by functional attributes distinguishes although they have the same type of characteristics. Thus, objects that are often thought to be similar but differ in their functional properties (not all trees enable climbing). Therefore, this classification separates objects based on functional characteristics rather than form (Heft, 1988).

2.2. Play and Learning in Early Childhood Education (ECE)

2.2.1. ECE Philosophy

Play in early childhood education is a vast topic that has been debated by many theorists and philosophers. In the history of ECE, play is viewed as a favorable cornerstone for learning, as many famous theorists like Froebel, Pestalozzi, and Piaget, and Vygotsky have emphasized through their works. Yet, in every era, some critics opposed the directions and instructions in favor of play-based learning. However, studies have revealed that learning through play increases the child's ability to understand a phenomenon better way, resulting in healthy academic and developmental outcomes (Christie & Rosko 2007; Miller & Almon, 2009). There are

three ways to determine the ECE philosophy within the context of play: (i) the nature of play, (ii) the importance of play, and (iii) play pedagogy.

2.2.1.1. Nature of Play

It has been observed that children by nature are motivated to play. Hence, play-based educational programs can encourage children to participate more and take more interest in learning. A play-based educational program builds on a nature that helps children to explore, experiment, solve problems, and discover in more creative, imaginative, and playful ways. A play-based learning approach requires the involvement of both teacher support and child initiative. The teachers of ECE help children to learn by encouraging them to inquire through interactions, aiming to stretch their thinking to higher levels (Zigler & Bishop-Josef, 2004).

2.2.1.2. Importance of Play in Teaching Children

When it comes to assessing the significance of early childhood education, there are a certain set of philosophies and beliefs that are integral to the care and development of a child. The ideas that are formulated indicate the importance of adopting the play-to-teach approach as a profession. The most common approach of educators identified through literature is to provide children with the best possible learning experience. According to Berk (2013), early year educators should develop a plan, implement, observe, and assess play-based activities to make their children more competent to learn and achieve. Early education is not just about teaching, it is also equally about focusing on children's well-being to assure that their developmental needs are being met. Helm and Katz (2016) observed that in the early years of development, children are more competent and capable of learning. In addition to this, they have a more absorbent mind, which enables them to learn through experience. Given this, teachers take a more careful approach by making meaningful interactions and making thoughtful reflections with children. According to the views of the authors, the most appropriate approach is play-based learning (Nwokah et al., 2013).

For Vygotsky (1967), play is one of the most influential parts of early childhood. In fact, he emphasizes the importance of make-believe play. He stated that it was not a free activity of a child. Instead, children create imaginary situations and dependent

roles to act out during play. They also create a set of rules to follow to create a framework based on the objectives of that specific game (Hostettler-Scharer, 2017). He points out that impulsiveness and the unintentional behaviors involved in make-believe play promoted cognitive skills such as reasoning and executive functions (Bodrova & Leong, 2015). In play, a child is always above his average age, above his daily behavior; in play, it is as though he were a head taller than himself. As in the focus of a magnifying glass, play contains all developmental tendencies in a condensed form; in play, it is as though the child were trying to jump above the level of his normal behavior (Vygotsky, 1967, p. 16). Hence, play creates [an ZPD] of the child (Vygotsky, 1967, p. 16). Additionally, a lack of developed play skills leads to a decrease in psychological preparedness in elementary school (Kravtsov & Kravtsov, 2010).

2.2.1.3. Play Pedagogy

According to the Encyclopedia on Early Childhood Education (2020), play is a legitimate right of every child. Play activities represent a vital aspect of intellectual, physical, and social development. The literature has widely discussed the benefits of adopting play pedagogy as an integral part of early year education. However, not every child is active and playful, and many children learn over a long period of time, hence educators have to show patience. Samuelsson & Carlsson (2008) determined that socio-cultural involvement is equally important in play-based learning and that playing in groups develops relationships. Similarly, social behavior is also an important element of play pedagogy that develops the personality of a child. Perry, Dockett, & Harley (2012) studied play pedagogy and advocated that a child must be exposed to a variety of experiences during the developmental phases. This helps them to understand the world and express their understanding. Henceforth, the focus of play pedagogy is to familiarize children with playful activities to learn, explore, experience, discover, and solve problems. MacNaughton (2003) observed behaviors and associated learning with playing as being fundamental to the well-being of early learners in preschools and kindergartens. Literature also advocates the association of socio-constructivist and socio-behaviorist theory with play-based learning, and this involves grouping and learning both together. Therefore, the play-based learning approach is used to frame a curriculum, planning, and pedagogy in early childhood education.

Play pedagogy is the joint involvement of adult and child in a playful manner that helps a child to learn with creativity, spontaneity, and within the specified culture. It is an effective way to promote social, cognitive, and emotional development in a child. Play pedagogy was first discovered by Lindqvist, whose educational approach was relative to the work of Vygotsky and was entitled “Creativity and Imagination in Childhood” (FERNYHOUGH, 2008). The cultural approach of Vygotsky was embraced by Lindqvist as it supports children’s play and play-based pedagogy. Lindqvist adopted a practical approach and used this to plan curricula for children of 3 to 8 years by creating a playworld for children. The playworlds approach is a type of educational practice that involves adult-child joint pretense. It also includes a combination of child literature and the production of visual arts for the dramatization of texts. Playworld is a type of early year educational intervention in which classrooms are designed to focus on emotional experience and the aesthetic relation of children with other children and teachers (FERNYHOUGH, 2008). Similar to this, play pedagogy is considered vital for development as it involves the play-based learning and activities that form the core of preschool and early elementary curriculum in schools. Therefore, the traditional view of play-based pedagogy presents learning and teaching through play activities. This type of teaching promotes various forms of free play and guided play (Kozulin et al. 2003). Free play is a type of activity that is directed by children and usually spontaneous while guided play involves the direction given by teachers as a co-player followed by intentional teaching. Intentional teaching is done with the purpose of achieving a common goal to accomplish the plan. Educators of early year childhood normally involve a specific goal that is to be achieved by making the children learn and setting up the environment intentionally. Both free play and guided play are beneficial for the learning and development of children. To enhance the advantage of play pedagogy, optimum play-based programs are formulated (Lester & Maudsley, 2007).

2.3. Using Play as a Learning Tool

Play-based learning is reinforced in some of the early learning frameworks of national and worldwide organizations. Research reveals that there are long-term benefits of implementing high-quality play-based kindergarten programs because children are exposed to problem-solving and the learning environment through the guidance of a

teacher and self-initiated activities (Rodgers, 2012, cited by Wager and Parks (2016), play can be used as a tool and serve as a medium for promoting and assessing children's mathematical abilities and cognitive thinking. In their study, the authors review the literature on professional development in ECE. The study supports responsive mathematics teaching in preschool by opting for a holistic approach to learning stories. This approach is used as a narrative assessment tool by teachers to evaluate and analyze how learning stories can be used for identifying the mathematical practices in children to engage them during play. The structure of the Learning Stories approach provides teachers with a novel idea to think and recognize how children's learning of mathematics can be enhanced. These learning stories reflect the practices, understandings, and developmental strategies required to support children and make them understand the simple concepts of mathematics and its application in the real world (Wager & Parks, 2016). Play provides children with a space to learn and assess simple mathematics in a playful manner, particularly in preschools (Project Zero and Reggio Children, 2001). Moreover, the study also provides evidence that teachers can easily grasp the mathematical understanding of children and strategize assessments and pedagogy based on play activities. Educators of early year education and authors have stressed that understanding foundational numbers and gaining fluency in them is the first challenge to understanding mathematics. The concept of foundational number sense includes the development of understanding about basic numbers starting from zero to nine and shows correspondence with 1-to-1 numbering (Wager & Parks, 2016).

2.3.1. Learning and Developing Critical Skills as Children Play

According to the United Nations Children's Fund (UNICEF), the vital element for ECE is playful learning and learning through play. Play-based learning creates potential opportunities to learn across all areas of learning (Broadhead, Wood, & Howard, 2010). It is evident that early development and learning are holistic and complex processes. Children socialize by sharing their toys and agreeing to play together to construct different things during play. Research also emphasizes the hands-on approach, which means that they are tactile learners and learn by touching and doing various things (Sobel, 2005).

2.3.2. Use of Concrete Materials in Learning

It has been observed widely that concrete materials are also used in learning as playing activities. These activities aim to make children aware of all the physical objects and materials that are touched, seen, felt, and manipulated according to the learning. The studies show that concrete material learning is widely used by ECE educators in mathematical learning. Many educators design initial activities based on concrete, designed material that suits the learning and needs of the children of a specific age group (Fernyhough, 2008). Educators emphasize using concrete objects for the essential cognitive development of children. In the view of Piaget's theory, concrete material must be involved in the learning of young children, especially children under the age of six to seven years. It is suggested that the learning of young children is inherently concrete. Hence, young children focus more on the shape, size, and color aspects of the concrete objects. Children are motivated to manipulate the concrete objects as a part of play, such as rotating, placing into order, and stacking them as they encounter the learning environment (Duckworth, 2006). The study affirms that young children develop capabilities through experience when encountered with concrete material. Therefore, concrete learning is a common approach that helps young children understand complex mathematics and includes illustrative pictures, computer animations, and the physical manipulation of objects such as tiles, puzzles, blocks, candies, and figurines.

2.4. Materials Used in Play in ECE

In light of the literature as discussed above, play is one of the most significant components of a child's learning. Some crucial components, such as play materials, playmates, and play areas have a significant role in play-based learning (Oncu & Unluer, 2010). In particular, the play materials make a positive impact on the learning and development of a child, enabling him to explore the world with rich imagination in a more joyful manner. The literature widely supports the positive relationship between play materials and the creative thinking ability of children. The materials that assist ECE teachers to promote particular skills include blocks, toys, concrete materials, balls, bags, mats, beans, dice, and cubes. These materials help the children develop motor skills, including learning to coordinate, balance, run, climb, calculate,

evaluate, and jump. This section provides an overview of the materials that are used in ECE as part of play-based learning (Fernyhough, 2008). These include structured and unstructured materials, open-ended toys and materials, and other loose parts as open-ended toys, which are discussed in detail below to examine the preference of play materials for the creativity of children's education.

2.4.1. Structured Materials

Studies report that in the view of adults, kindergarten is a time in a child's life when they play and experience the transition from home to school. However, in today's era, kindergartens are more developed and structured. There is evidence that supports the idea that kindergartens are most likely to follow the approach where children will be set up in groups at preschool. According to Vecchiotti (2001), the image of kindergarten is muddled as there is a lack of policies and research regarding classroom practices. In his view, the practices are caught between public education and early education as it shares the features of both educational levels at a single stage. There is an ongoing discussion of the extent of structured lessons versus free play.

According to the literature, there are two types of play -- structured and unstructured. Within structured play, early year children are required to follow the rules and direction and must follow the educator's guidance, whereas in unstructured criteria, children are free to perform within their specific interests and there are no guidelines or instructions set up for playing. Both types of learning and play are vital for a child's wellbeing and growth. Structured play is also widely known as goal-oriented play, which includes the use of logic to solve problems (Daly & M. Beloglovsky, 2015). Problems can be related to mathematics, general knowledge, or basic manners. On the other hand, unstructured play is more creative and open-ended. Teachers need to learn to adopt the most effective materials that facilitate learning and the most suitable ways to enrich their life with quality education. However, many studies support the use of the balance between both types to develop logic and creative thinking. A qualitative study was conducted by Rodgers (2012) and evaluated the results of a play-based curriculum being implemented in preschools. This study focused on the importance of structured play and revealed that structured activities are supported by instructions to achieve a particular goal. Structured play activities include

assembling a toy as per provided instructions, such as a model of an airplane. Organizing card games or simple board games involve some rules and instructions. In ECE, puzzles and construction toys are mostly considered as structured material designed to promote structured activities (Ferryhough, 2008), whereas unstructured play or unstructured materials involve free playing activities, such as playing with building blocks, colorings, drawing and painting activities, and loose play, which are a more creative and improvised approach used without setting a particular goal.

2.4.2. Open-Ended Toys and Materials

Studies affirm that one of the best and most remarkable qualities of a child is the ability to imagine and be creative. Most ECE educators aim to encourage creativity in a regular learning session, but the question arises how? Studies are conducted to evaluate the association between playing and enhancing creativity. It has been revealed that during playtime, children prioritize fun as being more participative during playtime. Their playmates also support their learning by being part of the play. The involvement of open-ended play is more about prioritizing fun and creativity (Lester & Maudsley, 2007). In the view of many authors, open-ended play is a perfect opportunity for enhancing the social and emotional intelligence of a child. In this way, a child gets involved in multiple activities and this enhances intellectual growth. It provides a world of benefits for children. One of the most identified benefits is allowing the children to express creativity freely. Since there are no instructions, a child can pursue endless possibilities during playtime to learn in different directions.

According to Yıldız and Kayılı (2014), toys and materials are effective contributors to acquire skills and abilities. Open-ended materials such as blocks, water, and sand, play dough and clay have basic features that boost the capabilities of young children, so by using open-ended materials, children gain more skills in various fields; however, this idea was opposed by Adak Özdemir and Ramazan (2012), who advocated that open-ended materials might result in the insufficient gaining of new skills and restricting the kind of versatile development that could be addressed through structured play. By contrast, Yıldız and Kayılı (2014) argued that in open-ended play there is no right or wrong way to finish the project and multiple approaches can be taken to finalize the work. Using open-ended activities, ECE educators obtain different results by the end

of the play. These activities strengthen the decision-making abilities of children by empowering them to utilize their creativity and imagination fully. Since these materials come without instructions, it is easy to engage the child in open-ended play. These are mostly non-descript items, including clay, sand, cardboard boxes, building blocks, fabrics, colors, and paper with which a child can play freely. According to the second stage of Piaget's theory, that is, the preoperational stage, between the ages of three to seven, children develop their memory and imagination (Clark, 2006). Hence, open-ended materials and toys at these stages result in fostering essential intellectual abilities, ultimately creating a stable foundation for the future.

2.4.3. Loose Parts as Open-Ended Materials

“Buy a toy for your child and they will have more fun in the box it came in” (van Rooijen, 2017, pp, 5-6). The term “loose parts” was coined by Simon Nicholson, who determined that the environment and landscapes form strong connections. Nicholas advocated strongly that loose parts in the environment have the power to empower human creativity. Based on the concept, many early childhood educators and play experts formulated the theory of loose parts and implicated it in the early childhood curriculum. Flannigan and Dietze (2017) conducted a study and found that loose parts play an important role in learning and development through play and benefit healthy child growth. The study was conducted with preschool children while considering different natural environments and indoor play and by examining the behaviors exhibited by children when using loose parts. A range of positive social behaviors was exhibited by children, including risk-taking behavior and complex verbal and nonverbal behaviors during play. The findings of the study conducted by Flannigan and Dietze (2017) revealed that using loose parts increases the opportunities for children during the early years to adjust to a different environment and develop in positive ways.

One of the most effective strategies used by educators in play is to promote exposure to natural environments and allow children to play with various natural and synthetic loose parts in both indoor and outdoor settings. Loose part is defined as objects that are open-ended and can be manipulated, particularly referring to play objects and materials as described by Nicholson in 1971. Later, many studies were conducted to

analyze the significance of loose parts in the ECE curriculum and planning. Daly and Beloglovsky (2015) referred to loose parts as non-dictated materials that are easily movable and that children can use in various ways. Moreover, loose parts can be either natural or synthetic. Maxwell et al. (2008) affirmed that loose parts could easily be carried, moved, redesigned, combined, arranged, and put together in various ways providing multiple opportunities to learn. Some examples of loose parts to be utilized in a natural environment, indoor activities, and play areas follow:

2.4.4. Examples of Loose Parts

Water, sand, clay, sticks, logs, branches, grasses, leaves, flowers, pinecones, pine needles, shells, stones, pebbles, rocks, seeds, feathers, and mosses are some of the examples of loose parts found in a natural children's play area. Balls, ropes, tires, straw, buckets, cups, containers, small digging toys, chinks, fabrics, and ribbons are taken as loose parts of play areas. Within an indoor environment, many things are considered loose parts, including building blocks, toy animals, art materials, cardboard boxes, beads, and tools (Daly & Beloglovsky, 2015).

2.5. Using Open-Ended Materials in Daily Learning Activities

2.5.1. Exposure to Open Environment and Loose Parts

According to Flannigan and Dietze (2017), if we provide children with open-ended materials, this can provide them with opportunities to be more creative, direct, and curious within their own play. There are no limitations of rules or expected outcomes within open-ended play. There are no restrictions or specific directions about how an open-ended item should be used. This provides an opportunity to explore the open environment without following what is right or wrong and without having an ultimate goal to reach or achieve. According to Sutton (2011), in the field of informal learning, many issues and challenges have been identified relating to the significance of designing a curriculum and planning in an open learning environment. Many movable elements, also known as loose parts, are involved in this learning. Within the open environment, these loose parts are used in daily learning activities. Activities involving loose play parts in the open environment provide young children with the opportunity

to increase their engagement and expand their possibilities toward creativity (Sutton, 2011).

Perry (2004) advocated that children become more curious as they are exposed to loose parts and that utilizing this as part of the daily routine may trigger their curiosity while exposing them to new and unique things, something normally not possible within indoor structured activities. The study further supports the idea that that curiosity inspires children and engages them in new discoveries. The study by Maxwell et al. (2008) also affirmed this finding and advocated that loose parts enhance the quality and depth of experience of playing and learning in an open environment, whereas Anggard (2011) stated that loose parts provide children with freedom of expression. Moreover, they develop the play experiences so that they have their own ideas or goals rather than being instructed and given predetermined materials. Therefore, the findings show that the type of material used for playing determines how much a child can be engaged. There are certain factors based on which children create their play episodes. These aspects include creativity, past experience, curiosity, and idea generation.

2.5.2. Loose Parts and Affordance

Another important aspect that has been associated with loose parts in the playing environment is a formulation of affordances for children. “Affordance is what the environment offers the individual,” as Gibson stated in 1977 (Flannigan & Dietze, 2017, p. 54). In real cases, it is evident that affordance leads children to act in a specific manner when exposed to an object, so, based on the perception of the child, loose parts can be employed in multiple ways. For example, a stone can be considered to be thrown or something for counting. Similarly, some children perceive a stick as a sword or tool for digging. It is being noted that the way children perceive particular loose parts or open-ended materials affects the way they use them in their play. Children use loose parts in multiple ways because they do not have predetermined instructions or set outcomes. The integration of two theories about affordance and loose parts provides a useful insight into unstructured play experiences. It further helps educators make children rich in creativity and have diverse imaginations. (Flannigan & Dietze, 2017).

A recent study conducted by Ridgers, Knowles, and Sayers (2012) explains that using loose parts in daily learning is important as it offers more opportunities for unstructured play because it is not dominated by adults. Unstructured play and materials also encourage children to create their own play activities beyond the boundaries of limited guidelines and rules. Canning (2010) also advised that loose parts should be changed regularly in an open play environment to expose children to diverse challenges. It is also essential because it helps create a sense of wonder in a constantly changing environment through the potentials of the play experience. Early learning programs and educators encourage the use of loose parts because they are comparatively flexible and less scheduled. Stephen (2002) affirmed that loose parts and open-ended exercises provide children with the freedom to play, express, and develop self-regulation and individual control skills. A recent study by Zamani (2012) advocates that in preschool children, routine play activities are promoted using loose parts.

2.5.3. Daily Learning Activities

In preschool and kindergarten, early-year educators focus more on balancing the teacher-planned activities and child-led exploration to make them learn on their own. Learning through free play allows them to make the best use of materials, space, and time. Meanwhile, educators can observe the learning patterns and guide them according to the explorational learning of each child. Although there are no specific guidelines or final goal of open-ended learning, the common aim is to make a child learn according to their age and developmental level (Nwokah et al., 2013). It has been observed that play-based learning supports the daily activities of a child. Many studies in this regard have affirmed that learning through play is the best way for children to learn. In particular, open-ended, and unstructured learning in early childhood education is more emphasized due to its benefits and usefulness toward healthy development (Fernyhough, 2008; Duckworth, 2006).

Open-ended play materials permit children to make open choices while learning constantly. They learn to foster their self-esteem and develop socializing skills with their playmates and teachers. In this way, open-ended play promotes their expressions and supports independence. However, it must be kept in mind that loose parts may

trigger negative behaviors as well; therefore, educators should monitor the activities. According to Flannigan and Dietze (2017), during open-ended and unstructured play, the most negative behaviors were bossiness, aggression, exclusion of others, tattling, and testing the social limits. It has been observed that the features of loose play impose fewer instructions and restrictions on what children play, with whom they interact, and how. Therefore, ECE educators should be deliberate and cautious when providing children with toys. The types of toys or materials let them make a specific selection about what they intend to play and ultimately form their cognitive, social, and communication skills in that particular direction (Nwokah et al., 2013).

Shedding light on the positive aspects, learning through open-ended or unstructured play is a type of child-led free play in which children achieve the maximum level of improved skills, new concepts, and enhanced comprehension. This development cannot be achieved through structured learning; however, many critics argue that discipline and regulation in children can only be achieved through class structured activities. However, the majority of the studies support the findings that playful daily activities assist more in learning by allowing the organization of ideas. These encourage children to be flexible toward solving the problem, develop a need to help others, develop longer attention spans, and practice communicating their opinions, feelings, and ideas in the daily routine. Loose play always encourages children to develop a sense of exploration of the world around them and develop an image that can make them successful in the future (Daly & Beloglovsky, 2015). Daily activities through free play are designed to foster self-esteem in children, develop communication and social skills, support problem-solving and independence, and also develop motor skills by strengthening small and large muscle skills, stimulate creative expression and imagination, and develop safe and healthy habits to last a lifetime (Cadwell, Geismar Ryan & Schwall. 2015).

2.5.4. Building Foundation Through Open-Ended Activities

For many children with little exposure to an open environment, loose parts and open-ended activities within the natural environment can seem overwhelming. A natural environment that is more accessible and less organized allows children to feel more secure as loose parts from nature are utilized to understand the world and hence build

foundations. However, in the view of many authors, natural areas are less readily available and not considered safe as bark, sand, or plants may harm or cause illness in children because they spend most of the time in open-ended activities (Cadwell et al., 2015). Educators need to be careful when creating a nature-filled play space. These areas readily transform and form the attitude and behaviors in children daily. Some optimal characteristics have been identified through research in relevance to open-ended activities and supporting early childhood development. The studies advocate that children engage more and develop holistically when the space for open-ended activities is delineated for supporting multiple skills and interests. Therefore, the space for open-ended activities must be organized so that is equipped with natural loose parts accompanied by early year educators to support the activities (Nwokah et al., 2013).

2.6. Benefits of Play with Open-Ended Materials

There are multiple benefits and uses provided by open-ended materials to generate endless play activities. These types of materials empower the children to be more creative and expressive, develop leadership abilities and learn decision-making. Educators often use open-ended materials to represent other things and explore diverse spaces. There is no pressure to obtain an end product that is bound by restrictions and instructions from adults (DiBello & Ashelman, 2010). Studies affirmed that children become more engaged in problem-solving activities and decision-making opportunities when playing with open-ended materials. When exploring the loose parts or unstructured material, they become more innovative, artistic, and collaborative as they build, design, sort, arrange, manipulate, and stack the loose parts in multiple ways (Schwall, 2015).

Houser et al. (2019) affirmed that physical activity is essential in the early years and school-aged children up to 10 years. It is associated with a wide range of health benefits, including psychological, socio-emotional, and physiological advantages. These activities can be tracked throughout adulthood and significantly contribute to a reduced risk of chronic disease. Studies through systematic reviews show a significant correlation of physical activities with the development of motor skills. Research has also noted health benefits in the form of increased fitness, metabolic, and cognitive development. A recent study reviewed studies from 36 countries, including 71,291

children, and advocated that young children gain more health and social benefits due to moderate-to-vigorous physical activities (Houser et al., 2019). Multiple benefits can be achieved from play activities with open-ended materials, including the following:

2.6.1. Cognitive Benefits

Open-ended materials provide children with endless possibilities as they can be easily manipulated and used. Through this, children participate more in intellectual activities through critical thinking as they create and experiment with loose or unstructured materials. Cognitive skills are the core abilities that are associated with the brain and widely used in thinking, reading, learning, remembering, reasoning, decision-making, and paying attention. In loose parts play, there is a great involvement of playmates and adults (either as parents or educators) who play a role in language development. Al-Mansour (2018) conducted a study by observing 13 children aged six to eight years at a Creative Play Club. The children were provided with open-ended materials to use in their play, and naturalistic descriptive observation was made. Through careful examination and analysis, the use of open-ended material in the play was observed over eight weeks, and the change in the quality of play over time was evaluated. The findings of the study suggest that intellectual skills develop in children and make them active explorers in the surrounding environment. The study also determined that new interactions and new encounters make the children able to discover new meanings and develop more composite understanding skills. Al-Mansour (2014) also advocated that open-ended play makes children more intrinsically motivated. This is possible because of the abilities to test, explore, manipulate, and learn as they are exposed to endless opportunities. This study acknowledged the significance of play and revealed that to make children more mentally active, they have to have first-hand experience in loose parts and open-ended materials. The author also emphasized playing with purpose.

Houser et al. (2019) determined that loose parts enhance cognitive functioning. The important requirement that is highlighted in the study is that in loose parts play, the materials should be open-ended as this ultimately permits unstructured child-led play. Children make use of the open-ended materials as they choose. This study is also vital to consider as it reveals that most Canadian preschools spend 29 hours a week on average spends on childcare. In this environment, active behavior is encouraged

through open-ended play. The intervention of childcare through open-ended materials results in significantly improved behaviors during preschool days.

2.6.2. Physical Benefits

The study by Houser et al. (2019), acknowledging the importance of loose parts, discovered that both fine and gross motor skills are improved by the manipulation of materials in various ways during developmental years in young children. Although the concept of loose parts has existed for a long time, there is not much evidence that determines the efficacy of loose parts integrated with outside spaces. However, it should be noted that this study focuses more on improving physical literacy with increased physical activity and outdoor play in an open environment using loose parts materials, such as sand, clay, stones, plants, and rocks. It has also been determined through research that since open-ended and loose parts materials are more exploratory in nature, children use all their motor and physical skills during play (Vecchi, 2010). The effectiveness of these materials is directly associated with physical literacy, particularly the movement competencies, running, walking, moving, and other skills that involve the precise movement of muscles. Although the open-ended material is not restricted by adult instructions, play is intended to perform a specific function as led by the child's thinking. Therefore, open-ended material can increase the likelihood of lifelong participation in physical activity.

The age of early year children is considered to be more appropriate for developing fundamental movement skills. The children included in this age group are normally experiencing rapid growth in the brain and neuromuscular maturation; in addition to this, a high level of perceived competence is also observed. The concept of fundamental movement skills is one aspect of the holistic and physical literacy approach. Physical literacy development is a vital component during the early years and establishes a connection with lifelong physical participation in play activities. Health-related research and early year development research emphasize the components of physical literacy and its association with play-based learning. The majority of the studies conducted in the preschool age group relate movement skills and physical literacy and report that loose parts provide more opportunities. Exploring new environments encourages children while strengthening motor skills to develop

physical literacy (Isbell & Raines, 2012). One way to support this exploration is through the active participation of children in open-ended and unstructured play. The overall opportunity to play in an open environment increases when the play spaces are designed by keeping in view the secure loose parts materials. Moreover, the incorporation of loose parts into the outdoor and indoor play environments increases curiosity in children and encourages them to make successful moves.

2.6.3. Social and Emotional Benefits

Through the use of open-ended materials, children can easily share new ideas and collaborate while exploring the environment. The feelings of self-efficacy and competency development may occur as the children try out their own ideas. Social development in a young child includes learning to socialize with other playmates, adults, and educators. The studies show extensive data on the development of social skills in children by providing them with a free environment in which to play (Lester & Maudsley, 2007). Playing with other playmates is referred to as listening, sharing ideas, developing language skills, and noticing minor cues within the perspective of another person. The most important aspect of social development, as identified by the studies, is empathy. Empathy in children is simply to understand the feelings of others and being compassionate about the ideas of others in the same way that they are involved in it. The development of social skills is also necessary because it is necessary for the children to share ideas and be more expressive toward their feelings while negotiating and striving to make compromises (Linn, 2008). Social skills are also observed when playing with open-ended material as they assist in paying attention and sharing play experience. For example, if you provide paper cups to children, they may use them as a medium of communication or as a thing to put water or any liquid into it. In this way, the children independently develop self-regulation while exploring their feelings toward others.

As the physical and social benefits of open-ended material are quite visible, research also reveals the internal benefits that are supported by unstructured play, such as the emotional development of a child. However, the studies argue that most of the self-regulation and emotional support is widely provided through social and guided play because, during structured play, children are required to follow norms and pay

attention to the guidelines. Nevertheless, it is observed that children experience feelings of anticipation or frustration. Open-ended play provides emotional opportunities to children by setting and changing the rules as per their desire and wishes. The decision-making power also grows stronger as they decide on their own when to lead and when to follow (Miller, 2007). Studies also reveal that the emotional growth of a child has three areas, namely, building self-esteem and confidence, learning to deal with various emotions, and also releasing emotion while going through or after trauma. It is also revealed through studies that children also express their emotions of fear and express themselves when they are scared. In this way, they learn to deal with their fears. Hence, open-ended play permits young children to express themselves fully without anything holding them back. For example, some children in preschool develop emotional stability and strength, while others develop humor and spontaneity (Miller, 2007).

2.7. Research on Using Open-Ended Materials in ECE

As discussed in detail, open-ended materials are those objects or things that are used by children in various ways for unstructured learning and exploring the world in their own way. Taking advantage of their properties and characteristics, open-ended materials are well integrated and utilized in the curriculum of early childhood education. The process of exploration and inspiring creativity in young children is also supported by educators with the early utilization of open-ended materials in the pedagogy. Early year educators plan, document, and assess according to the appropriate use of open-ended materials and further promote learning in a similar pattern for children aged 2-12 years (Thompson & Thompson, 2007). The common examples of open-ended materials used in the ECE curriculum are manipulatives, such as clay, playdough, and sand, or blocks like stones, beads, and pebbles, or other art materials, including paints, colors, leaves, flowers, and water. These are distributed to the children as per the curriculum planning of educators, and different materials are provided on set days to learn something different every day. However, the children decide how to use them the best. Since educators are experienced and have been involved in the teaching process for a long time, they can easily predict the best use of open-ended materials that can be used by children.

For children, it becomes easier to understand the social and emotional aspects of play while exploring their creativity and gaining their cognitive understanding. In the ECE curriculum, it has been observed that when children use open-ended materials, they always create something different from its original shape or characteristics, such as colors and paints that are used to create something that reveals their inspiration (White & Stoecklin, 2014). On the other hand, manipulative materials, such as clay and play dough, are designed or created by their imagination. However, in all cases, their ideas are reflected in everything they do with open-ended materials. Some known categories of open-ended material are loose parts, found material, natural objects, and other fine items that attract children the most.

2.7.1. Creativity with Open-Ended Materials

Drew and Rankin's (2004) study advocated that creativity in children could be promoted through open-ended materials as creative art surrounds various things. The authors experienced that children made drawings of flowers and sculptures of wire flowers in clay pots after visiting a flower show. Furthermore, the authors added their experience with kindergarten children when they came up with more creativity by painting tempera, making pencil drawings of frogs, and building skyscrapers from wooden blocks and cardboard boxes. The study also affirmed that open-ended materials could be music, too, by which children can dance and use their body movements to express their feelings and portray their imaginations. The study concluded that open-ended materials enhanced the use of creative art by making direct and clear expressions. The purpose of engaging children in creative art with the use of open-ended materials is to develop their abilities to think, feel, and communicate.

2.7.2. Learning Through Open-Ended Play

A study was conducted by Edwards and Cutter-Mackenzie (2011), who aimed to report the findings by examining the play-based learning outcomes, particularly with the open-ended materials. The study advocates that there are different ways to design the foundation of pedagogies to support children's learning in early childhood environmental education. Play-based learning plays a vital role in framing an early childhood curriculum. Three types of play were examined by the authors, including modeled play, purposeful play, and open-ended play. The study reveals that open-

ended play involves teachers providing the children with all the free materials related to the concepts of learning derived through environmental education (Edwards & Cutter-Mackenzie, 2011). Open-ended activities allow the children to make use of materials for creating their understanding of the concepts. Modeled play is a more advanced form of open-ended play in which teachers show the children how to use the materials, and purposeful play is framed with the involvement of teachers to make the children learn using modeled-play activities (Edwards, Cutter-Mackenzie & Hunt, 2010).

2.8. Research on Teachers' Views and Practices with Open-ended Materials

The significance of open-ended curriculum practices can be determined through the hands-on, active experience of the children that are presented by the early childhood education teachers. Drew and Rankin (2004) described the learning of a four-year-old child who developed an early understanding of nature and biology by watching tadpoles turning into frogs in an early education program. In the view of the program director, the change happened before their eyes; therefore, it is key to their learning. The ECE program director deduced that children were able to make simple pencil drawings showing the characteristics and changes they observed.

Another example was stated in Drew and Rankin's (2004) study in which a preschool teacher observed the children who were busy picking the flowers from areas in shade and planting them in the garden, which resulted in a teacher-children discussion about how to create a garden for growing flowers and vegetables. In this way, teachers and children work together and develop a sense of collaboration by planting seeds, and watering plants. These types of activities are supported by the loose parts of nature. Over time, children learn the process of plant growth by seeing flowers bloom.

In Hewitt's (2001) study, which determined the traditional and contemporary perspectives of the use of open-ended material, building blocks are considered an important learning tool in the view of educators. Teachers affirmed that toys positively influenced young children if utilized according to proper planning in the curriculum. It is advocated by many early researchers that one of the most popular educational block sets is considered a vital type of open-ended material. The types of blocks that

can increase language and mathematical literacy are alphabetical and numbering blocks.

According to DiBello and Ashelman (2010), children are autonomous and competent learners by nature. They can create meaning from their surroundings to work with open-ended materials through frequent opportunities. Educators believe that through open-ended material, different perspectives and ideas are exchanged among children. Ideas that are generated during group work become a valuable part of the co-construction of knowledge of children. This results in the development of socio-centric opinions and the emergence of high-order thinking skills. In the view of other educators, children feel more comfortable with visual media and create more conventional ways of expressing ideas and emotions. Hence, it can be concluded that creative arts can serve as a crucial resource for representing concepts for young children regarding the world in which they live.

Drew and Rankin (2004) also discussed the significance of direct hands-on experience, which serves as inspiration for children to look deliberately and draw what they see. A group of children walked around the town and talked about the surroundings in the classroom. In the teachers' view, the children learned more as they talked about what they saw. The children also learned through building models, looking at books, and exploring the block play area. One educator highlighted an important point that a number of children also displayed challenging behavior during open-ended and free play. Some children were quiet by nature and took the time to develop an understanding regarding the projects. However, some children were smart by nature and quickly learned to draw and sometimes amazed the educators.

Curtis and Carter (2005) argued that children should be surrounded by softness, comfort, and beauty and also with attention and order to health and safety. In addition to this, childhood is a precious time when, according to educators, the dreams and imagination of children are fueled; hence, it is considered to be a time of magic and wonder. There are certain issues of potential risk that are explored during physical activities and dramatic plays. Educators believe that free play provides children with the path of exploiting their desires, fascinations, and fears to be autonomous and strong. It has also been demonstrated through the views of one educator that there are

children who take a deep interest in concrete projects and free play. Children are also cooperative sometimes while listening to the guidance of their tutors and educators. They listen and understand with deep interest and promptly become stimulated through open-ended materials and related children's books. Hence, accomplishments can far exceed expectations (Edwards et al., 2010).

It has also been demonstrated by the teachers that children should have compelling experiences due to which they express their opinions in multiple ways. Some children ask a direct question, while some show curiosity. Some teachers are supportive and helpful as they assist the children in expressing themselves more positively. Educators also play an important role in making them produce positive outcomes in terms of learning. When teachers provide a plan before playing, the children become more interested and active in performing. This also helps in building up the vocabulary of children and improving their language skills (Daly & Beloglovsky, 2014).

By reviewing the literature and the theories of early childhood education, it can be seen that the mental process in children is mediated by the help of materials that are provided by the teachers. In addition to this, Kozulin et al. (2003) argue that the process is affected by the way these materials are going to be used by the children and for what purpose. Moreover, with open-ended materials, children share their development. Teachers help children formulate shared meaning with objects and symbols and cognitive tools, including numbers, letters, and words. According to Daly and Beloglovsky (2015), open-ended materials serve the purpose of offering meaningful ways to children for enhancing their concepts and understanding. It also helps in building creativity and heightening cognitive abilities. Teachers believe that when children utilize open-ended materials, including clay, sand, and wire, they explore the same concept in multiple ways. In this way, they adopt things more and learn the concepts due to affordances that each medium possesses. The affordance is defined by Foreman (1994, p. 38) as *"the relationship between the transformable properties of a medium and the child's desire to use that property to make symbols."* It has been observed that certain mediums are better than other mediums that are utilized by educators to represent a specific concept. However, teachers also argue that some mediums can be a better representative of a certain concept because they can

manipulate the thought pattern of children. One of the most effective methods is open-ended materials.

The concept of affordance originated in the early care and childhood education system and provided a foundation for educators to develop the ability to learn and gain knowledge through pedagogy. Materials can be a form of inventive language if a relationship or strong emotional bond is developed with the material. In the view of many teachers, a strong bond with a favorite object is seen in children aged two to five. This finding is supported by Schwall's (2015) study, which advocates that the bond with the material is developed over some time, and the object becomes the children's most favorite object. This can also be handled by educators by intentionally placing the materials within the classroom environment. This technique is effective as children feel more comfortable in the environment with which they are familiar the most.

2.9. Preschool Education Program of Turkey

Based on the content of Turkey's preschool education program, play is an important aspect in supporting children's development. The curriculum is designed to serve the purpose of experiencing and learning something new each day and fits with the developmental goals. Through this curriculum, children learn to improve their abilities of individuality, social relationships, creativity, and competence. Moreover, the developmental areas are reinforced by strengthening the social, physical, emotional, cognitive, and language abilities. Some content areas are also enhanced including mathematics literacy, science knowledge, social studies and general knowledge, creative expressions, health, safety, and art (MEB, 2013).

Ministry of National Education (MONE) program considers play as the most valuable technique of teaching through which close attention is given to each child. According to this program, the educators must start with the involvement of free play in the classrooms of preschoolers. It is a phase of transition and during this period the children grasp more as they can easily learn life's complex phenomenon. In each classroom, children become more capable of making choices each day with the use of open-ended material. Children decide how to play or make use of blocks, manipulatives, or art materials. With the help of free play, children merge different

ideas into a single thought process from their learning experience and can think in abstract ways (MEB, 2013).

In addition, open-ended materials are provided to children but accompanied by specific structured information so that children learn with the help of specific content. This is also known as guided play or supported play. The instructions help to support and enhance the experience of educators to form the curriculum planning according to the needs and interests of children. The guided or semi-structured learning approach using open-ended materials helps ECE educators to create topic-related activities. For example, if the educators plan the classroom projects to work with children, visit the zoo, museums, or parks, these open-ended activities are supported by the content curriculum. These projects are created as a result of evolution from children's experiences with open-ended materials, together in the classroom. The initiative of ECE teachers to start the project quickly changes into what children want to know more about (MEB, 2013).

Furthermore, the program moves on to skill development as the children grow according to the developmental stages and require a number of skills and abilities to develop according to the needs and requirements. For the children of early year education, educators integrate skill development as a part of the curriculum planning through self-help or even with open-ended materials. The skill-development approach is exercised in a large or small group of children by making them play in groups, by discussing together, and by making individual interactions with children in the classroom regarding open-ended materials. The specific areas are designed inside or outside the classroom to emphasize a specific set of skills (MEB, 2013).

2.10. Summary

The literature review in this section discussed the essential knowledge about early year education from the perspective of using loose parts as open-ended materials. This study found varying findings as many studies oppose the play-based learning concept while the majority of the learning frameworks in early childhood education are mostly based on unstructured learning.

CHAPTER III

METHODOLOGY

This chapter describes the methodology employed in this study, including research questions, the design of this study, school settings, participants, data collection instruments, data collection procedures, data analysis, reliability of the study, and limitations.

3.1. Research Questions

This study aims to investigate preschool teacher's views, self-reported practices, and actual practices in using loose parts in daily activities. To settle on the research design and to obtain some findings, the following four main research questions were asked:

1. What are the preschool teachers' views on the use of loose parts in daily activities?
2. How do preschool teachers use loose parts in daily activities based on their self-reported practices and actual practices?
3. In which types of daily activities do preschool teachers use loose parts more frequently?
4. Which types of loose parts are used more frequently in daily activities?

3.2. Research Design

In this study, qualitative research methodologies were employed. Interviews and observations were the main data collection instruments. Additionally, children's documents were used as a secondary data source to triangulate the findings that were obtained in the present study. A qualitative approach was selected since the present study aimed to understand "the lived experiences of real people in real settings" (Hatch, 2002, p. 6). The teachers and children were the actual actors of the research environment since they were familiar with the process of this study.

According to Lincoln and Guba (1985), a universal truth is considered to be unknowable since individuals construct realities with their own points of view. Reality is constructed through experience. As a result, the purpose is to examine individual constructions of reality. In the constructivist paradigm, “reality” is co-constructed by the researcher and the participants. Consequently, researchers use their own subjectivity to explain the condition (Hatch, 2002). In qualitative studies, the researcher spends an extensive amount of time at the research site and is in touch with the activities being reviewed (Denzin & Lincoln, 2000). In this study, I was a member of the site where this study was taking place, and this allowed me to explore the “reality” from the view of an insider to provide a more accurate representation of the subject investigated in this study (Yin, 2003).

Within the structure of the qualitative approach, this study was conducted as a case study. Merriam (2009) suggests that a case study is a detailed examination of one setting, or a single subject, a collection of documents, or a specific event. Furthermore, Creswell (2007) describes case study as a qualitative research approach in which the researcher explores a bounded system or multiple bounded systems over time by collecting detailed data using divergent sources of information combined with observations, interviews, audio-visual aids, documents, and reports.

The strength of the case study design lies in its potential to tell the story of a phenomenon in the framework in its natural context (Patton, 2003). Case studies are distinguished from other qualitative research designs in that they help with concentration in research problems that depend on the attention of teachers, administrators, parents, and children or other participants (Lancy, 1993).

Based on Merriam’s explanations (1988), case study procedures were chosen as the research methodology for two reasons. First, case studies let the researcher study the research problem (s) within a specific context (time and place). Next, case studies are reflective, and they help participants improve individual views corresponding to the process (Geertz, 1983). This study is tailored to the teachers and children of this particular kindergarten. Since this study aimed to explore the views of teachers in this preschool on using loose parts and their practices, a case study was an appropriate method to use to discover that process.

I believed that this case could supply sufficiently detailed information for my research. Case studies focus on the individual, experiences, or realities to explore content or concept (Bogdan & Bicklen, 2007). Choosing a case study allowed me to investigate a bound setting while looking comprehensively and in detail to understand teachers' views on using loose parts and their practices.

3.3. Research Settings

This study was conducted with 10 preschool teachers working in a private kindergarten in Istanbul. The school selected for this study is an institution established about seven years ago, where the curriculum is prepared using the Project Approach. The school provides education to approximately 170 students aged between two and six. Each class has an average of 15-18 students. Classrooms are approximately 25-30 square meters. The school has an indoor gym, a sleeping room, and a dining hall. Additionally, the school has a reception area, a room for English teachers (equipped with computers, English books, CDs, and other necessary resources), a Principal's office, an administrative and accounting room, a psychologist room, and a founder room.

The school has an outdoor playground of around 300 square meters. There is a climbing frame in this area. Other than that, there are no playground toys. Plenty of materials, such as tires, hula-hoops, rope, and balls are used as tools for play. The outside playground area is slightly insufficient compared to the number of students. Therefore, there is no room for other outdoor equipment, such as swings and slides.

Looking at the classroom layouts, all classrooms have basic equipment, such as tables, chairs, shelves, and cupboards, to meet the classrooms' child capacity. Apart from these, there are smart boards in all classrooms and a laptop for each classroom. In addition, each classroom has blocks, puzzles, house toys, repair tools, toy cars, dolls, books, puppets, and board games for each level.

There are nine classrooms in the school – one for three-year-olds, two for four-year-olds, three for five-year-olds, and three more for six-year-olds. For the five-year-old and six-year-old groups, there are one classroom teacher and an assistant teacher

supporting two classes. For the three-year-old and four-year-old groups, two teachers work in each class.

The school is open between 8.00 a.m. and 5.00 p.m. The activities in a daily flow are determined using daily programs and weekly programs. Its educational program was revised as of the 2018-2019 academic year and a play-based curriculum inspired by the Finnish education system began to be implemented. For the implementation, monitoring, and evaluation of this curriculum, training is provided twice a year by Finnish experts.

The school's early childhood education practices have already progressed with a project approach and a process-oriented perspective for the past seven years. A play-oriented program has been adopted, particularly in the past two years.

The training program is carried out using monthly themes and the activities are implemented using a project approach. In accordance with the subject headings, one field trip and one visit activity are carried out every month. The program also includes the achievements and indicators of the Preschool Education Program from the Ministry of National Education (MONE). In the daily education flow, all age groups must go to the school yard and play and do the activities there for a certain amount of time period. In addition to these, gymnastics, visual arts and rhythm lessons are taught as branch courses by part-time teachers.

The school has a participatory attitude towards the parents and provides detailed information on daily, weekly and monthly bases within the parent information documents about the education program and activities. At the beginning of the academic year, general outline of flows is provided to parents via presentations and in a written form. Additionally, the school psychologist conducts seminars in the middle of the semester. The content of the seminar is constructed with a small-scale survey on the topics that families need the most.

Twice a year, in the middle of first and second terms individual meetings are held with the parents of each child. At the end of the academic year, the annual presentation is prepared for the parents to inform about how the child has progressed during the year. This presentation, which consists of various products (mainly the outcomes of child's

own) is prepared and presented by the classroom teacher in a chronological order according to development and learning categories.

Lastly, the documentation method is used to monitor the development and learning processes of children. Multiple data collection techniques are used. The most common ones are anecdotal records, observations, photos, video recordings, work samples of children and development reports.

3.4. The Role of the Researcher

I have been an educational consultant for two years in the kindergarten where I conducted this study. In the first year, we began implementing a play-based program. The teachers and I planned the whole year of the curriculum over the summer through in-service training. After that, I went to the school every month and gave individual feedback to the teachers by observing teachers, programs, and children. After my first year of observation and evaluation, open-ended materials began to be used in most of the activities we prepared, and this continued with a play-based program. I decided to make a closer examination of the usage of loose parts through this play-based program. I then started this study to take a closer look at how those materials were used by teachers and children during different activities and what teachers thought about the use of loose parts.

The teachers decided how to use these loose parts in which type of activity. When I went to make classroom observations of teachers and children on a monthly basis, this time, I started to follow the process objectively as a non-participant observer.

I collected the data for my study using semi-structured interviews with teachers, non-participatory and systematic observations in classrooms, and children's documents about loose parts activities. At the end of this study, I looked at the views and self-reported practices and actual practices of teachers about the use of loose parts during daily activities.

During the process of data collection, I did not interfere with the teachers' practices. My goal was to investigate what the teachers thought about using loose parts and how they used those materials in different activities. As a result, the natural flow in class would not be disrupted.

The details about how interviews, observations, and documentation activities were conducted will be explained under the *Data Collection* title in this chapter.

3.5. Participants

As mentioned earlier, this study was conducted as a case study to answer the research questions. Since the research topic is quite specific, the selection of a setting and participants needed some criteria to conduct this study based on research questions. Those criteria were that the participants needed to know about play-based learning, and they should know process-oriented observation techniques and the use of open-ended materials. Thus, purposive sampling would be an appropriate method for selecting the population in this study. Before the year in the school where this research was conducted, the same participants took play-based program training and applied this approach to their curriculum. It was those teachers who were selected for this study. There were 16 teachers in the school. Two of them were the participants in the pilot study. Four other teachers were studying with toddler groups that I did not include in my study. As a result, I designed my sampling among teachers working with children aged four, five, or six at the time my study was conducted.

Leedy and Ormrod (2005) describe sampling as a selected population that should represent the full population during a study. In addition, Bryman (2008) suggests that a sample targets the part of the population that is appropriate for the analysis.

The purposive sampling method involves a process in which the inquirer chooses individuals and settings for this study who can best support the subject to be explored (Hatch, 2002; Merriam, 2009).

This study was conducted with 10 preschool teachers.

General information about the teachers is presented in Table 3.1 below.

Table 3.1. Participant’s background and experience

Background/Experience	Participant N
Educational Background	
Bachelor	2
Associate	4
Vocational High School	4
Experience in teaching preschool and/or kindergarten	
1 year	1
2-3 years	3
4-8 years	3
9-15 years	2
16-20 years	1

Three teachers of six-year-olds, three teachers of five-year-olds, two teachers of four-year-olds, and two teachers of three-year-olds were working at the school when this study was conducted. In addition to these classroom teachers in the classes for three-year-olds and four-year-olds, there was one assistant teacher in each class. Teachers in the five-year-old and six-year-old groups had one assistant teacher between them.

Among the teachers whose educational backgrounds and professional experiences were presented above, four of them stated that they only worked in classes of four-year-olds to six-year-olds, whereas the other six teachers stated that they had the experience of working in all classes ranging from two-year-olds to six-year-olds.

The teachers worked in three to six different preschools on average. They noted that the education programs of the preschools were child-centered and were prepared according to the MEB curriculum and used as the main source for the flow of the daily program. Furthermore, four of the teachers emphasized that they have participated in various training and seminars such as orff education, drama in early childhood education, STEM and Montessori model.

3.6. Data Collection

3.6.1. Interviews

In this study, a semi-structured interview was conducted to answer the research questions. Merriam (2009) proposed that conducting interviews is necessary when the

researcher aims to investigate the feelings or views of people that may not be directly observed. As a result, an interview protocol (see Appendix A) was used to obtain detailed information about early childhood teachers' views and self-reported practices on using loose parts in activities.

The interviews were conducted by referring to Rubin and Rubin's (2005) responsive interview approach as a flexible design that stresses the relationship between interviewer and interviewee and focuses on detailed understanding. This approach attaches importance to the relationship between the researcher and the interviewee that could yield much more information than a survey. Moreover, interviews offer the researcher a means to elucidate responses and corroborate participant answers.

Thanks to the advantages of the interview explained above, I conducted interviews with the teachers in a responsive way. That means, in addition to the questions in my interview protocol, I sometimes established conversations that needed to be explained in more detail, or when teachers had difficulty in continuing their responses, I asked my question from another direction. Since we worked with the participants for a long time, I took care not to direct their answers during the interviews.

Before the interview protocol was implemented, to have an expert opinion, questions were shared with a professional of early childhood education and fifteen years experienced preschool teacher. After their views were obtained, the contents of some questions were changed as a result of their feedback. For example, the term loose parts should be explained to the participants through a clear definition and the difference between open-ended materials and loose parts could be described with examples. After this configuration of the interview protocol, it was used in the pilot study to test and make necessary corrections.

The first part of the interview protocol (Appendix A) consisted of four questions that focused on teachers' background information, for instance, age, years of work experience, graduating school, and the number and age group of children they teach.

The second part of the interview protocol for teachers was composed of three questions to explore the "definition and meaning" of loose parts from teachers' perspectives. The teachers were expected to explain first what the term loose parts mean for them. After

their answers, the researcher gave them a clear definition of “loose parts” so that they could proceed with the rest of the questions in the protocol.

The third and the final part of the interview protocol asked six questions about the self-reported practices and views of teachers on loose parts applications in different activities and their practices. The teachers were asked to explain which types of activities they used loose parts, how they planned those activities, and what their views on using these materials in different activities were (see 3.2). Moreover, detailed conversations about the teachers’ self-reported practices were held.

Table 3.3. Main subjects of interest and sample interview questions

Main Subjects	Sample Interview Questions
Definitions and types of loose parts	<i>“Have you heard the term loose parts before? If yes, how would you define it?”</i>
Types of activities used loose parts	<i>“In which activities do you use loose parts?”</i>
Application of activities with loose parts	<i>“Can you give examples of how you use loose parts in different activities? For example, how do you plan and implement a math activity using loose parts?”</i>
Benefits of loose parts for children	<i>“Do you think that the use of loose parts in different learning areas has an impact on children’s development and learning processes? How?”</i>
Teachers’ participation and support in activities	<i>“Do children ask for help when using loose parts in different activities? Do you provide any support even if they do not want it? How?”</i>

3.6.2. Observations

Observation is one of the basic and necessary methods for qualitative studies to gather data (Marshall & Rossman, 2011). It is used as a research instrument to explore the answers to research questions and increase the reliability of the study (Merriam, 2009). Moreover, observation helps the researcher investigate the participants’ reflections that they would not or could not express as much as they wished (Dewalt & Dewalt, 2002). In this study, this method was used specifically to answer the research questions about “the practices of teachers in activities where loose parts were used.” As the researcher, I was a non-participant observer in this data-collection process. DeWalt and DeWalt (2002) believe that “the goal for the design of research using participant observation as a method is to develop a holistic understanding of the phenomena under

study that is as objective and accurate as possible given the limitations of the method” (p. 92). They propose that observation can be used to enhance the validity of the study. It may support the researcher to obtain an in-depth understanding of the context and phenomenon of the study (Marshall & Rossman, 2011). In this study, both interviews and observations were first-hand data collection tools used not only to obtain more detailed data but also to expand the validity of this study.

Observations were noted and recorded using different methods systematically, such as taking field notes, anecdotal records, and photographs. As Yin (2009) proposed, those observational recordings occurred in two basic ways. One is descriptive notes that explain the general picture of the setting and phenomena. The other one is reflective notes that include the researcher’s opinions and feelings. Based on the recommendations made by Bogdan and Biklen (1998) and Merriam (2009), an observation form was designed for this study to act as a guide for the researcher.

During the process of designing the observation protocol, reliability is considered by describing that the same findings can be gained by repeating the data collection procedure. As a result, another observer, who is an assistant at a university with a master’s degree, participated in four observation sessions before the pilot study. She created some categories based on the research questions. After that, her categories and the researcher’s findings were compared. There was an agreement on the basic categories despite one point that was related to the educational backgrounds of the children’s parents. On the other hand, this category was not directly related to the research questions. As a result, it was not included in the interview protocol. As Yin (2009) stated, two observers were able to follow the same processes and reached the same findings during those four observation sessions. After that, the observation protocol was created to be used in the pilot study first.

The procedures for using the observation protocol will be explained in the pilot study session in this chapter.

The observation form comprised five main parts. In the first part, the daily flow of the program and different activities were observed. Moreover, how circle-time activities, transitions, daily routines, and other activities were connected was noted. In the second part, teacher-child, child-child, and teacher-whole group interactions were noted. The

teachers' interaction with the children in the classroom, their verbal and physical responses to the children, and guidance through play or activity were observed. In addition, how the teachers motivated or encouraged the children in the classroom was noticed, and how the children played and worked together was observed. In the third part, how the teachers planned and applied activities was monitored. The teachers' preparations for the activity, readiness for all activities concerning materials and physical settings, maintaining an active-passive balance within activities, and their approaches for starting and ending the activities were all observed. Furthermore, guidance, direction, scaffolding styles, and participation in the activities were mentioned. In addition, what kinds of documentation techniques the teachers used in the course of activities with loose parts were noted using this part of the form. Lastly, loose parts materials in different activities were stated in the observation form. The types of materials used, the children's choice of loose parts, duration, the role of loose parts in activities, the relationship between loose parts and activities, and what the children used those materials for were all noted in the observation form. Each teacher was observed 24 times and every single observation lasted 30-40 minutes on average. A total of 120 hours of observations were carried out for this study.

3.6.3. Documents

The children's documents were used as a secondary data source for this study. There are several reasons why researchers prefer to use document analysis. First, document analysis is an effective way of collecting data because documents are convenient and feasible resources (Bowen, 2009). Second, documents are stable, "non-reactive" data sources, meaning that they can be read and reviewed multiple times and remain unchanged by the researcher's influence or research process (Bowen, 2009, p. 31).

Document analysis can enhance the strength of the study and provide a source for triangulation. According to Poister and Van Slyke (2002), there are three types of documents in qualitative case studies: 1) Personal documents produced by individuals, such as letters, photos, visual recordings, diaries. 2) Official documents produced by organizational employees for record-keeping, such as congressional papers. 3) Popular culture documents produced for commercial purposes, such as television programs and news reports.

Based on the definitions above, I used personal documents that the children and the teachers produced during different activities. Photographs of work samples, video recordings during loose parts playtimes, and teachers' anecdotal records were employed as a secondary data source to strengthen the part of the research question “What are the practices of teachers in using loose parts in different activities?”

3.7. Data Collection Procedures

Various data collection procedures consisting of interviews, observations, and document reviews were employed, as mentioned previously. In this part of the chapter, data collection procedures will be explained in detail.

Table 3.3 below shows the data collection procedures and the timeline for the present study.

Table 3.4. Data collection timeline

Data Collection Procedures	Participants	Data Collection Methods
Pilot Study (1 month) (October 2018)	2 preschool teachers	Interviews Observations (once a week) 8 observations (total)
Main Study (6 months) (November 2018 - May 2019)	10 preschool teachers	Observations (once a week) 24 observations for each teacher (30-40 minutes- In total 120-130 hours observations) Document analysis

As one of the first steps of my research, I obtained the necessary permissions from the METU Ethics Committee to conduct the research before I started this study.

In October 2018, I conducted the pilot study, which was the first step in my research, with two teachers who worked at the same school and did not participate in the main research. The reason why the pilot study was held in the same school was that the research position was very specific, and it was a purposefully selected school.

The pilot study aimed to make the necessary revisions in the interview questions and the design of this study. At the end of the one-month pilot study, changes were made to the number and content of the interview questions. In addition, observation times and frequencies were planned for the main study.

The main study took place over six months between October 2018 and May 2019. This study consisted of interviews, systematic observations, and document review.

Table 3.4 below shows the research questions and the data source for the present study.

Table 3.4 Research questions and data source

Research Question	Data Source
RQ.1 What are the preschool teachers' views on the use of loose parts in daily activities?	Interviews
RQ.2 How do preschool teachers use loose parts in daily activities based on their self-reported practices and actual practices?	Interviews (Self-reported practices) Observations
RQ.3 In which types of daily activities do preschool teachers use loose parts more frequently?	Interviews (Self-reported practices) Observations Documents
RQ.4 Which types of loose parts are used more frequently in daily activities?	Interviews (self-reported practices) Observations Documents

Interviews were conducted when teachers were available. Each interview took an average of 20-30 minutes. With the participants' permission, conversations were recorded using a mobile phone. Meanwhile, written notes were taken by the researcher. Semi-structured questions were asked in the interviews. Moreover, when I went to school to make observations, I conducted unstructured interviews with the teachers.

Besides the interviews, the observation sessions and schedule were planned by the researcher. According to Merriam (2009), each observation may vary according to its own pattern and continuity. As a result, there is no optimal duration for observations. Drawing on Merriam's (2009) suggestion, the amount of time that the researcher spends on each session of observations will vary depending on the purpose of the study. Therefore, I went to the school once a week and made my observations. I observed each teacher 24 times in total over six months. Each session lasted from 20

to 50 minutes. This period varied depending on the type of activity, the attention span of the children, and the way the teacher continued the activity. I also spent an average of 20 minutes in activities that I observed a very similar example of in the same class before. Approximately 120 hours of observations were carried out for this study.

During the data collection process, a second observer participated in the observations four times. She received her bachelor's degree in early childhood education and her master's degree from the same department. She has been the owner of the school for eight years. The reason why I chose this person as the second coder in the study is that she pays attention to detail and works very objectively with the teachers. Her master's thesis was a qualitative study, and it was easy to discuss observation procedures with her.

As a researcher, I always adopted the position of a non-participating observer. I made no contact with the teachers or the children. In most of the sessions, the observation protocol was used. Additionally, I used a notebook in which I made additional field notes. Moreover, I used my mobile phone to dictate notes as soon as I left the classroom immediately after the observation not to forget some important points.

In addition to the interviews and observations, document review was a secondary data source for this study. Samples of the children's work, teachers' anecdotal recordings, and video recordings made during loose parts activities were reviewed. I looked through those documents after the observation sessions when the children were not in the classroom. The teachers sent video recordings and photographs via WeTransfer to my e-mail address. I viewed work samples and teachers' anecdotal recordings in the classroom and took photos that I could use in my thesis.

3.7.1. Pilot Study

I conducted a preliminary interview with the two teachers for the pilot study and prepared 23 questions for this purpose. The set of questions was prepared in an open-ended format and divided into three parts.

The first part began with questions about the teacher's educational background and professional experience; the second part asked about the educational approaches that the teacher has applied in the institutions where s/he has worked to date, her/his

experience with play-based programs and loose parts; the last part included questions about her/his views on loose parts.

I gave the teachers a preliminary briefing on the purpose and content of my work. I performed the interview twice. Before I started collecting data and making observations, I interviewed to obtain the views of teachers on how they use loose parts in the daily program activities and on loose parts. Then, I made class observations twice a week for one month. I continued my observations by participating in the classes of both teachers three times a week for one month for an average of 40 minutes each time in different class activities. This way, I observed each teacher on average 24 times in total.

I observed two teachers' classes twice a week. The pilot study consisted of 24 observations in total. During my observations, I focused on the practices of teachers with loose parts. At the very beginning of the observations, I told the children in the class that I wanted to observe their work closely. Thus, I told them that I would sometimes come to class and sit in a corner, make observations, and take some notes in the meantime.

The points I paid attention to during the observations were as follows:

How they started the activity, how they performed the work that required concept expression, the seating layout in the classroom, the ways of conveying the purpose and flow of the activities, the approaches used during the application, and how they ended the activity.

During my initial observations, without developing any coding or categorization, I focused on how the teachers used loose parts. After the first observation, I created my first categories. In the ongoing observations, I started to evaluate semi-structured, structured and unstructured activities separately. I focused on communication, interaction, expression, evaluation, implementation, guidance, support, speeding up or controlling the process, and responding to needs quickly.

I also created codes to categorize observation notes faster. In the first week, I observed each teacher for about 40 minutes. I took notes by looking at how loose parts are used,

how they start and end the activities when these materials are used, whether they join in the children's games, the type of activities, and the way they are implemented.

Then, I created some codes to make the observations more systematic and took my notes using these categories and codes in the second week. Realizing that there were different codes and categories in the pilot study that served the same purpose, I reorganized them for the main study.

I looked in detail at which activities the teachers used the loose parts in, how they included these materials in the classroom, the duration of the children's engagement with loose parts, and the progress of the activities. One of the purposes of my observations in the pilot study was to plan time for the main study. At what times of the day, for how long were loose parts used intensively, and similar points were prioritized. I saw that the teachers included loose parts every day in practice. I noticed that they were used intensively in the morning hours. Accordingly, I planned my observations for the morning hours in the main study.

3.7.2. Summary of the Pilot Study

Conducting a pilot study was an important phase of my study. Two teachers were chosen among the samples and were not included in the main study. My purpose was to test my interview questions and observation process. Moreover, I aimed to understand in which activities loose parts were used most commonly. At the end of the one-month pilot study, I drew the following conclusions:

- Some of the questions were not clear for the participants. It was noticed that some questions restricted the participants from giving detailed answers, and so I needed to convert them into more open-ended questions that were clearer and targeted at the research questions.
- There were too many questions (18 questions), so I reduced them to 13.
- I needed to revise the codes and categories in my observation protocol, and so the codes and categories were revised to look at teachers' practices in more detail.

3.8. Data Analysis

This study was designed as a qualitative case study. Based on the related literature, the required data analysis steps were followed. An inductive approach was used to analyze the data. This process began with defining the research questions, data collection, coding, categorizing, and examining the relations of categories (Bryman, 2004). Further steps of data analysis consisted of data reduction, data display, and drawing conclusions (Huberman & Miles, 1998). The data collected throughout this study were broken down into fundamental parts to make complex issues clearer and more understandable (Bernard, 1988, as cited in Huberman & Miles, 1998).

According to Wellington (2000), analyzing qualitative data is a complex and confusing process. As a result, immersing, reflecting, breaking into parts, compounding, establishing relationships, and presenting the data are the steps in the analysis phase of this study.

I followed these steps, as Wellington (2000) suggested, during the data analysis of this study.

The recordings of the interviews were transcribed. After this phase, codes for the data were identified. Coding is “the translation of question responses and respondent information to specific categories for the purpose of analysis” (Kerlinger, 1970, p. 96). After coding, I divided the data into categories to construct an integrated explanation (Rubin & Rubin, 1995). Then, the themes emerged based on the research questions.

Besides the interviews, there were huge amounts of data gathered from systematic observations as the other main data source. There were 24 observations for each teacher. All the written notes were coded, categorized, and compiled under themes.

Last, documents were reviewed. The children's group work, individual play, and activities, and teacher's anecdotal recordings were analyzed, and those documents were explained concerning the type of activity, the direction of activity, teacher's participation and scaffolding, and duration. There were two main aspects of this study. One aspect was to investigate “the views and the self-reported practices of teachers”; the other was to explore “the real practices of teachers.” For the first aspect, interviews played the leading role in finding answers to the related research questions. For the

second aspect, observations played a major role in completing the whole picture of the study. Moreover, the document review was related to both views and practices. Thus, using and analyzing those three types of data enabled the researcher to create different themes under each data source.

3.9. Reliability and Validity of the Study

The purpose of reliability is to generate evidence for issues, such as proving the validity of the study and managing possible biases that may happen during qualitative case study processes, such as data collection, analysis, or implementation (Bloomberg & Volpe, 2008; Merriam, 2009). As a result, some approaches are used to increase validity, reliability, and generalization in qualitative studies (Merriam, 2009; Yin, 2009). Maxwell (2005) defined validity as true and credible explanations of findings or interpretations. In addition, Maxwell proposed that validity is composed of some additional alternative explanations besides the triangulation approaches, such as peer debriefing. Moreover, validity can be increased by the researcher with the help of comprehensive and rich data, long-term involvement in the setting, intervention, stating unfavorable cases, triangulation, and comparison (Maxwell, 2005). In addition, the findings were associated with the theoretical framework. As a researcher, I took a very mindful approach to these issues and applied multiple methods to empower the validity of my study.

Creswell (2007) suggested using at least two methods to increase the validity of case studies. In this study, peer debriefing, triangulation, prolonged engagement, and thick description methods were used.

In the process of peer debriefing (Lincoln & Guba, 1985; Merriam, 1998; Creswell, 2007), I shared the data with an academic and a preschool teacher with 15 years of experience and sought their views. I received some feedback from them about the clarification of questions especially the definition and description of “loose parts.” Simultaneously, I also asked the founder of the school to examine the data since she also participated in the observations four times with me. Conducting peer debriefing throughout my data collection and analysis period supported me concerning the reliability of the findings obtained in this study.

Triangulation was another method used in this study. It is one of the most common strategies to increase and strengthen the validity of a study in qualitative studies (Merriam, 2009). According to Miles and Huberman (1994), applying multiple methods, diverse sources of data, more than one investigator, and different theories are the strategies used for triangulation. To obtain the answers to the research questions, multiple methods for collecting data were applied. In this study, interviews, observations, and document review were used in the data collection process. Several interviews were repeatedly conducted from the beginning of the pilot study until the end of the main study. In addition, 120 hours of observations were conducted for this research. Last, many documents of samples of the children's work and the teachers' anecdotes were reviewed.

Prolonged engagement was another approach in addition to peer debriefing and triangulation. A study's findings are more conclusive if they are the result of rich and intensive data sources that suggest the same results (Denzin, 1989; Lincoln & Guba, 1985; Merriam, 1998). Prolonged engagement is the contribution of an adequate amount of time in the research setting. Deciding how much time is enough depends on the setting. Lincoln and Guba (1985) suggest that the amount of time could be decided by assuring that determined purposes are attained. In this study, the researcher spent much time in the setting. From the beginning of the pilot study, seven months was allowed for this research.

Thick description was another strategy used in this study for validity. Thick description refers to "the researcher's task of both describing and interpreting observed social action (or behavior) within its particular context" (Ponterotto, 2006, p. 543). To this end, as the researcher, I provided clear and comprehensive information about context, setting, participants, and the findings and I tried to give direct quotations rather than paraphrase the participants' answers, all of which supplied enough convincing proof (Creswell, 2007).

Additionally, reliability is an issue that is related to validity in qualitative research design (Seale, 1999). Lincoln and Guba (1985) state that since there can be no validity without reliability, a demonstration of the former [validity] is sufficient to establish the latter [reliability]" (p. 316). Patton (2002) describes reliability as a consequence of

validity in a successfully conducted study. In this study, the strategies for reliability were followed to establish both validity and reliability.

3.10. Limitations of the Study

This study has some limitations. First, this study was implemented in a play-based school using loose parts materials. The findings from this school may not produce the same results as a study conducted in a different environment.

Second, I conducted this study only in indoor settings. I did not include the outdoor environment, so most of the research was related to the use of loose parts in play areas. Although this may seem like a limitation, conducting this research by focusing on a specific area has led to more detailed and intense data.

Third, one of the participants in the actual study had one year teaching experience. Although she participated in several seminars or work-shops related with play-based curriculum approaches and teaching concepts to young children with open-ended material, she didn't have an experience both related with loose parts play and other curriculum models or approaches.

Finally, I was also an educational counselor at this school and while knowing the teachers in advance may seem like a limitation, it was an advantage for this study. This situation allowed me to acquire a considerable amount of in-depth data. Moreover, the participants did not hesitate to share their points of view, nor did they experience any dilemma over behaving naturally during my observations. I should note that I maintained my objectivity throughout this study.

CHAPTER IV

FINDINGS

In this chapter, I clarify the findings of my research based on my research questions. I initially conducted a pilot study with two teachers who did not participate in the main study. Afterward, structured and unstructured interviews, systematic observations, and documentation were handled. The main research questions were stated below:

1. What are the preschool teachers' views on the use of loose parts in daily activities?
2. How do preschool teachers use loose parts in daily activities based on their self-reported practices and actual practices?
3. In which types of daily activities do preschool teachers use loose parts more frequently?
4. Which types of loose parts are used more frequently in daily activities?

The findings will be explained in the order outlined briefly below:

1. Main Study
 - 2.1 Interviews
 - 2.2 Observations
 - 2.3 Documentation
 - 2.4 Summary of the main study

In the following tables, the findings will be explained according to research questions and data sources under the basic themes derived from the whole data.

Table 4.1. Research questions and themes from views and self-reported practices

Research Questions	Themes in the interviews
R. Q. 1 What are the preschool teachers' views on the use of loose parts in daily activities?	Benefits of Loose Parts Structured Materials versus Loose Parts Daily Flow
R. Q. 2 How do preschool teachers use loose parts in daily activities based on their self-reported practices and actual practices?	Loose Parts in Daily Activities Teacher's Role: Scaffolding or Director? "Permanence" of Loose Parts
R. Q. 4 Which types of loose parts are used more frequently in daily activities?	Commonly Used Loose Parts

Table 4.2. Research questions and themes from observations

Research Question	Themes of observations
R. Q. 2 How do preschool teachers use loose parts in daily activities based on their self-reported practices and actual practices?	Types of Daily Activities Teachers' Practices With Loose Parts
R. Q. 3 In which types of daily activities do preschool teachers use loose parts more frequently?	Teacher's Frequency of Introducing Loose Parts The Role of Loose Parts

Table 4.3. Research questions and themes from document review

Research Question	Themes in the document review
R. Q. 3 In which types of daily activities do preschool teachers use loose parts more frequently?	Work samples from different activities
R. Q. 4 Which types of loose parts are used more frequently in daily activities?	

At the beginning of the interviews, teachers were expected to define what loose parts were. Statements common to other teachers' definitions were natural and synthetic materials should be organized and presented to the child in aesthetic form. In addition, one teacher defined loose parts "there is no limit, but there is lots of freedom, great

things come from loose parts materials” (T1). Another teacher identified loose parts as sensory materials that improve children’s creativity (T5). One other teacher pointed out that loose parts are the guiding parts that children can direct and develop as they wish (T7). Lastly, most of the teachers (n=8) declared that loose parts do not have a single use and can be converted to anything.

4.1. Interviews in the Main Study

Findings derived from interviews will be explained under seven themes: benefits of loose parts, structured materials vs loose parts, daily flow, loose parts in daily activities, teacher’s role: scaffolding or director, permanence of loose parts, commonly used loose parts.

4.1.1. Benefits of Loose Parts

During this study, the teachers emphasized, especially in the informal interviews I conducted monthly, that the use of loose parts is very effective for children. As time went on, the teachers started to talk about the potential effects of using loose parts in more detail.

One teacher (T3) described her observations as:

Creating something from the materials again and again, designing new things, using a variety of materials makes the process interesting and enjoyable.

Another teacher (T9) described her views about the benefits of loose parts as:

I like to use different materials suitable for the tactile and sensory development of children. It is fun to discover the pleasure they feel when they touch or see. As a teacher, introducing children to materials that they have not seen or used before both excites me and supports their development.

According to another teacher (T4), the use of loose parts is very interesting for children who are very eager and productive.

One of them stated:

I observe that while playing with open-ended materials, children enjoy a more effective learning process by establishing longer games. I think that structured materials are effective in concept education, but when supported with open-ended materials and games, more effective results are achieved.

Seven teachers said that different materials attract children’s attention and learning becomes enjoyable for them. According to the teachers, children enjoy using, touching, and discovering different materials. One of them said that creative projects resulted from the use of loose parts materials.

Another teacher (T6) pointed out:

I observe that activities with such materials became more enjoyable for the children and the teacher. With these materials, children can become more open to producing different ideas and reveal their creativity more easily. I also think that finishing the activities without worrying about whether something is right or wrong increases their motivation.

I asked participants to be more detailed about the benefits of loose parts concerning children's development. The benefits, as they explained them, were grouped under main developmental areas. The answers are clarified in Table 4.5 below.

Table 4.4. Teacher’s answers about the benefits of loose parts

Area of development	Benefits of loose parts	Number of teachers
Physical Development	Risk-taking	3 teachers
	Fine motor skills	All teachers
	Eye-hand coordination	All teachers
	Physical balance	9 teachers
	Stimulation of five senses	All teachers
Cognitive Development	Problem-solving	All teachers
	Attention span	7 teachers
	Research abilities	8 teachers
	Curiosity	9 teachers
	Exploration	All teachers
	In-depth thinking	6 teachers
	Creativity	All teachers
	Imagination	All teachers
Natural learning	1 teacher	
Social-Emotional Development	Recognition of one’s abilities	6 teachers
	Expression of emotions	2 teachers
	Self-regulation	4 teachers
	Intrinsic motivation	8 teachers
	Social interaction	All teachers
	Sharing	All teachers
	Cooperation	9 teachers
Language Development	Turn-taking	5 teachers
	Alphabet and letter recognition	7 teachers
	Open-ended questions	8 teachers
	Storytelling	6 teachers
	Speaking abilities	3 teachers

The benefits of loose parts for children's development were discussed in detail. The teachers explained how those abilities were improved by those materials. T7 said:

“The children found the chance to create different designs, especially with natural materials. This opportunity enriched their perspective on materials and improved their creativity. The limits of their imagination expanded.”

Another teacher (T2) stated:

“I believe that loose parts have a positive effect on development. I observed that the children learned many things naturally just by playing and dealing with those materials. Loose parts helped the children to get divergent thinking abilities. During the process of generating new ideas, those materials indirectly supported research, discovery, and problem-solving skills. Lastly, I think that loose parts supported the children’s motivation by actively directing their own learning process.”

Lastly, T1 said: “Loose parts attracted the children’s attention. As a result, transitions and connections between activities are provided to support all developmental areas at the same time.”

4.1.2. Structured Materials versus Loose Parts

In the interviews, I asked the teachers what the differences between using structured materials and loose parts were. They listed several differences by comparing both types of materials.

First, one teacher (T5) said:

“The children had much more chance to direct loose parts in accordance with the purpose of the activities. However, with structured materials, this chance was limited.”

Another teacher (T3) reported:

“While the children were playing with loose parts, I observed that they would create or build various constructions, houses, towers, and vehicles using empty boxes, fabric, stones, and lids. Afterward, they would create a scenario in that environment. They had lots of fun. They would not make that kind of design using only plastic construction toys.”

One of the teachers (T6) stated:

“I think open-ended materials are more suitable for the nature of the child; they are more effective and support creativity more than structured materials do. Moreover,

I think that the use of loose parts is more effective in teaching concepts like numbers and shapes.”

Most of the teachers said that children have many structured toys. Thus, they get bored very quickly with these toys, and their attention span is minimal. However, loose parts are different and enjoyable for children. In addition, the participants declared that structured materials were perceived as a part of traditional educational approaches. One of the teachers (T8) explained this situation as

“With structured materials, children become part of an already existing, pre-prepared composition for them. However, in loose parts, children create this composition themselves.”

One teacher (T10) identified this difference as:

“I think loose parts are much more useful for visual memory and effective learning than ready-to-play toys or materials.”

Another teacher (T2) reported:

“The children in my class are very interested in the activities. Since they are open to discovering new things, activities with loose parts materials entertain them very much. They spend much more time playing with those materials than with structured ones.”

One other teacher (T7) explained the difference between structured materials and loose parts as:

“I observed that children use ready-to-use playdough for shaping. However, the children produced very different and creative designs when I added loose parts to that playdough. I can say that the children focused on their task when those materials were included in the activities. I also realized that while the children were playing with plastic blocks, for example, when they could not find the one of its part that fits where they wanted, that caused the children much stress. On the other hand, while the children were playing with large and small boxes, I observed that they played more freely. I saw that they enjoyed the activity more. I noticed that children play with open-ended materials much more freely by tearing them or changing the purpose of use.”

Lastly, one of the participants declared that structured toys develop only certain and stereotyped games, and children’s play is limited. However, creative products emerge when using loose parts. Since children can produce many things, they stay in the activities for longer periods.

R. Q. 2 How do preschool teachers use loose parts in daily activities based on their self-reported practices and actual practices?

- Daily Flow
- Loose Parts in Daily Activities
- Teacher's Role: Scaffolding or Director?
- "Permanence" of Loose Parts

4.1.3. Daily Flow

The teachers stated that they created a one-day program flow using the program prepared by the education coordinator. A general framework was drawn up within the context of the theme or topic that month. They said that the framework of this program included the topics, objectives, achievements, and some activity suggestions to be discussed that week and that they made their daily education plans according to the needs of the children in their class.

Most of the teachers stated that they pay particular attention to the following three points in daily activities: Starting the day with circle time, taking into account the active-passive balance in the activities, and focusing on the purpose and objectives.

I asked them to elaborate on how these three points contributed to the daily education flow. One of the teachers (T1) reported:

"I plan the activities according to the children's level of readiness. I consider our goals and achievements. I also organize daily flow by balancing active-passive activities. To prevent uncertainty during the day, I always start the day with 'circle time' and inform the children about the general flow of the whole day."

All the teachers stated that they started the daily program with circle time. They said that they first said hello to the day, then they talked about the daily weather conditions, how the children feel or whether they want to share anything, and the teacher briefly shares all the activities to be implemented throughout the day. They also stated that during circle time, they always ask questions about their themes and note the children's answers with anecdotal records.

The teachers also said that they always played three types of games in the daily education flow. These are constructive play, sensory-motor activities, and symbolic

play. The teachers named the activities in the one-day flow as mathematics, science & nature, art, group play, and language activities. They stated that they allocated an average of 30-40 minutes for each activity.

Apart from this, they explained that other activities in the daily plan include garden time, branch lessons, and routines.

4.1.4. Loose Parts in Daily Activities

Depending on my research questions, I mainly focused on how loose parts are used in the activities implemented in the daily education flow. As the teachers mentioned, they have a well-planned daily flow that consists of three types of play, other learning activities, branch courses, and English lessons. During the interviews, I focused on each daily activity in detail.

The main purpose of the related interview question was to understand whether the teachers had used loose parts when applying those activities. Thus, both their views and self-reported practices were derived from interview questions. Also, how they included them and how children engaged in different activities with loose parts.

The teachers stated that using loose parts in different activities gave the children great opportunities to explore, create, try and re-try, ask, answer, and think. Moreover, some materials would be used for various purposes in different activities. A stone, for example, would be a counting tool in a math activity, and it would be a face in an art activity. As a result, children's imagination and thinking abilities can be supported with those "unlimited materials."

Besides those reflections, the teachers also stated that they got the chance to transfer and transit between the activities using loose parts. For instance, one teacher (T9) explained this situation as:

"I think open-ended materials are more effective in learning and that is why I use them in different activities. For example, for a science activity, the children first went to the garden and put the leaves they found in their bags. We counted the leaves they collected for themselves in the classroom. We talked about the differences between dried and green leaves. We counted, grouped, and sorted the leaves for math work. We created leaf prints for the art activity. In addition, we designed our own figures from the leaves. Using our senses, we smelled the leaves, felt their

texture, and examined them with a magnifying glass. Finally, we shared our ideas about leaves.”

Besides this statement, teachers also reported that loose parts could be used in all learning activities. One teacher (T10) said:

“Since those materials improve children's imaginations, I include them in all learning activities. I give children the opportunity to prepare, touch, discover and observe materials in accordance with the activities in that day's plan. In this way, I think we let the program be more effective. Children like to use loose parts for different purposes.”

When I asked the teachers their views about which types of activity loose parts were more effective in, most of them listed math, art, sensory-motor activities, and symbolic play, respectively. Math activities were the most common answer, with eight teachers out of 10. Indeed, one of the teachers (T3) commented:

“The use of loose parts in math activities made the children feel more comfortable. Thus, loose parts helped the children to visualize the math concepts concretely. For example, their number-perception skills developed faster. Before we used loose parts, they had many problems in recognizing number concepts.”

Commenting on using loose parts in math activities, another teacher (T5) said:

“I use loose parts frequently in math activities, especially in skills, such as counting, sequencing, sorting, matching, and forming shapes. I can ask several directive and supportive questions. For example, I ask the children, ‘How many bottle caps did you use to create this shape?’ If the child experiences any difficulty, I offer to count together.”

In addition to the statements above, the teachers also explained that it is an opportunity for children to learn basic math concepts using very simple and concrete materials.

The second most common answer about the use of loose parts materials was “art activities.” The teachers stated that the children were able to use loose parts in various ways and styles in art. T8 described her idea as:

“I realized that I had always implemented teacher-prepared art activities. We spent most of our time with paper and crayons. After I started using loose parts, I understood that children could be more creative by making their own preferences. Furthermore, I realized that art activities were not just about cutting, pasting, and painting at the table. More than that, anything could be a part of an art activity.”

The vast majority of teachers stated that with the use of loose parts, their perspective on art activities changed from one-dimensional and paper-based crafts to three-dimensional designs.

Another teacher (T6) supported this idea by saying:

“I think open-ended materials are more suitable given the nature of ‘art’ and ‘the child.’ For this reason, loose parts are more effective and support creativity more than classical art and craft materials.”

The third most common activity where the teachers reported the frequent and effective use of loose parts was sensory-motor activities. The teachers said that the biggest contribution of loose parts in sensory-motor activities is to stimulate the five senses of children at the same time using different kinds of materials and allow children to use their imagination, creativity, and problem-solving skills. One of the teachers (T4) stated:

“During sensory-motor play, I do not give directions to the children. By putting the loose parts in predetermined places, the children are allowed to play freely. In those places, I sometimes used bordered platforms like a cover, tray, or placemat. When the children played on them, their concentration improved.”

All the teachers expressed the relationship between sensory-motor play and loose parts as mixing various materials that attract children’s attention. The teachers also stated that they particularly preferred to use small-sized and different textured materials in sensory-motor play.

According to the participants' statements, the fourth activity in which loose parts were used frequently was symbolic play. Seven of the teachers declared that children liked to use loose parts in symbolic play a lot. T2 commented:

“When we say symbolic play from a classic perspective, we think of utensils, dolls, repair tools, and equipment. However, using loose parts in this type of play also opened new windows for the children. It supported the children's imagination incredibly.”

Another teacher (T1) stated: “The children generally spent approximately 20 to 30 minutes in symbolic play. After we started using loose parts, this time extended to 40-50 minutes.”

One other teacher (T7) expressed the usage of loose parts in symbolic play as:

“I have been a teacher for 15 years. Up until a couple of years ago, I would have had concerns about children touching the materials, especially in symbolic play sessions [...] I was thinking that they would get hurt, put the materials in their mouths, etc. Thus, I had less control over children when compared with structured or semi-structured activities, but after I started using loose parts, I realized that I used to approach children very traditionally and that perhaps I slowed down their developmental progress. When they feel that they are free to use and explore those materials, they do not have any problems, such as misusing them.”

T10 stated:

“Children generally preferred to play with blocks or plastic toys for construction games. When I put materials, such as bottles and stick boxes in the same learning center, I saw that they chose them. Likewise, they liked to use open-ended materials in the house corner. Instead of ready-made clothes for their dolls, they prefer to design clothes from fabric pieces for their dolls.”

In addition to the activities mentioned above, the teachers also explained how loose tools were used in science & nature activities, language activities, and constructive play.

Almost all the teachers described science and nature as pre-planned and semi-structured activities. They emphasized that it was much more important to prepare the materials and the environment for science activities than it was for the others. As a result, based on the teachers' explanations, it was understood that loose parts for science activities were purposefully selected and used. When I asked the teachers the reason for this preparation and a more controlled environment, T9 stated:

“For science activities, I mostly do experiments with children, we research books on science concepts, form three-dimensional designs, and I let the children discover a natural phenomenon like a leaf, a snail, a stone, or water. Thus, all these activities required some preparation beforehand. Even if children are totally free to explore, sometimes they later start to ask questions and discuss things with each other. Nevertheless, after the questions stimulated their learning process, I stepped in to support them.”

Language is another type of activity in which loose parts were used as declared by teachers who taught in classes for six-year-olds. In the school where my research was conducted, children are not taught to read and write. However, within the scope of readiness for school, the letters of the alphabet were introduced and activities for phonological awareness as well as fine motor activities were implemented. In addition, activities to increase concentration and attention span were implemented and some

audio-visual aids to enhance listening abilities were used. Loose parts were used actively in this school-readiness program. When I asked them to explain this usage in detail, T5 stated:

“Specifically, in the introduction of the alphabet, we actively used loose parts to identify the letters. We wrote the letters in the names of the children on the stones, mixed them up, and asked them to re-create their own names. The children then turned it into a daily routine, and after a while, they started forming each other's names. Then they began to write letters on other objects or to create big-sized words from objects.”

Other teachers of six-year-olds also said that they used loose parts for reading and writing preparation, particularly for letter recognition. Teachers who taught other age groups stated that they use loose parts to form three-dimensional stories. After they read a book or listen to a story, teachers give children loose parts to create a concrete version of what they had heard. Thanks to those activities, the children became more enthusiastic about books and stories. One of the teachers declared, “Children rewrite the stories with concrete materials, making impressive designs.”

Lastly, the participants stated that loose parts were used frequently in constructive play. Based on the teachers' reflections, children use loose parts in constructive play. T8 said:

“Children like to use blocks very much. Once I brought different sized boxes, stones, fabric pieces, and branches. They started to integrate those materials, especially the blocks. They preferred to use blocks just as blocks. However, the children combined loose parts with blocks.”

As the teachers stated, children liked to build constructions using various boxes a lot. They said that the children helped, cooperated, talked, asked, and shared during this play using loose parts. T4 expressed this situation as:

“In constructive play, loose parts became a social network tool for children to build big projects together.”

According to another teacher, constructive play opened new doors. T9 said:

“Constructive play is a very important play type where many skills are actively used by children like problem-solving, strategic thinking, creativity, and motor skills. Loose parts have opened new doors to children, such as by combining a block with a rock in a construct.”

4.1.5. Teacher's Role: Scaffolding or Director?

As part of my interviews with teachers, I asked some questions to understand to what extent the teacher was involved in the process of using loose parts in daily activities. My aim with these questions was to find out whether teachers directed or supported the children.

In this study, the words “director” and “scaffolding” were used to explain the teachers’ role during the activities where loose parts were used. I sought answers to the following questions to understand their roles:

Did teachers interfere with the children's activities too much or were they just observers? Did they actively participate in the process and respond to the children's questions and needs during the game or activities with a supportive approach?

The teachers described their roles during activities differently. T1 stated:

“I am like a playmate for children during activities. I become a part of those games; generally, the children give me a role. Being a participant in this process, I have more chance to observe, support, ask questions, and understand the children.”

T10 explained:

“As a teacher, when I used loose parts in different activities, I often drew a general framework about our topic for the children. They asked questions to get my support. For example, ‘What does this piece belong to; May I take more pieces, etc.,’ Children also ask for support from their peers. I frequently hear, ‘Can someone help me?’”

The vast majority of teachers said that there were many more opportunities to take learning one step further in activities where loose parts are used. They stated that these materials were an effective resource to enrich activities by focusing on different concepts at the same time.

T3 reflected:

“Since we work with a play-based curriculum, we do not do direct teaching or practices where the child is passive. On the contrary, we give children time and an environment to explore and learn. Loose parts also support us effectively within our play-based curriculum.”

I asked for more detailed explanations about how they scaffold children while using loose parts. It is vital to state that during my research, I asked my questions using the term “support” since I could not give the exact Turkish meaning of “scaffold” clearly. However, I explained to the teachers what scaffolding means.

After these explanations, T4 stated:

“When using loose parts in different activities, I saw how children could use the same material for different purposes. In the meantime, I observed that we had gone one step further with an open-ended question I asked the children. In short, loose parts are effective tools for our communication with children while supporting their learning and development.”

Eight participants explained that loose parts provide great opportunities to ask open-ended questions to children. In this way, children's creativity, imagination, and problem-solving skills are supported. The teachers also stated that their activities with loose parts were very useful for increasing the content of the themes.

One of the teachers said that children need more support during some activities. T7 explained:

“In activities like math, science, and language, I needed to support the children. I gave some directions related to the task and observed them individually. If a child had any difficulty, I offered to help or suggested we work together. On the other hand, in symbolic play, sensory-motor play, or constructive play, I was an observer. In those types of plays or activities, the children generally asked each other for help.”

4.1.6. “Permanence” of Loose Parts

In the interviews, I told the participants that in many activities, the loose parts the children played with were worn and used again and again without sticking them down or fixing them. Sometimes, children might not want to break the structures they have created. What did you do in this situation?

The teachers answered this question by explaining their self-reported practices. T8 explained:

“When there was a structure that they did not want to disrupt after the activity or play finished, we sometimes left it on the ground or carried it to a corner and left it there for a day. If there was no chance to move the structures, we found solutions, such as photographing them, fixing them, sticking them down, or drawing the structure created by children.”

T5 stated:

“We stored loose parts in an ordered and aesthetic way. We had special boxes, baskets, or containers. Like materials were kept in the same place. Within the time, children liked to organize those containers, tidying up the loose parts by separating them based on their characteristics. This was a kind of activity for the children. As a result, they improved their awareness of how to use or play with loose parts.”

Most of the participants said that the children understood the concept of how to use loose parts. For that reason, they did not insist on leaving the products or structures intact. The teachers stated that instead, the children mostly asked that photos be taken of their “products.”

In addition, the teachers expressed that the children were aware of the characteristics of materials, whether they were durable enough to fix or whether they were too tattered to be stuck down. Thus, they enjoyed using loose parts for different activities instead of leaving them as a permanent product.

Lastly, two teachers said that they allowed the children to make small presentations about their designs or constructions.

The teachers' practices concerning how they documented evidence about activities, constructions, and work samples derived from loose parts are clarified in Table 4.6.

Table 4.5. Teachers’ practices on documenting work samples

Practices of teachers	Frequency
Photographs	All teachers
Video recordings	9 teachers
Keeping for a while	6 teachers
Drawings of children	7 teachers
Peer presentations	2 teachers

R. Q 4 Which types of loose parts are used more frequently in daily activities?

- Commonly used loose parts

4.1.7. Commonly Used Loose Parts

I asked the teachers what kind of materials they used in daily activities (mathematics, science, art, drama, group play, and mother tongue). All teachers listed similar materials. They said that these are usually natural and scrap materials such as:

- Open-ended materials, fabric, buttons, rolls, pompoms, magazines and newspapers, bottle caps, colored cardboard, EVA, finger paints, craft paper, rope, wool, cotton, aluminum foil, leaves, twigs, pinecones, stones, caps, boxes, bottles, scissors, glue, cartons, paints and crayons, lids, string, sticks, dough, clay, branches, brass, lentils, chickpeas, parcels, electrical tape, lids, sacks, tongue sticks.

4.2. Observations in the Main Study

Observations were a preliminary data collection instrument for this study. Using an observation protocol, I conducted 24 systematic and non-participant observations for my study in six months. Besides my protocol, I carried out several observations that were not in my schedule. Throughout this process, different codes and categories were used. To find the answer to “What are the practices of preschool teachers in using loose parts in activities?” it was vital to observe both the teachers and the children in the setting and action.

The findings derived from the observations will be explained under the themes generated from the research questions. These are types of daily activities, teacher’s practices with loose parts, the role of loose parts and teacher’s frequency of introducing loose parts

4.2.1. Types of Daily Activities

In their daily routine, I observed that the teachers always started the day with circle time in the daily education flow. First, they informed the children about the daily flow and played three types of plays, as they mentioned in the interview. Those were sensory-motor play, symbolic play, and constructive play. All three were always played in all age groups. The children even named these play types in a common language with the teacher. Moreover, math, science, language, art, music activities, and branch lessons were the main components of the daily program. There was a

planned and scheduled daily flow that progressed on a play-based approach. The progress of each child within that program was monitored using multiple different documentation methods. In the following parts of this chapter, the types of documentation will be explained in detail.

4.2.2. Teachers' Practices With Loose Parts

Another purpose of my observations was to investigate the teachers' practices with loose parts in seven different activities, namely, symbolic play, constructive play, sensory-motor play, math, science & nature, art, and language activities. Thus, I planned the observation times to match the different types of activities in the daily flowchart. My observation notes about how loose parts were used in daily activities are described in detail below.

Here, I will explain the teachers' practices with loose parts in seven different activities, categorized under three main topics:

- a. Practice Progress:** Teachers' practices in the related activity will be explained in detail using observation recordings under this title.
- b. Documentation Progress:** The techniques that the teachers applied during the documentation phase of activities with loose parts will be clarified under this title.
- c. Frequently Used Loose Parts:** Which loose parts materials were used frequently in the activities will be explained in detail under this title.

4.2.2.1. Constructive Play

a. Practice Progress

Constructive play became a type of activity that teachers always included in the daily education flow. During this type of play, the teachers' guidance was minimal. The children played these games in small groups, taking the materials and toys. In the constructive play, group interaction was at a high level, and frequent use was made of loose parts.

Example 1:

In the example below (see Figure 4.1), blocks and mirrors were used together. Before starting this study, the teacher talked about the concept of “symmetry” through some visuals. Then, she asked the children to combine the images cut into two using symmetry. After these two activities, she said that they could build any activity they wanted by taking the blocks and mirrors. The children asked their teachers to take a picture after creating the structure below. Before the teacher took the picture, she asked, “Do you see any symmetry here, guys?” Several of the children pointed to the blocks that they saw reflected in the mirror. After the photoshoot, the teacher asked the children what the structure was they had created and noted the answers.



Figure 4.1. Constructive play with blocks and mirrors

Example 2:

In the activity shared here (see Figure 4.2), the teacher placed pieces of wood, peanut shells, wooden rods, bolt nuts, and craft paper on the ground. Seven children came together and created this design. During the activity, the children only needed a little bit of wood and a wooden stick. They asked the teacher to bring those materials. After the teacher brought these materials, the children invited the teacher to participate in their play. Finally, the following product appeared. The children explained this design as a big tree in a jungle. This activity lasted approximately 40 minutes.



Figure 4.2. Group activity with loose parts (a big tree in a jungle)

b. Documentation Progress

Anecdotes, video, and photo recordings were the most commonly used documentation methods teachers used in constructive play. In addition, one of the most frequently used approaches was drawings of the constructions created by children and adding them to their portfolios.

c. Frequently Used Loose Parts

The most frequently used loose parts materials in constructive play were wooden pieces, stones, pinecones, mirrors, repair materials, blocks, and boxes.

4.2.2.2. Sensory-Motor Play

a. Practice Progress

The sensory-motor play was the type of activity in which loose parts were used extensively throughout all the observations I conducted. It was a type of activity that teachers always included in the daily education flow. Sometimes, semi-structured were applied and sometimes completely free play activities by placing the materials on different surfaces. In a confined space, children played individually or in small groups, making a free choice.

Below are some examples of sensory-motor activities.

Example 1:

In this activity, the image of which is shared below in Figure 4.3, the teacher asked the children to separate nutshells that they had put in a large container. The children did the separation work first. Then, they continued to play with these shells. One of the children made a turtle out of a walnut shell and the other made a snail, and then they made their animals talk. Another child tried to lay the shells in a row. Also, two girls prepared meals on the plates using shells, offered each other their meals, and turned them into a symbolic game. The activity time with these materials lasted on average 30 minutes.



Figure 4.3. Sensory-motor play with nutshells

Example 2:

In the activity shared below in Figure 4.4, the teacher left square-shaped mirrors on the table. She brought a box with loose parts. The activity had materials, such as buttons, stones, pompoms, curtain rings, clothes pegs, and tongue sticks. The children made different designs on the mirror in front of them. The teacher asked the children what they had designed, then photographed them and noted down the answers. One of the children said that he was designing a cake. He said, “I made a big birthday cake.” During this study, the children were in constant dialogue with each other. They asked each other for the materials they needed, and they told each other about their work.



Figure 4.4. Sensory-motor play with loose parts

b. Documentation Progress

Photographs and video recordings were the most common documentation methods used by teachers in sensory-motor activities. Teachers often made anecdotes where they recorded photos and children's explanations about their products.

c. Frequently Used Loose Parts

Felt, mirrors, branches, small pieces of fabric, nutshells, bags, buttons, branches, seashells, pompoms, clear plastic beads, bottle caps, stones, string, and pinecones.

4.2.2.3. Symbolic Play

a. Practice Progress

Symbolic play was the longest activity played by children in all age groups. At the same time, in this type of play, where social and language skills were used most frequently, children shared a lot among themselves. Symbolic play was also the type of play that required the least direction from the teacher. While the children were playing, teachers observed the children. They used several techniques like frequency counts, anecdotal records, checklists, and rating scales. In the symbolic play, which lasted 20 to 40 minutes on average, children preferred to use large areas in the classrooms or playgrounds. Two different examples are shared about this type of play where loose parts were used the most.

Example 1:

The picture shared below shows the salad the children had prepared in a cooking activity and wanted to bring to the classroom. The teacher brought the salad to the classroom and left it on the table for the children to serve and eat as they wish. The children also brought kitchen utensils from the house corner in the classroom. They also played a game before serving the salad. One of the children became a cook and the others helped her make the salad; they brought the ingredients needed in the containers. One of the children suggested, “I have an idea how to eat the salad; let's move it to the table and eat it there.” However, the other children said, “Let's play our salads a little bit like this.” The game lasted about 30 minutes in line with the interests of the children who took on different roles. Then, they asked the teacher to serve and eat the salad. The teacher stated that children also used the materials they use during the game while eating. Salads were served and eaten using plates and spoons.



Figure 4.5. Symbolic play with kitchen materials

Example 2:

The examples shared below are examples of animal and human figures created by children during symbolic games. Figure 4.6 on the left below,

which was created using stones, branches, and wooden pieces, had a role in the play and it was voiced by the children. Other children made similar figures and continued the activity by making their characters speak. They found names for their animals. They talked about their characteristics during the play: “Mine can run very fast,” “Mine can fly with these wings,” etc.

Figure 4.6 on the right below was one of the figures that children created using loose parts in the previous days. The parts were glued together and turned into a toy and the children started to use it in symbolic play periods.



Figure 4.6. Figures created with loose parts

b. Frequently Used Loose Parts

In the symbolic games, kitchen tools, repair tools, fabric, branches, stones, rivets, string, clothes pegs, and drinking straws were used most.

4.2.2.4. Art Activity

a. Practice Progress

One of the most comprehensive activities in which loose parts were frequently used was “art.” All the teachers would make them available for children either by putting a large cover on the classroom floor or by combining the tables and creating large workspaces to reveal loose parts.

All the teachers implemented art activities in two ways.

1. Semi-structured activities in which the teacher designed the subject, gave instructions, or created a general framework.
2. Activities where the children were completely free.

Observations about both kinds of activities are explained in the following examples:

Example 1:

The teacher started a conversation in circle time about the features of winter. Then, the children watched a short, animated movie about this season. After that, she invited the children to the table and put loose parts randomly on the table. She asked the children to make a design about winter.

As seen in the photos, the topic of winter was modeled by the children with their own designs. In this study, foam glasses, beads, bottle caps, tongue sticks, pieces of fabric, and art materials were used.



Figure 4.7. Children's individual winter designs with loose parts in an art activity

Example 2:

The pictures shared below are examples of an activity carried out using loose parts where the teacher did not give any instructions. She just left the branches, stones, bottle caps, string, paper, tongue sticks, beans, and art materials on the table and asked the children to create whatever they wanted freely with these materials. As seen in the example, each child formed a different design.



Figure 4.8. Children’s free art designs with loose parts without guidance

b. Documentation Progress

The most common documentation method used by teachers in activities with loose parts was collecting work samples for portfolios. In addition, during the activities, the teachers asked the children what they had designed and took anecdotal records. Lastly, photographs and video recordings were used throughout the documentation progress in art activities.

c. Frequently Used Loose Parts:

Stones, leaves, branches, tongue sticks, pompoms, buttons, seashells, pieces of fabric, bottle caps, chenille, string, cotton, art materials.

4.2.2.5. Math Activity

a. Practice Progress

I observed that the teachers mostly included mathematics concepts in their math activities. In the activities where basic math skills, such as number and quantity, matching, grouping, and ordering were discussed, loose parts were used very actively.

The teachers used these materials in two different ways: First, to introduce the activity, and second, to carry out the activity. In several cases, the children were first asked to count the materials, play with them, and discover as they wish. After this exploration time, the teachers conducted the actual activity they had planned. Moreover, loose parts were used for that, as well.

I observed that each of these applications changed depending on the purpose of the activity on that day. For example, during some applications, such as rhythmic counting, arranging the numbers in the correct order, recognizing numbers, adding-subtracting, and matching equivalents in quantity, the teachers asked the children to count them by giving them loose parts beforehand.

Example 1:

The examples shared below were the activities applied in three observations in different classes and at different times. As mentioned above, the children were given loose parts for exploration at first. Then, the teachers conducted number-quantity-related activities by including loose parts. These were semi-structured applications.



Figure 4.9.1 Three different semi-structured math activities with loose parts

Example 2:

In another math activity, after the teacher prepared the plus, minus, and equals symbols with the cards, she wrote some addition and subtraction operations on the board and asked the children to do them using the symbols and stones on the floor. Children were

free to make mistakes. The teacher gave the children an average of 2 minutes using an hourglass. Then, he checked each child one by one and gave feedback. The children continued to play with the stones after these exercises. It turned into a game among them. They asked each other questions similar to those asked by the teacher. The activity and the play among the children took approximately 30 minutes.

b. Documentation Progress

In math activities, various documentation techniques were used to record the children's activities, their implementation processes, and sometimes their products.

The most common techniques were taking photographs and making video recordings. The teachers took more activity-oriented photos without disturbing the children's concentration or interrupting them. When making video recordings, they mostly recorded the children's activities and recorded the questions asked by the children or their answers to the questions asked. The teachers transferred these records systematically to the folders they opened on a monthly basis.

In addition, keeping some work samples in portfolios was another documentation technique used for math activities with loose parts.

c. Frequently Used Loose Parts

Bottle caps, stones, beads, branches, tongue sticks, plastic counting sticks, beans, and chickpeas.

4.2.2.6. Science and Nature Activity

a. Practice Progress

In science and nature, the teachers performed experiments and discovery and planting activities. In addition, books about science and nature were used frequently. Loose parts played a major role in all of those applications. The children created three-dimensional designs of book reviews, experiments, and observations.

Example 1:

The teacher placed a large bowl of water together with seashells, pinecones, branches, leaves, and stones onto a cover that she laid on the classroom floor. She asked the children to examine these objects with their magnifying glasses. She then dropped

these objects into a bowl of water and asked the children to observe which ones sank and which ones floated. She asked them to move to a place where they could easily see the water bowl and its contents and draw a picture of their observations.

After this first stage of the activity, the children placed the objects in the water side-by-side on a large fabric piece. Now she asked them to examine the wet objects with a magnifying glass. They talked about what differences or similarities they observed between the two states (dry state and wet state).

The teacher took notes on the drawings about the children's observations. She then said that they could play with these objects freely. This activity lasted about 20 minutes. Then, the game that the children played among themselves lasted for about 30 minutes. The children then split into small groups and played with these natural objects.

Example 2:

For this activity, the photo of which is shared below, the teacher first formed a circle and asked the children about the animals' habitats. In addition, she showed a book related to the subject. She then presented grass, soil, water, and plastic animals, first asking children to investigate freely. Then, she suggested: “Should we place the animals that live on land or water in the appropriate places?” One of the children suggested: “Let's put out leaves for the animals that live on land to eat.” In addition, with the teacher’s participation, the following science activity was implemented using loose parts and toys.



Figure 4.20. Science activity conducted with loose parts and toys

b. Documentation Progress

Documentation techniques frequently used by teachers in science-nature activities included work samples, photos, and video recordings.

The teacher asked the children to draw an experiment or a fiction created as in the example above to collect work examples. In addition, after the drawings, they noted the children's explanations.

One of the teachers prepared a notebook consisting of science-nature activities, experiments, and field-trip drawings for each of the children. The children kept drawings in their own notebooks. In portfolio meetings conducted at the end of the year, they also made small presentations to parents about these notebooks. (I also participated in one of these presentations).

c. Frequently Used Loose Parts

Seashells, pinecones, magnifying glasses, leaves, branches, stones, containers of various sizes, mirrors, plastic animals, science-nature concept books, and sand.

4.2.2.7. Language Activity

a. Practice Progress

The content of language activities was varied according to age groups. In the five-year-old groups, for example, activities were mostly related to school-readiness themes.

In other age groups, language skills, expression skills, spelling, and fine motor skills were kept as the focus of programs.

Circle time, story mapping, and three-dimensional story design applications were made within the scope of language activities in all age groups. Language activities where loose parts were used frequently were included in the weekly program flow for at least four days in all age groups.

Two different example activities implemented using loose parts are explained below:

Example 1:

For the following activity, the teacher brought out the stones, sand, and pencils that she had previously brought to the classroom. First, she asked the children to write on each stone the letters corresponding to the sounds in their names separately and then put them into the sand-filled container. Afterward, the children found the stones with the letters corresponding to the sounds in their names and matched them with their names written on the paper. After this activity, the children started to form the names of their friends with these letter stones they prepared. They also tried to create the names of the objects in their class with the teacher participating in the activity.

This activity attracted children's attention a lot and it lasted about 40 minutes.



Figure 4.11. Language activity with stones and sand

Example 2:

The activity shared in the sample below was that after a storybook was read by the teacher. The story was modeled in three dimensions using loose parts and toys. The theme of the book was about the friendships of animals living on a farm. At the end of the story, the teacher asked the children to model this story using the materials. She asked the children to take the materials they wanted from the area where the loose parts were located. Fabric, plastic animal figures, wooden pieces, pinecones, and seashells were chosen. Using these materials, they created different designs in small groups.

After the activity, the teacher asked them to tell the story once more. The children summarized the story, showing the designs they created.

b. Documentation Progress

The documentation methods most frequently used by teachers in language activities were anecdotal recordings, sound recordings, observation notes, and story maps.

A story map example is shared below. This document was shared following the stories read to the children. The children examined the story, sometimes with their drawings and sometimes with their verbal expressions. Teachers used this document as a kind of assessment activity.



Figure 4.32. Children's three-dimensional story design with loose parts and toys

Adı-Soyadı: _____ Tarih: _____

HİKÂYE HARİTASI

Hikayenin Adı:	
Karakterler: 	
Yer ve Zaman: 	
En sevdiğim bölüm: 	
Sonuç: 	

Figure 4.43. Story map

c. Frequently Used Loose Parts

Loose parts materials used in language activities were stones, bottle caps, tongue sticks, mirrors, and string of various thicknesses.

d. Documentation Progress

Observation and anecdotal records were the most frequent documentation methods used by teachers in symbolic play activities. They also took photos and made videos.

4.2.3. Teacher's Frequency of Introducing Loose Parts

Throughout the day, the teachers always organized activities with loose parts at least once.

The use of loose parts took place in two different ways:

Use of loose parts in semi-structured, unstructured or structured activities: During such activities, the teachers conducted the activities by giving some directions. For example, by saying, "Let's design a zoo together" or "Design your own animal." In addition, they began the activities by sitting the children at the table or on the floor and revealing the loose parts. In some activities, the teachers bordered the area for the usage of loose parts with paper, a cover, or by drawing lines on the floor. Sometimes, a large cover was used, especially in big group activities. During these practices, I observed that the children shared ideas, made joint decisions, and shared the materials. I also saw that children developed strategies and used problem-solving skills. For example, I observed that other children made suggestions for a structure that needed to be kept in balance and they led each other.

Use of loose parts in unstructured activities: In such types of applications, loose parts were offered to the children to use freely. The teacher put loose parts on a cover or a bordered surface and allowed the children to use them freely. In both types of play, I observed that the children played intensely for an average of 30-40 minutes. It was observed that the teachers included activities in which loose parts were used at least once during the day.

4.2.4. The Role of Loose Parts

Throughout my observations, I realized that loose parts could be used in different activities; the same materials would be used for different purposes. I observed the roles of loose parts in different activities and formed a table shared below:

Table 4.6. Role of loose parts on different activities

Type of Activity	Role of Loose Parts
Symbolic play	Children use loose parts as the main tools for play. As a result, loose parts played a leading role in symbolic play.
Sensory-motor play	Children have the opportunity to choose and play freely. In addition, they have the chance to use all senses by touching, seeing, smelling, hearing, and sometimes tasting. Thus, loose parts played a leading role in the sensory-motor play.
Constructive play	Children frequently played with blocks by mixing loose parts. They preferred to use this combination in constructive play. Hence, loose parts played a supporting role in this activity.
Art	In art activities, children mostly used loose parts to design, create, paint, stick, attach, and cut. So loose parts played a leading role in art activities.
Math	Children use loose parts to sort, order, match, count, group, create patterns, estimate, add, subtract, form shapes, make graphs. Thus, loose parts played a leading role in math activities.
Science and nature	Teachers used loose parts as tools for activities. They planned and prepared for science activities beforehand. As a result, the usage of materials was planned beforehand. Thus, loose parts played a supporting role in science and nature activities, except for the exploration of natural phenomena by children, such as rocks, leaves, seashells, and branches. In that case, loose parts were the main part of the activities.
Language	Loose parts were used in language activities, particularly for letter and alphabet practices. In addition, those materials were used to create three-dimensional designs of stories and books. As a result, loose parts played a supporting role in language activities.

4.3. Document Review

Document review was used as a secondary data source for this study to empower the study through the work samples of children. Documentation was analyzed according to three main aspects: direction, teacher's participation and scaffolding, and duration.

First, the direction was an important issue for this study showing how teachers conducted the activity process and whether they adopted a very structured and

directive approach toward the children or not. The second point was teachers' participation and scaffolding during the activities. Because my theoretical framework is related to Vygotsky's theory, I focused on teachers' approaches toward children concerning the concepts of ZPD and scaffolding. Lastly, duration was the criterion for correlating the type of activity and how much time children spend on it.

Under the documentation heading, several examples of children's work samples from different activities are explained under three main categories based on the related research questions 2, 3 and 4.

RQ 2. How do preschool teachers use loose parts in daily activities based on their self-reported practices and actual practices?

RQ 3. In which types of daily activities do preschool teachers use loose parts more frequently?

RQ 4. Which types of loose parts are used more frequently in daily activities?

- Types of daily activities concerning the direction of activity, teacher's participation and scaffolding, and duration of the activity.

4.3.1. Constructive Play

Example 1

Direction: The teacher told the children to create animals living on land and asked children to draw after they completed their tasks.

Teacher's participation and scaffolding: The teacher observed the children and after they finished, she asked a few questions like "What is your animal? What is its name? What are its characteristics?" She took some written notes.

Duration: 30 minutes

The final work sample image is shared in **Appendix A** in Figure A.1

Example 2

Direction: The teacher asked the children to build their houses using loose parts.

Teacher's participation and scaffolding: After the children built their houses, they presented their designs. The teacher asked, “How many floors does it have?” “What is its address?” “Does it have a playground?”

Duration: 30 minutes

The final work sample image is shared in **Appendix A** in Figure A.2

Example 3:

Direction: The teacher did not give any direction. She simply gave the children wooden blocks, light table materials, and an artificial grass mat.

Teacher's participation and scaffolding: The teacher was an observer and took notes after the children completed their constructions. I asked the teacher for those notes, and they are shared in the example.

Duration: 40 minutes

The final work sample image is shared in **Appendix A** in Figure A.3

4.3.2. Sensory-Motor Play

Example 1:

Direction: The teacher put the loose parts materials on the table and told the children to play freely.

Teacher's participation and scaffolding: She observed the children and took photos.

Duration: 20 minutes

The final work sample image is shared in **Appendix A** in Figure A.4

Example 2:

Direction: The teacher distributed various materials that were mostly in the colors representing spring; yellow, green, and white. She told them that they could design their spring images on those circular mats.

Teacher's participation and scaffolding: After giving direction, the teacher also sat at the table and participated in the game with the children. They explained their designs to each other. The teacher asked several questions about the characteristics of spring, and she took some written notes about the children's responses.

Duration: 30 minutes

The final work sample image is shared in **Appendix A** in Figure A.5

Example 3:

Direction: The teacher told children to design whatever they wanted using stones and leaves.

Teacher's participation and scaffolding: The teacher did not participate in the activity. However, some children needed more leaves and stones, and she provided these materials.

Duration: 20 minutes

The final work sample image is shared in **Appendix A** in Figure A.6

4.3.3. Symbolic Play

Example 1:

Direction: The teacher did not give any direction; the children were free to play.

Teacher's participation and scaffolding: The teacher was the observer. Four children created a farm with loose parts and they engaged in symbolic play. When they started to play, three more children participated in the activity.

Duration: 30 minutes

The final work sample image is shared in **Appendix A** in Figure 7.7

4.3.4. Art Activities

Example 1:

Direction: Creating faces (human or animal; it was up to the children)

Teacher's participation and scaffolding: The teacher participated in the activity, and she created a face. When the children needed help with gluing or extra materials, she supported them. In addition, after the activity finished, the teacher asked each child to give detailed information about his / her design and took some written notes.

Duration: 25 minutes

The final work sample image is shared in **Appendix A** in Figure A.8

Example 2:

Direction: Before this activity, the children were in the playground. They examined the flowers by smelling, touching, and studying them with magnifying glasses. After this activity, they came to the classroom and the teacher asked the children to draw and paint the flowers they examined outside.

Teacher's participation and scaffolding: The teacher did not participate in the activity. After the children were finished, she asked them to find a name for their flowers.

Duration: 20 minutes

The final work sample image is shared in **Appendix A** in Figure A.9

4.3.5. Math Activities

Example 1:

Direction: The teacher asked the children to collect colored stones on their plates corresponding to the number they had chosen from the number chart.

Teacher's participation and scaffolding: The teacher observed the children, and she supported the children while counting the stones.

Duration: 20 minutes

The final work sample image is shared in **Appendix A** in Figure A.10

Example 2:

Direction: The teacher asked the children to form basic shapes inside the circles seen in the picture.

Teacher's participation and scaffolding: The teacher did not participate in the activity; rather, she observed the children. Some children created different constructs instead of shapes. In that case, she asked those children such questions as "Which shape did you try to create? Oh, I saw a small circle in your design; did you see it also?" Instead of directing the children to form shapes exactly, she tried to find a different solution in that situation.

Duration: 35 minutes

The final work sample image is shared in **Appendix A** in Figure A.11

4.3.6. Science and Nature Activities

Example 1:

Direction: The children had collected those leaves from the field trip the previous day. In addition, the teacher asked them to form spring trees using pinecones, leaves, and branches.

Teacher's participation and scaffolding: The children had difficulty in fixing their trees on the surface. The teacher advised them to use playdough as a supporting base for the trees.

Duration: 30 minutes

The final work sample image is shared in **Appendix A** in Figure A.12

Example 2:

Direction: The teacher asked the children to create their own trees that represented autumn. The children brought empty jars from home and used them as tree trunks.

Teacher's participation and scaffolding: Before the activity, the teacher told the children to smell, touch, rub, and examine the leaves. Children used magnifying glasses to examine. They talked a bit about the properties of those leaves and then they started to create their autumn trees.

Duration: 30 minutes

The final work sample image is shared in **Appendix A** in Figure A.13

Example 3:

Direction: The children first watched an animated film about the sky. After that, they made an experiment showing how day and night occurred. Then, the teacher asked the children to create their sky using loose parts and art and craft materials.

Teacher's participation and scaffolding: The teacher also joined in this activity and created her sky. While the children were talking to each other, she asked several questions. For example, "What happened when the sun went down?" "What do we see in the sky at night and in the day?"

Duration: 20 minutes

The final work sample image is shared in **Appendix A** in Figure A.14

4.3.7. Language Activity**Example 1:**

Direction: The teacher prepared clothes pegs by writing letters on them. After that, she told the children to try forming the words written on the cards.

Teacher's participation and scaffolding: Each child picked a word card and tried to form the word using letter pegs. The teacher joined in the activity and helped those children who had difficulty in ordering the letters based on the word card.

Duration: 25 minutes

The final work sample image is shared in **Appendix A** in Figure A.15

4.4. Triangulation of Loose Parts in Different Activities

At the end of this chapter, the findings will be summarized using the data derived from interviews, observations, and children's documents under five main headings relating to the activities: teachers' guidance and participation, degree of scaffolding, documentation techniques, favorite loose parts materials, and duration of the activity.

First, each activity needed different levels of teacher guidance and participation. For example, according to the teachers' reflections and the researcher's observations, in math activities, the children needed to be guided by the teachers about the concepts or progress much more than in the symbolic play. In addition, the teachers often joined in some of the activities, such as language activities. They were both participants and observers of those activities.

Next, teachers' scaffolding was a critical issue in the activities conducted with loose parts. The teachers had the chance to support the children's learning and development progress during the activities with those materials. I observed that scaffolding occurred in two different ways: 1) scaffolding that the children needed within the natural part of an activity or play, 2) scaffolding that was an opportunity for both the teachers and the children, and that occurred simultaneously. In the first one, for example, in a science and nature activity, the teacher planned the activity beforehand. She conducted it, observed the children, answered their questions, supplied materials for them, asked further questions, and collected detailed feedback from the children. She supported the children's progress and tried to add more knowledge. Second, while the children were playing by themselves or conducting an activity, the teachers observed them so that if an opportunity occurred to scaffold them, they would be able to do so without disrupting the play or activity. For example, in the course of a symbolic play, the children were playing and talking about animals in the ocean. The teacher observed the children and participated as a playmate by bringing some loose parts. Then, she challenged the children to create a more crowded ocean by creating more animals in their oceans. This was an opportunity and occurred simultaneously. In the former one,

it was easier for teachers to understand that the children needed to be scaffold. The latter one was related to the teacher's awareness and level of attention so that she could catch an opportunity to increase the children's learning and developmental levels.

Third, documentation techniques are summarized in Table 4.8. Due to the flexible and temporary usage of loose parts that children played with or used and then collected, the teachers had to document those activities using different techniques. For the most part, photographs, video recordings, anecdotal records, work samples, and checklists/rating scales were used. However, those documentation methods varied according to types of activities, as seen in detail in the table.

Fourth, the favorite loose parts are explained concerning which material the children used in each activity. In constructive play, for example, large-sized materials were preferred the most. In the sensory-motor play, on the other hand, loose parts with small pieces were used. Detailed material lists are provided in Table 4.8.

Last, the time spans of the activities conducted with loose parts are indicated. The duration varied according to activities and ranged between 20 and 50 minutes. These time intervals included preparation, application, gathering the materials, and ending the activity.

Table 4.7. Triangulation of findings from interviews, observations and documents

List of Daily Activities	Teachers' Guidance and Participation	Degree of Scaffolding	Documentation Techniques	Favorite Loose Parts Materials	Duration of Activity
Math Activities	High level of guidance, participation, and observation	High need /opportunity to scaffold children through individual conversations and observations	Work samples Photos and video recordings Checklists and rating scales	Buttons, bottle caps, stones, egg cartons, beans, sticks	20-30 minutes
Science & Nature Activities	Moderate level of guidance and participation	High need/opportunity to the scaffold, especially by adding extra loose parts in activities	Children's drawings Photos and video recordings Anecdotal records Checklists and rating scales	Sand, seashells, stones, beans, sticks, pompoms, bottle caps, leaves, paper towel rolls, wooden pieces	30-40 minutes
Constructive Play	Low level of guidance and participation	Low need/opportunity to scaffold	Photos and video recordings Anecdotal records	Cardboard boxes, egg cartons, bottles, gift boxes, stones, wood plates, pinecones, utensils, screws, fabric, tires, CD's	40-50 minutes
Art Activities	Moderate level of guidance and participation	Moderate level of scaffolding	Work samples Photos and video recordings	Stones, beans, seeds and nuts, curtain rings, pompoms, fabric, rope, wood offcuts, dried vegetables and fruits, rice, seashells, leaves, sticks, bottle caps, small-sized natural and synthetic materials	20-30 minutes
Symbolic Play	Low level of guidance and participation	Moderate level of scaffolding	Anecdotal records Video recordings Frequency counts Play observation checklists and rating scales	Kitchen utensils, repair tools, fabric, bottles, old bags, clothes, heads, stones, branches, old jewelry, old furniture, old telephones, pillows, cardboard boxes	40-50 minutes
Sensory-Motor Play	Low level of guidance but a high level of participation	High need/opportunity for scaffolding	Photos and video recordings Anecdotal records	Beans, nutshells, pompoms, pebbles, fabric with different textures, pieces of paper, tongs, spoons, forks, straws, sticks, twigs, stones, mirrors, sand, leaves, twigs, pinecones, string, felt, clothes pegs, buttons, bottle caps, beads, plastic boxes	30-40 minutes
Language Activities	High level of guidance and participation	High need/opportunity for scaffolding	Anecdotal records Checklists and rating scales Work samples Voice recordings	Small figures, stones, bottle caps, seashells, ropes, wooden sticks, chenille	20-30 minutes

4.5. Key Findings

Table 4.8 shows the key subjects and related findings.

Benefits of loose parts	The most common benefits that all participants agreed on were fine motor skills, hand-eye coordination, stimulation of five senses, problem-solving, creativity, imagination, social interaction, and sharing.
Use of loose parts in different activities	Two types of usage were observed: 1) Use of loose parts in semi-structured 2) Use of loose parts in unstructured activities
Symbolic play practices	Teachers' guidance and participation were minimal. Children played in an unstructured way with loose parts. Teachers mostly preferred to observe and document the activity using such techniques as anecdotal records, video recordings, frequency counts, play-observation checklists, and rating scales.
Sensory-motor play practices	Teachers' guidance was minimal, but they participated a lot in sensory-motor play with loose parts. There were many opportunities to scaffold children in this type of play. The most common documentation techniques were photos and video recordings and anecdotal records.
Constructive play practices	Teachers rarely participated in this type of play. Children mostly played in an unstructured way. Teachers had many opportunities to scaffold children. Photos, video recordings, and anecdotal records were the most common documentation techniques.
Art activity practices	In art activities, teachers used moderate levels of guidance. They sometimes participated in the activities. Mostly, they scaffold children by adding extra loose parts materials and by asking open-ended questions. Photos, video recordings, and anecdotal records were the most common documentation techniques.
Math activity practices	These activities were conducted mostly with a high level of teacher guidance. Teachers frequently participated in math activities. They scaffold children through math-concept-based activities. Work samples, photos, video recordings, checklists, and rating scales were commonly used documentation techniques.
Science and nature activity practices	Teachers used moderate levels of guidance and participation in science and nature activities. However, they had many opportunities to scaffold children. In this activity, teachers used several documentation techniques, such as children's drawings, photos, and video recordings, anecdotal records, checklists, and rating scales.
Language activity practices	Children needed high levels of guidance and participation from teachers, and this provided opportunities for scaffolding. The story mapping technique, in particular, was very effective in those activities. Anecdotal records, checklists and rating scales, work samples, and voice recordings were used as documentation methods.

CHAPTER V

DISCUSSION, IMPLICATIONS, AND RECOMMENDATIONS

In this section, the key findings of this research will be explained in light of references from the literature. In addition, suggestions will be put forward for applications in the field and further studies.

5.1. Definitions of Loose Parts

The findings obtained in the study that teachers defined loose parts more were compatible with the definitions in the literature (see Table 5.1). The correct definitions given by the teacher may affect his/her perspective and practices. For example, while the materials in school environments are mostly stacked and complex, loose parts are separated according to their characteristics and used with a design that children can see and access in a certain aesthetic and order.

Table 5.1. Loose parts definitions of teachers and related literature

Teachers' definitions	Literature definitions
"They are natural and synthetic materials that do not have just one use and can be converted to anything."	"Provide ample opportunity with a wide array of materials to encourage and provoke children in meaningful experiences" Veselack, Miller, & Cain-Chang, 2015 p. 39)
"There is no limit, but there is lots of freedom; great things come from loose parts materials."	"Loose parts have no directions for use and invite open-ended play with high levels of complex, unstructured, creative exploration (White 2004, Keeler 2008, p. 13)
"These are the guiding parts that children can direct and develop as they wish."	Loose parts -- materials that can be moved, carried, combined, redesigned, lined up, and taken apart in multiple ways" (Kable, 2010, p. 13).
"They are open-ended pieces. They are the sensory materials that develop children's creativity."	"The degree of creativity and inventiveness in any environment is directly proportional to the number of variables in it (Nicholson, 1971, p. 32)
"Natural and synthetic materials should be organized and presented to the child in aesthetic form. Any material that will not harm the health and safety of the child can be used as loose parts."	"Child-led exploration, and direct interaction with nature" (Dennis, Wells, & Bishop, 2014, p. 36) "Loose parts' refers to open-ended play materials and manipulatives that children can use in various ways (Nicholson 1971, p. 39)."

As seen in Table 5.1 above, the definitions of loose parts made by the teachers and the definitions seen in the literature are very similar. This finding suggests that after separating loose parts from the concept of material, the teachers stated what role these

materials may play in the acquisition of very important skills, such as creativity, divergent thinking, and problem-solving.

5.2. Teachers' Input in Activities With Loose Parts

Researchers have criticized that teachers should not interfere in play or activities, suggesting that although play without adults would be more meaningful and courageous, it could become a repeated and uncontrollable progress (DFE, 2012). According to the data obtained during this study, the findings showed that teachers made semi-structured, structured or unstructured plans for the use of loose parts during different activities, and they participated in children's activities, and sometimes they outlined the overall activity. With the participation of the teachers or the facilitator role of the children, it was possible to use the same loose parts in different areas. Without this, the same material would not be used as effectively in different learning areas.

One of the points highlighted in both the interview and observation data was that teachers constantly asked open-ended questions to children. It was revealed that when questions or feedback did not direct the children to the conclusion, this made the use of loose parts effective in different learning areas. Similarly, Thompson (2017) and Godfrey (2017) have discussed that feedback and open-ended questions during children's play or activities are essential to increase children's learning and development. They argued that feedback or open-ended questions support children's learning and development skills and those need to be thought out before child-led play could improve.

Besides the points mentioned in former paragraphs, it was revealed that the attitudes of the teachers, who were accustomed to practice with a play-based program, also played a facilitator role. In other words, this finding suggests that the teacher's approach is crucial in the use of loose parts as a learning tool instead of a material. Similar to that point, it is stated that adults may obstruct a child's opportunities for creativity by possessing poor anticipation regarding the child's capacity to achieve (Malaguzzi, 1993; Prentice, 2000). Fisher (2016) stressed that if the teachers have insufficient knowledge, ability, and awareness about play with loose parts, there is a risk of obstructing children's creativity. Fisher (2016) also proposes that the degree of engagement in an activity or play depends on the teachers' facilitation, proposing that

in play, adults will either collaborate or interfere. It is explained in this way to show that there is a significant difference between the teacher's direct intervention and being supportive.

5.3. Loose Parts as Open-Ended Materials

Based on the self-reported practices and actual practices of teachers it was concluded that the children focus on the process rather than the result, do not hesitate to do trial-and-error, and develop self-confidence with the use of materials that do not have a single truth or wrong. Children need to make trial-and-error in the preschool period, observe the result, and actively use their five senses. The mathematics activity went beyond simple operations or activities on paper and was turned into an enjoyable learning adventure with studies, such as grouping, sorting, comparing, or patterning the stones according to their characteristics.

The use of open-ended materials has many positive effects on children. There is no force or stress on children because there are no strict rules or goals to achieve in open-ended play and that this also provides children with the opportunity to make limitless attempts in a task (Drew, 2007).

The use of open-ended materials is acknowledged as impacting many aspects of a child's life. Both older and recent studies have shown that dealing with open-ended materials impacts children's learning and development progress. In a previous study, children aged 4 and 10 were observed to determine how interactions with materials affected developmental progress. The findings showed that the less developed children dealt with more simple forms of play and simple construction with the objects. However, more developed children took part in more divergent ideas of play and complex construction of the materials (Vandenberg, 1981).

5.4. Directing or Facilitating the Children

According to the self-reported practices and actual practices of teachers in this study it was concluded that teacher's support is significant for children to create richness in the use of loose parts. While a tree branch turns into a counting tool in mathematics activity, it was used as a painting brush in an art activity. Here, if there is no teacher support, the child will probably need to spend a lot more time on skills development

through games and activities. Thus, teachers need to plan activities and progress accordingly in the daily education flow. In the responses given by the teachers, it can be seen that loose parts materials have been a very important resource for them in play development.

According to researchers, play does not develop automatically in all children until they reach preschool grade. According to that idea, preschoolers needed to be assisted, lead, or supported by adults or older children like a play mentor. Thus, improving or facilitating children's play is an important issue for learning and development in young children (Bodrova & Leong 2012).

In addition to the explanation above, it can be said that for most young children, early childhood settings are the only environments in which children can learn different types of play or activities but from teachers and not from older playmates since children are placed by age group in most preschools. As a result, several types of activities should be planned by teachers as semi-structured activities to facilitate learning and to support developmental skills. Therefore, strategically designed programs are necessary to scaffold children more rapidly. According to the findings of this study, activities or plays planned as semi-structured consider the inclusion of loose parts by teachers as enabling teachers to scaffold children in different learning and developmental areas.

5.5. Documentation through Loose Parts Activities

In this study, it was observed that teachers did lots of documentation during their practices through loose parts activities. Pedagogical documentation is a way of presenting the learning process of children as a visible picture by gathering the work samples of children or teachers (Cadwell, 1997). The purpose is not to create perfect displays; rather, it aims to build and shape a process (Guidici, Krechevsky & Rinaldi, 2001). In this process, communication and interaction between teachers and children are strengthened (Cadwell, 2003). Thus, it is an opportunity for teachers to obtain in-depth information about children's individual development and learning progress. In addition, documentation enables children to gain an awareness of their own learning progress. Based on the findings achieved from the self-reported practices and actual practices of teachers, work samples of children (individual and group work samples),

anecdotal recordings, photos and videos were the most common types of documentation. These concrete samples and written notes provided huge data related with the usage of loose parts in daily activities.

5.6. Benefits of Loose Parts on Learning and Developmental Areas

In this study, based on the teacher's self reported practices and their views about the use of loose parts, it could be concluded that those materials were very effective in improving different skills of children. They all reported that loose parts supported fine motor skills, hand-eye coordination, problem-solving, exploration, creativity, imagination, social interaction, and sharing.

Qualitative studies have reported results that support the findings of this study (James, 2012; Lester, Jones & Russell, 2010). Lester, Jones, and Russell (2010) declared that play with loose parts has advantages concerning advanced social behavior and academic engagement. James (2012) also conducted a study that used interview methods to assess the effects of loose parts play, and the participants declared development in self-confidence, social engagement, and happiness. Meanwhile, they reported that monotony and hostility related to playtime were reduced. In addition, a few studies have proposed that investigation, inquiry, and imagination in young children help them predict consequences, create new opinions, and reach logical outcomes in problem-solving situations.

Magid, Sheskin, and Schulz (2015) stressed that employing play materials, particularly those with loose parts or manipulative ones, supports thinking, imagination, and some degree of cognitive abilities in preschoolers and young children. Furthermore, they provided proof that young children possess countless creative, predictive, and design-based abilities that can be evoked via play with these loose parts materials.

Segatti et al. (2003, p. 13) found that everyday objects used as open-ended materials enhance cause-and-effect or trial-and-error investigations and affect the cognitive development of the children positively. That is to say, open-ended materials can enhance children's problem-solving abilities by helping them investigate using cause and effect or by taking the initiative to practice on an object and discover the responses. Thus, children learn about the world around them and improve intellectually.

According to some authors, problem-solving supports the social-emotional development of children. As a result, when they solve their own problems, they feel adequate and confident. Briefly, when children realize that their behaviors could impact or alter the environment, this improves their sense of self: “I can make something happen. I matter. I make a difference” (Segatti et al., 2003, p. 16). This point of view is also parallel with what Gibson (1979), argues in the Theory of Affordances related with the usage of concrete materials more than one purpose.

Throughout this study, the data derived from both interviews and observations suggested that children had many opportunities to use their divergent thinking abilities. According to Shabazian and Li Soga (2014), open-ended materials can improve children’s curiosity, investigation, and learning. In addition, those materials support the development of thinking in more than one way (p. 61). The ability to look at a problem in a flexible way is called divergent thinking and it has a vital role in developing problem-solving skills (Shabazian & Li Soga, 2014, p. 62). As a result, open-ended materials like cardboard boxes, leaves, wooden blocks, buttons, and rocks could support divergent thinking skills (Shabazian & Li Soga, 2014, p. 62).

In addition to these data, an important study in recent years regarding the contribution of open-ended materials to children's cognitive development supports the idea that loose parts can be an effective learning and development tool.

A recent study conducted by Lee and Kan (2017) explored the brainwave activity in preschool children while dealing with various types of play activities incorporating different materials. The prefrontal cortex (PFC) plays a significant role in cognitive processes, such as planning and reasoning. Moreover, the PFC brings out high-amplitude theta waves during the mental/cognitive tasks (Lee & Kan, 2017, p. 175004-2). The theta frequency is highly related to the cognitive and emotional processes that occur during repeated tasks that do not involve any extra concentration to accomplish that task. They aimed to investigate the variety of playing activities that can foster brainwave activity in preschoolers. These activities involved wooden blocks with and without instruction, iPad apps, and flashcards. Lee and Kan (2017) explored 12 individual cases. They found that children's brainwaves showed extremely high theta frequency while playing with blocks without guidance. Conversely, tablet-based

computer educational apps with drawings, sound, and movement resulted in much greater theta frequency than the classical flashcard. They also determined children's enthusiasm for play, which constitutes the most significant basis for learning in their early years. Moreover, play enables children to improve their creativity, imagination, problem-solving skills, and motor skills (pp. 175004-2). They declared that children exercise developmental tasks through playing with manipulative toys or materials, such as wooden blocks as open-ended materials that act as guides in various problem-solving scenarios (Lee & Kan, 2017). As a result, Lee and Kan (2017) reported in their study that the most significant increase in theta amplitudes of children occurred while playing with wooden blocks both with and without instruction.

5.7. Loose Parts in Relation to Different Activities

One of the remarkable findings in this study is that the types of activities in which teachers find loose parts to be most effective are math, art, sensory-motor activities, and symbolic play. Although the literature does not directly explain the effects of using loose parts in these activity areas, there are research findings associated with the use of open-ended materials.

Bairaktarova et al. (2011) clarified in their study that open-ended or sensorial materials encouraging sensory play are essential for the cognitive and social-emotional development of children (p. 220). Their research showed that through sensory play with open-ended materials, children were investigating, observing consequences, describing results (e.g., a child could recognize that if he uses the shovel, he can fill the buckets quickly), describing and clarifying problems, and sharing solutions. Moreover, all children showed positive emotions based on their achievement (Bairaktarova et al., 2011, p. 222). The researchers pointed out that when children dealt with more open-ended materials, they demonstrated more exploratory behavior using their imagination to think of inventive solutions to the problems (Bairaktarova et al., 2011, p. 230).

Kiewra and Veselack (2016) demonstrated that open-ended materials, such as natural materials, have a favorable effect on a child's cognitive development (p. 84). The authors verified that natural materials help children's divergent thinking and abilities. Furthermore, open-ended materials present some problems for the children permitting

them to reach creative solutions to those problems by themselves (Kiewra & Veselack, 2016, p. 84).

In this study, teachers also stated that natural materials attract children's attention and support their imagination, creative thinking, and problem-solving skills. In addition, in classroom observations, it was observed that children used high-level skills during the games with these materials. Consistently, Swank & Shin (2015) stated that the child's interaction with natural materials would help to improve emotional skills. Moreover, it is thought that playing with natural materials is essential for the healthy development of children's inner life (Louv, 2012).

5.8. Bridge between the Loose Parts and Affordance

Natural settings provided a variety of “loose parts” that enabled children to shape their environment, developing their creative and constructional cognitive abilities (Fjortoft and Sageie, 2000; Moore, 1985; Moore, 2003; Moore and Wong, 1997; Weinstein, 1987). Confirming the findings of Woolley and Lowe (2011), loose parts had the highest constructive and imaginarily play affordance and helped children to create imaginative spaces, elements and stories (Moore and Wong, 1997). For instance, the findings accentuate sand’s manipulative quality to enhance children’s opportunities to shape, pour, mold, move, and dig this element. Consistent with Moore and Wong’s (1997) finding sand noticeably afforded constructive and exploratory, and imaginative play. The results confirmed previous findings (Moore and Wong, 1997; Weinstein, 1987) that manipulative and less structured materials, such as sand, boxes, and pipes can afford greater variety of imaginative and games with rules

In situations like this, the whole environment becomes part of the variables and options available as loose parts, in accordance with the theory of affordances. “An affordance can be thought of as an ‘action possibility’ for an individual in relation to the environment, dependent on that individual’s capabilities” (Stanley, 2011, p. 189). Stanley (2011) additionally defined this as “the direct manipulation and sensory stimulation of the elements that he perceives as affordances” (p. 191). Parallel with related literature, the findings of this study indicated that loose parts provided a variety of play behavior affordances through daily activities. Teachers used those materials to offer children a lot of opportunities to discover, explore, fix, try and construct. As a

result, loose parts provided a variety of learning opportunities for children due to their multiple-use and open-ended characteristics.

5.9. Consistency with MONE Program

If we associate the findings of the study with the MONE preschool program (2013), it would be appropriate to interpret these two main points one by one.

First, the consistency between the fact that it is a play-based program, and this research progresses on a play-based basis has emerged. Thus, the usage of loose parts materials in a play-based curriculum could be appropriate for the development and learning progress of children. Integration of those materials into different play types such as symbolic or constructive would give several ideas to teachers and children to create open-ended play opportunities. Moreover, the use of loose parts in semi-structured activities like art, science, math, etc. are recommended in the MEB program also used in this study. Several activities were examined with respect to the usage of loose parts materials through the research. The importance of semi-structured activities in this study was the integration of teacher's pre-determined goals and children's active participation in the application. Related literature also supports this study's findings and the MEB program's view. According to a study, it has been revealed that children who are involved in play-based learning activities have a much higher ability to take responsibility than children who spend more time with activities that do not involve play (Manuilenko, 1975). Moreover, Liu (2017) found that children in the United States educated in preschools practicing play-based learning have better academic achievement and social motivation in primary school than others.

Second, the MEB program (2013), mentions the role of the teacher as the facilitator of children's learning and development. Similar to this point of view, the use of loose parts in different types of activities provided scaffolding opportunities for teachers as indicated in the findings of this study. Howes et al. (2008), stated that teacher-child interaction in a learning environment increases the quality of gains of children. Teacher-child interaction comprises a vital aspect of quality in early childhood education hence it has been related to types of child outcomes in the literature thus far. McCartney (1984) showed that teacher-child verbal interaction anticipated children's outcomes in language development. In another study conducted by Holloway and

Reichhart-Erickson (1988), children who had higher-quality interactions with their teachers afforded more prosocial outcomes for social problem-solving skills. Lastly, Howes and Smith (1995) showed that children no matter what their ethnicity and social status were cognitively more active in the learning environments that were described by nurturing teacher-child interactions.

5.10. Educational Implications

Loose parts could be adapted and used in various learning and development areas. In this study, there were no teachers who stated the benefits of loose parts in music and rhythm activities. That could be because of perceiving music activities as a branch lesson. Thus, in the school where the present study was conducted, a teacher came to school to give music lessons to all age groups. However, loose parts could be used in several areas, including music and rhythm.

Second, teachers and other practitioners in preschools could arrange free-play by separating activities as constructive, symbolic, and sensory-motor play. Generally, free play is thought of as a period in which children are free, allowing teachers to deal with other routines related to their job, such as writing daily notes to parents or arranging the class. However, those free play activities could be designed with loose parts materials that support different learning and development areas. In that case, children would also play freely but in pre-planned environmental conditions.

Third, teachers' participation in the play with loose parts materials could enhance the collection of more detailed data about each individual child's learning and development progress. Based on the findings of this research, most of the teachers explained that they were able to find the opportunity to observe and recognize children's abilities or skills that needed to be supported. Moreover, the teachers in this study declared that they enjoyed working with loose parts a lot and that they had many opportunities to help children by just playing with them.

Fourth, various documentation techniques could be used during activities with loose parts. Because children's play or activities through those materials are process-based, teachers would have many opportunities to use multiple data sources, such as video recordings, photos, children's drawings, work samples, and rating scales. Using loose

parts in different learning and development areas would enable teachers to “look at the children” from different perspectives and find the opportunity to develop a more objective view through all children in their classroom.

Fifth, collaboration with the families about the use of loose parts materials at home might provide effective contributions in the early childhood education progress. Children can collect, store and sort loose parts in their home with their parents. School could give some ideas about variety of activities or play ideas. In addition, it would be useful to carry out studies to increase awareness of parents about how loose parts materials can contribute to the concept of sustainability.

Last, the ZPD is an important issue in the early years, as declared by Vygotsky several years ago. Facilitating children’s abilities and enhancing them one step further with adult support is essential in building a qualified early childhood education process. Loose parts are very rich materials that can be integrated into countless learning opportunities allowing teachers to enhance several conceptual acquisitions and several abilities in children.

5.11. Recommendations for Further Studies

There have been very few studies under the title of loose parts and indoor activities, a subject that has remained under-researched. This study could be a precursor study for further research. This study was conducted in one preschool with 10 teachers who had experience in play-based curriculum applications. Thus, using loose parts in their educational program was not an unfamiliar issue for those teachers. As a result, drawn from this single case, several studies could be conducted under various subjects.

The effects of loose parts on the development and learning of young children could be researched with larger samples that include both children and teachers in different settings. Some correlational studies would need to be designed.

In this study, the effects of loose parts on music-rhythmic abilities were not mentioned. This area might be studied with either music teachers or preschool teachers.

Another study could be conducted with parents to integrate loose parts into their home activities and their children’s playing areas. After that, their views would be sought.

The attention span of children while using loose parts might be investigated individually. In this study, it was seen that children spent long periods dealing with loose parts. Furthermore, each child could be observed in detail concerning his/her concentration periods. A comparative study could be designed to investigate the usage of loose parts in both indoor and outdoor play and learning environments to explore their effectiveness.

In addition to the above recommendations, loose parts materials could be categorized as natural and synthetic, and their effects explored that way. The relationship between divergent thinking, creativity, and loose parts can be researched. Each of the development or learning areas and the effects of loose parts could be investigated in depth.

In conclusion, many further studies would be practiced under the title of loose parts. Because it is a rare area that has been studied, several ideas could be designed as research subjects.

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APPENDICES

A. THE FINAL WORK SAMPLE IMAGES OF DOCUMENT REVIEW



Figure A.1. Animal designs made by children with loose parts



Figure A.2. Children's houses with loose parts in constructive play



Children's explanations about constructions

Eliz: First, we made a huge chateau. Then, everyone can go in. There's food inside and chairs, and a dining hall.

Cemre: We made a huge chateau. People live inside it. There are rooms. The rooms are rooms that people go in.

Sarp: My friends and I built a huge chateau. There's a dining hall inside. There are people and chairs and a hall. And a huge door...

Deniz: I made a toilet for people to enter, but it has a lock and people can't enter, that's why. It's because it's dirty and is being cleaned. The lights are locked and so are the stairs. Today is cleaning time. It may open tomorrow.

Elif: We made a huge roadside chateau. It has ice-cold water and an elevator. There are bright and colorful decorations on the towers. There's a road, too, and a playground and a camera and there are numbers in the elevator, so we can go to which floor we want.

Alin: There's a, well, something to climb and a round thing. There's a stick, too and a road, as well. There's also a traffic light and triangle-shaped doors.

Kaan: This king's chateau is the most beautiful chateau. In this chateau, food is prepared right away and put on the table. The queen has rooms, and the king has rooms, too.

Efe: We made a tunnel. And a road that runs from the bottom to the top. And the tallest chateau.

Figure A.3. Children's group construction with loose parts and their explanations



Figure A.4. Free play with loose parts in sensory-motor play



Figure A.5. Children's spring designs with loose parts in sensory-motor play



Figure A.6. Free sensory-motor play designs with leaves, fabric, and stones



Figure A.7. Children's farm design with loose parts in symbolic play



Figure A.8. Children's face creations with loose parts in an art activity



Figure A.9. Flower drawings on wooden pieces after observing real flowers



Figure A.10. Math activity with synthetic stones



Figure A.11. Shapes with loose parts



Figure A.12. Spring trees from natural loose parts



Figure A.13. Autumn trees from natural and synthetic loose parts



Figure A.14. Children's creations of the sky with loose parts



Figure A.15. Language activity with loose parts

B. INTERVIEW PROTOCOL FOR TEACHERS

Araştırma Sorusu

Serbest parçaların günlük eğitim akışı içerisindeki farklı etkinliklerde (matematik, fen doğa, anadili ve sanat) kullanımı hakkında okul öncesi öğretmenlerinin görüş, kendi beyanlarına dayalı uygulamaları ve gerçek uygulamaları nelerdir?

MÜLAKAT SORULARI

- 1- Kısaca kendinizden bahseder misiniz (yaş, mezun olunan okul)?
- 2- Kaç senedir okul öncesi eğitim sektöründe çalışıyorsunuz? Mesleki tecrübeniz içinde hangi yaş grupları ile ne kadar sürelerde çalıştınız?
- 3- Serbest parçalar terimini daha önce duydunuz mu? Cevabınız evetse tanımını yapar mısınız?
- 4- Serbest parçalar nelerdir? Aklınıza gelenleri paylaşır mısınız?
- 5- “Serbest parçalar çocukların oyun ve etkinlikler sırasındaki fikirlerini genişletmek ve ileriye götürmek için kullanılabilecek doğal veya yapay, açık uçlu materyallerdir, örneğin taş, yaprak, düğme, araba lastiği, ip, kumaş serbest parçalara örnek olarak sıralanabilir.” Bu tanıma göre siz günlük eğitim akışı içerisinde bu parçaların kullanımına yer veriyor musunuz? Nasıl?
- 6- Hangi etkinlik türlerinde serbest parçaları kullanıyorsunuz (matematik, fen-doğa, sanat, anadili vb)?
- 7- Hangi etkinlikler sırasında serbest parçaların çocuklar tarafından daha yoğunlukta kullanıldığını gözlemliyorsunuz (matematik, fen-doğa, sanat, anadili)?
- 8- Serbest parçaları farklı etkinliklerde nasıl kullandığınıza dair örnekler verir misiniz? Örneğin bir matematik etkinliğini serbest parçaları kullanarak nasıl planlıyorsunuz ve uyguluyorsunuz?
- 9- Serbest parçaların kullanımı sırasında siz sürece katılım sağlıyor musunuz? Nasıl?
- 10- Çocuklar serbest parçaları kullanırken sizden yardım/destek istiyor mu? Nasıl?
- 11- Serbest parçaların farklı etkinliklerde kullanımının çocukların gelişim ve öğrenme süreçlerine etkisi olduğunu düşünüyor musunuz? Nasıl?
- 12- Serbest parçaların kullanımının çocuklarda hangi becerileri desteklediğini düşünüyorsunuz?
- 13- Bundan sonra da mesleki deneyimlerinizde serbest parçaları kullanmaya devam eder misiniz? Neden?

Katılımınız için teşekkürler!

C. OBSERVATION FORM

Date and Time Name of the teacher Observer Number of the children Type of activity	Comments
<p>Teacher-child interaction How does the teacher interact with children in the classroom?</p> <p>Does she</p> <ul style="list-style-type: none"> • keep eye- contact? • respond to the child verbally and physically (physical distance)? • ask or answer questions? • guide the child when needed? • facilitate learning progress? • supply materials when needed? • encourage and motivate the child? 	
<p>How does the teacher interact with the whole group?</p> <p>Does she</p> <ul style="list-style-type: none"> • start the activity with an introduction? • create a sharing atmosphere? • use circle time? • explain the general flow of the activity? • manage the class during the activity? • allow time for the children to keep on their tasks? • facilitate, motivate, and encourage the learning progress of children? • give feedback during and after the activity? 	
<p>Planning activities</p> <ul style="list-style-type: none"> • Does she ready for all activities concerning materials and physical settings? • How is the flow of the activity? 	
<p>Application of activity (or activities)</p> <ul style="list-style-type: none"> • How does she start activities? • What kind of teaching techniques does she use? • Does she briefly explain what will be done to the children? • Does she pass the activities with transition activities? Or not? • How does she end the activity? • Does she conduct any documentation technique? How? 	
<p>Materials used in activities:</p> <ul style="list-style-type: none"> • What kinds of materials are used in the activities? • Do children have a chance to choose materials for their activities? • How does the teacher coordinate the flow of the activity? • How long does an activity take? • What kind of loose parts materials are used in the activity? • How do children interact with those materials? • How long do they deal with loose parts materials? • Do loose parts materials lead to open another issue except for the current activity? 	

D. APPROVAL OF METU HUMAN SUBJECTS ETHICS COMMITTEE

ODTÜ ETİK KURULU

İnsan Araştırmaları

Öğretmen Gönüllü Katılım Formu

Değerli katılımcı,

2018-2020 eğitim yılları arasındaki “oyun temelli öğrenme” yaklaşımına dayalı eğitim programlarınızda kullandığınız serbest parçaların (açık uçlu materyallerin) bu sürece katkılarını bir araştırma konusu haline getirmek amacıyla, sizlerin değerli yorumları ve geri bildirimlerine ihtiyaç duymaktayım.

Tamamen gönüllülük esasına dayalı olarak katılacağınız bu mülakattaki sorulara mümkün olduğunca detaylı yanıtlar vermeniz, geçerliliği ve güvenilirliği yüksek sonuçlar çıkmasına büyük katkı sağlayacaktır.

- Çalışmaya katılanların isim-soyadları kesinlikle hiçbir yerde paylaşılmayacaktır.
- Zaman yönetimi açısından ortalama 20-30 dakika sürecek olan görüşmelerde ses kaydı yapılacaktır.
- Aktaracağınız bilgi ve değerlendirmeler 3. kişilerle kesinlikle doğrudan paylaşılmayacaktır.
- Sizlerin tüm yorumları, gözlemleri ve değerlendirmeleri bu çalışmanın akışına yön verecektir.
- Aşağıda paylaşmış olduğum adresten benimle iletişim sağlayabilirsiniz: tubaeren@hotmail.com
- Araştırmama yapacağınız değerli katkılarınız için şimdiden çok teşekkür ederim.

Sevgi ve saygılarımla;

Eğt. Uzm. Tuba Eren

Okul Yönetimi Araştırma İzin Formu

Değerli yetkili,

Yapacağım araştırma için, kurumunuzun orta ve büyük grup öğretmenlerinin, eğitim programı uygulamalarına dair bazı değerlendirmelerine ihtiyaç duymaktayım.

Araştırmada okul-kurum ve katılımcı öğretmenlerin isimleri kesinlikle paylaşılmayacaktır.

Araştırmada hiçbir çocuğun videosu, fotoğrafı ve ismi kullanılmayacaktır.

Araştırmanın amacı, okul öncesi eğitim programlarında çocukların gelişim ve öğrenme süreçlerinin desteklenmesinde serbest parçaların kullanımının etkilerini ortaya çıkarmaktır. Bu konuda okul öncesi öğretmenlerinin görüş ve değerlendirmeleri alınarak sonuca ulaşılması hedeflenmektedir.

Çıkacak sonuçlara göre, bu tür materyallerin kullanım alanlarının daha da yaygınlaştırılması önerilecektir.

Araştırma, gönüllülük esasına dayanmaktadır ve yalnızca ORTA ve BÜYÜK grup öğretmenleri ile yapılacaktır.

Şimdiden değerli katkılarınız ve desteğiniz için teşekkür ederim.

Saygılarımla,

Eğt. Uzm. Tuba Eren Öcal

E. CURRICULUM VITAE

Name- Surname: Tuba EREN OCAL

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Çekmeköy- İstanbul

Mobile phone: 05456857795

EDUCATIONAL BACKGROUND:

Undergraduate:

Middle East Technical University/ Early Childhood Education- 2004

GPA: 3.68 (High Honor Student)

Master:

Middle East Technical University/ Early Childhood Education- 2007

GPA: 3.02

Studied area: Development and application of portfolio assessment system in a preschool.

PhD:

Middle East Technical University/ Elementary Education- 2019-...

GPA: 3.43

Studied area: Preschool teachers' view and practices on using loose parts in daily learning activities

WORK EXPERIENCE:

2002-2004

Education consultant in Sirinkent Preschool, Ankara

2004- 2005

Education specialist in İlk Cizgi Preschool, Ankara

2005-2006

Preschool manager in Sirinkent preschool, Ankara

2006- 2008

Non-participant observer in Doku Kultur Preschool, Ankara

2007-2008

Education consultant in Doku Kultur Preschool, Ankara

TUBITAK Project Assisstant : Burnout Syndrome of Preschool Teacher (Okulöncesi Eğitim Kurumlarında Çalışan Öğretmenlerin Mesleki ve Demografik Profillerinin, Mesleki Kimlik Algılarının, Tükenmişlik ve Stres Düzeylerin Belirlenmesi ve İş Doyumu ve Mesleki Performansın Artırılmasına Yönelik Çözüm Önerileri Üretilmesi).

2008- 2010

Education and parent consultant in Doku Kultur Preschool, Ankara

2009- 2010

Preschool teacher trainer and parent consultant in ANKA Preschool, Ankara

2010- 2011

Owner of TED Early Childhood Education Consultant Company

2014- 2017

General Coordinator of Kucuk Seyler Preschools (45 preschool in 22 different cities in Turkey)

2017-

Owner of Birth2day Early Childhood Education Consultancy

2019-....

Owner of Atölye Kuşağı Preschool (Reggio Emilia Inspired Preschool)

ACADEMIC INTERSET and STUDIED AREAS:

Curriculum models in early childhood education

Needs Assessment

Observation in early childhood education

Assessment in early childhood education
Portfolio in early childhood education
Family involvement in early childhood education
Preschool teacher training
Strengthening quality in early childhood education
Developmentally appropriate practice program in early childhood education
Early childhood education in different countries
Zone of Proximal Development (ZPD) in young children
Parent consultancy

AWARDS & CERTIFICATES:

High Honor Student Certificates, METU 2001-2002-2003-2004
2004-2005 Academic year, METU Graduate Courses Performance Award
Small Hands Annual International Conference Certificate of Participation, Istanbul
2009

KNOWLEDGE OF LANGUAGE:

English: Upper

CONFERENCES- SEMINARS:

Eren, T. (2011, October). Parenting of Young Children (Seminar), ANKA Preschool, Ankara
Eren, T. (2010, September). Positive Discipline Methods in ECE (Seminar), National Library, Ankara
Eren, T. (2009, December). Family Involvement in Early Childhood Education (Conference), Noterler Birliđi Primary School, Ankara
Eren, T. (2009, November). Curriculum and assessment in early childhood education (Seminar), METU, Ankara.
Eren, T. (2009, October). Usage of portfolio in young children's math education (Seminar), METU, Ankara.
Eren, T. (2009, September). Early childhood education at home (Conference), Doku Kultur Preschool, Ankara.
Eren, T. (2009, March), Quality in early childhood education (Conference), Utopya Schools, Istanbul.
Eren, T. (2008), Assessment in early childhood education (Seminar), METU, Ankara.

Eren, T. (2008, December). Basic characteristics of age groups of 3 to 6, Doku Kultur Preschool, Ankara.

Eren, T. (2008, October). Importance of early childhood education (Seminar), Doku Kultur Preschool, Ankara.

Eren, T. (2007). Portfolio in early childhood education (Sminar), METU, Ankara

TV PROGRAMMES:

Quality in early childhood education, Channel B, Ankara October, 2009

How parents should behave through their children, Channel B, Ankara August, 2010

Beykent TV (12 programs)

Channel D- Konuřtukca

REFERENCES:

Doç. Dr. Zeynep Berna ERDİLLER, T.C. Bogazici University, Faculty of Education, Department of Elementary Education, Assistant Professor,

Yrd. Doç. Dr. Çiğdem HASER, Middle East Technical University, Faculty of Education, Department of Elementary Education

F. TURKISH SUMMARY

GİRİŞ

Oyunun çeşitli tanımları arasında en kalıcı olanlarından biri Susan Isaacs (1971) tarafından yapılmıştır: Oyun, çocuğun içsel motivasyonu tarafından özgürce seçilen ve kendi kendini yöneten davranışları kapsar. Dışsal bir hedef ya da ödül olmadan gerçekleşen bu davranışlar, sağlıklı gelişimin en temel ve ayrılmaz parçalarıdır. Oyun sadece çocuk için değil herkes için hayati bir olgudur (Isaacs, 1971, s.133).

Isaacs'ın yanı sıra, Linn (2008, s. 19-26), oyunu sağlıklı bir çocukluğun en önemli parçası olarak tanımlamış ve oyunun, eleştirel düşünme, empati, yaratıcılık ve problem çözme gibi becerileri desteklediğini ortaya koymuştur.

Araştırmalar, çocuk tarafından başlatılıp sürdürülen “oyunun”, gün boyunca çeşitli öğrenme olanakları arasındaki denge ile okula uyumu ve sınıf içi davranışlarını kolaylaştırdığını göstermiştir (Pellegrini ve Bohn, 2005). Gün içindeki oyun ve etkinlikler yapılandırılmamış ve çocuk odaklı olarak planlandığında, bu öğrenme ve gelişim fırsatları daha da etkili olmaktadır (Pellis ve Pellis, 2007). Yapılandırılmamış ve çocuk liderliğindeki oyun, çocukların kendi sosyal ağlarını oluşturmalarını, bağımsız karar vermelerini ve kendi davranışlarının sonuçlarını keşfetmelerini sağlar (Eisenberg, Valiente & Eggum, 2010). Sonuç olarak yapılandırılmamış oyun, çocukların öz düzenleme, bağımsızlık, üst düzey düşünme becerilerini kullanma, kendine güven ve gelişmiş sosyal davranışlar sergileme gibi çeşitli gelişimsel özellikleri edinmeleri için oldukça değerli bir araçtır (Pellis ve Pellis, 2007).

Temel unsurun “oyun” olduğu bir ortam yaratmak için erken çocukluk eğitiminde oyun temelli bir öğretim programına ihtiyaç vardır. Oyun temelli öğretim programı kullanılarak okul öncesi eğitime devam eden çocukların öz düzenleme becerilerinin çok daha gelişmiş olduğu ve bazı ölçümlerde böyle bir programdan yararlanmayan çocuklara göre daha yüksek puanlar aldıkları belirlenmiştir. (Diamond ve diğerleri, 2007). Ayrıca Barker ve ark. (2014), 6 yaşındaki çocukların daha az yapılandırılmış

etkinliklerle zaman geçirdiklerinde, bilişsel ve öz kontrol becerilerini daha etkili kullandıklarını ortaya koymuşlardır. İngiltere’de 3000 çocukla yapılan başka bir çalışmada ise, oyun temelli okul öncesi deneyiminin dezavantajlı ailelerden gelen çocukların sosyal-duygusal gelişimleri üzerinde olumlu etkileri olduğu belirlenmiştir (Sylva ve ark. 2004). Ayrıca Almanya’da 50 oyun temelli anaokulunda ve 50 erken öğrenme merkezinde yapılan bir başka araştırmaya göre, oyun temelli anaokulundaki çocukların 4. sınıfa geldiklerinde okuma, matematik ve sosyal becerilerinin daha ileri düzeyde oldukları bulunmuştur (Darling- Hammond & Snyder, 1992). Görüldüğü gibi çocukların gelişiminde oyunun rolünün ne kadar etkili olduğunu açıklayan çalışmalar ve kanıtlar mevcuttur.

Çocuklar oyun yoluyla dünyayı ve çevrelerini keşfederken bu sürece oyuncaklar ve materyaller eşlik eder. Nesnelere oynamak, çevreyi tanımanın önemli bir yoludur. Piaget'e (1962) göre oyun, görüntüleri aktararak senaryolar üretmek için sembolik becerileri kullanma yeteneğidir. Shabazian ve Li Soga (2014) da, oyunun çocukların gelişim becerilerini geliştirdiğini ve bunun farklı oyuncak ve materyallerle desteklenebileceğini öne sürmüşlerdir.

Oyun veya etkinlikler sırasında, açık uçlu materyaller, nesnelere veya oyuncaklar çocukların oyunlarına dahil etmek isteyecekleri önemli araçlardır. Bu materyalleri veya oyuncakları kullanmanın tek bir doğru veya yanlış yolu yoktur (Drew & Rankin, 2004; Shabazian & Li Soga, 2014). Bazı araştırmacılar çocukların kullanabileceği açık uçlu materyal veya oyuncakları şu şekilde tanımlamış ve önermiştir. Örneğin; Daly ve Begovlovsky (2016), yeniden kullanılabilir ve kolay elde edilebilir malzemelerin (ör. kumaşlar, pamuk, ahşap parçalar); Drew ve Rankin (2004) bilim, teknoloji, mühendislik ve matematikte (STEM) düşünmeyi kolaylaştırabilecek günlük materyallerin (Lego®, tahta bloklar) ve Bairaktarova et al. (2011) ise çocukların istedikleri zaman kullanabilecekleri yapılandırılmamış materyallerin oyuna dahil edilmesini önermişlerdir. Bu yapılandırılmamış materyallerin çocukların oyunlarını zenginleştirmede pek çok olanak sunduğunu belirtmişlerdir (örn. kum, kir veya su gibi duyuşsal materyaller). Ayrıca birçok araştırmacı, çalışmalarında açık uçlu materyalleri tanımlamış ve bunların çocukların oyunu üzerindeki faydalarını ve potansiyel etkilerini ortaya koymuştur (Bairaktarova ve diğerleri, 2011).

Nesnelerle oynamak, daha bebeklik döneminde çocuğun yaşamına giren önemli bir oyun biçimidir. Bu nesnelere çevreyi tanıma ve keşfetme sürecinde bebeğe eşlik eder. Bu dönemde bebekler nesnelere oynarken ısırma, döndürme, ovma, okşama, vurma, bırakma gibi davranışlar sergiler. Zaman zaman çıkardıkları sesler de oyunlarına eşlik edebilir.

18-24 aydan itibaren çocuklar nesnelere sıralama, sınıflandırma gibi etkinlikler yapmaya başlarlar. 4 yaşına geldiklerinde nesnelere kullanarak "inşa et, değiştir ve yeniden inşa et" türü oyunlar kurmaya başlarlar. Vygotsky (1978), çocukların nesnelere oynarken tasvir etme becerilerinin de geliştiğini vurgulamıştır. Stroud (1995), Vygotsky'nin çocukların gerçek nesnelere modellerini oluşturmaya başladıklarında, oyun yoluyla tanımlama ve simgeleme becerilerinin de gelişmeye başladığını belirttiğini söylemiştir.

Vygotsky (1978) ayrıca nesnelere oynamanın özellikle düşünme, akıl yürütme ve problem çözme stratejilerinin gelişimi için önemli olduğunu savunmuştur. Bu öneriye benzer bir görüş Vygotsky'den önce, 3 ila 5 yaşları arasındaki iki çocuk grubuyla basit bir problemi çözmek için bir çalışma tasarlayan Bruner ve diğerleri (1972) tarafından ele alınmıştır. Bir gruba çalışmayla ilgili kullanılacak nesnelere serbestçe oynama fırsatı verilirken, diğer gruba ise bir problemi çözmek için aynı nesnelere nasıl kullanacakları öğretilmiştir. Sonuç olarak, önceden nesnelere serbest biçimde oynama fırsatı verilen çocukların daha yaratıcı fikirler ortaya koydukları ve problem çözerken daha fazla strateji ürettikleri, diğer grubun ise önceden gösterilmiş tek bir stratejiyi kullandıkları ortaya çıkmıştır (Bruner, 1972).

Benzer şekilde, Smith ve Dutton (1979), basit problemleri çözmeye becerileri için oyun deneyimi ve öğretimin eşit derecede etkili olabileceğini, ancak yaratıcı ve yenilikçi yaklaşımlar gerektiren daha zorlu problemler için nesnelere oynamanın çok daha etkili ve destekleyici olduğunu belirtmişlerdir. Pellegrini ve Gustafson (2005) tarafından yapılan bir çalışmada ise Bruner ve arkadaşlarının çalışmalarında olduğu gibi, 3 ila 5 yaş arası çocukların, nesnelere birlikte kurdukları yapı-inşa ve keşif oyunları sırasında problem çözme becerilerini çok daha yüksek düzeyde kullandıkları tespit edilmiştir.

Açık uçlu nesnelere oynamak çocukların "özel konuşmaları" için önemli fırsatlardan biridir. Çocuğun bir nesne ve oyuncakla oluşturduğu "özel konuşma" sırasında, konsantre olma, kendi sürecini yönlendirme, strateji geliştirme, özdenetim kullanma gibi becerileri ortaya çıkar. Ayrıca açık uçlu nesnelere inşa etmeye ve problem çözmeye dayalı oynayan çocuklar, sabırlı olma ve zorlu işlerle baş etme becerilerini de geliştirir (Sylva, Bruner ve Genova, 1976).

Bazı çalışmalarda açık uçlu materyaller, çocukların oyunlarına yaratıcı ilhamlar verebilecek doğal materyallerle ilişkilendirilmiştir (Shabazian & Li Soga, 2014). Aynı şekilde, Kiewra ve Veselack (2016) açık uçlu materyalleri, önceden belirlenmiş herhangi bir reçetesi olmayan materyaller olarak tanımlamıştır. Toprak, kum, ağaç parçaları (sopalar, dallar, kütükler), meşe palamudu veya yapraklar gibi doğal malzemeler açık uçlu materyallerle ilişkilendirilmiştir (s. 84). Bu materyallerin doğası gereği önceden belirlenmiş bir amacı yoktur ve çocuk oyunları için birçok olanak sunar. Ayrıca açık uçlu olmaları nedeniyle birden çok şekilde kullanılabilirler (Segatti ve diğerleri, 2003, s. 13).

Pepler ve Ross'a (1981) göre, çocuklar materyalleri ve nesnelere oynadıkları oyunun türüne göre farklı şekillerde yönetir. Bunlar keşif, inşa etme, özelliklerine göre sınıflandırma veya sembolik oyunlara dahil etme şeklinde gerçekleşebilir. Buna göre, bu açık uçlu materyallerin kullanılması, çocukların farklı problem çözme becerilerini geliştirebilir ve bir probleme veya duruma çeşitli çözümler bulmalarına destek olur (s. 1202-1210). Çocukların açık uçlu materyalleri kullanmalarına, keşfetmelerine veya manipüle etmelerine izin vermek önemlidir. Bununla birlikte çocuklara ihtiyaç duyduklarında destek olmak, yapılandırılmamış etkinliklerde nitelikli koşullar barındıran fırsatlar tanımak ve öğrenme sürecine katkı sağlamak da aynı düzeyde önemlidir (Trundle, 2018).

Bu fırsatların kalitesi, çocukların katıldığı farklı oyun veya etkinlik türlerine, çocukların keyif almasına ve bu etkinliklerin öğrenme ve gelişim için faydalarına bağlıdır (Powell, 2007; White, 2013). Serbest parçalarla oyun, çocukların liderliğindeki etkinliklerin içeriğini zenginleştirmek ve oyun sırasında ortaya çıkan fırsatların kalitesini artırmak için ortaya atılan yöntemlerden biridir. Serbest parçalarla oyun, çocukların oyun alanlarına hareketli (taşınabilir) materyallerin veya

ekipmanların yerleştirilmesini ve bir yetişkin yönlendirmesiyle istedikleri gibi oynamaya davet edilmesini içerir (Van Rooijen, 2017).

Oyunu geliştirmek için serbest parçaların kullanılmasının kökleri, Nicholson (1972) tarafından geliştirilen “Serbest Parçalar Teorisi” ilkelerine dayanmaktadır. Nicholson, herhangi bir ortamda, sadece icat ve yaratıcılık derecesinin değil, aynı zamanda keşfetme olasılığının, içindeki değişkenlerin sayısı ve türü ile doğru orantılı olduğunu öne sürer (Nicholson, 1972, s. 6). Nicholson’ın görüşleri, tasarım teorisi bağlamında ve bir bireyin ortamının yaratıcılık ve aktif katılımı en üst düzeye çıkarmak için nasıl düzenlenebileceği temelinde geliştirilmiştir. Bu düşünce bir okul ortamında kullanıldığında ise amaç, çocukları yaratıcılık ve keşif için fırsatlar sağlayan çeşitli türde hareketli/ taşınabilir malzemelerle tanıştırmaktır (Bundy ve diğerleri, 2011). Halihazırda, eğitim ortamlarında serbest parçaların farklı oyun ve etkinliklerde kullanılması, her çocuğun oynama hakkına sahip olduğu ve çocuk liderliğindeki oyunun, oyun deneyimlerinin kalitesini geliştirdiği ilkesinden gelmektedir (Fjortoft ve Sageie, 2000; Maxwell, Mitchell). & Evans, 2008). Seer (2016), serbest parçaların çocukların yaratıcılık ve katılım açısından gelişimini ve öğrenme kapasitesini artırabileceğini vurgulamıştır. Kısacası, serbest parçalarla oyun teorisi, çocukların çeşitli şekillerde ve çeşitli seviyelerde oynamalarına izin veren materyallerin önemini vurgular (McClintic, 2014).

Serbest parçalar, çocukların problem çözme, hayal gücü ve yaratıcı düşünme becerilerini destekler (Holland, 2010). Bu nedenle erken çocukluk ortamlarında çocukların oyunlarına serbest parçalar eklemek dünya çapında geniş kabul görmüştür (The Empowered Educator, 2018).

Çoğu araştırmacı, serbest parçaları doğal veya sentetik olarak sınıflandırmıştır. Doğal parçalara verilen örnekler ağaç dalları, tohumlar, ağaç kabuğu, odun kütükleri ve diğer küçük parçalar, çalılar, bambu direkleri, balkabağı, çiçekler, kayalar, toprak, deniz kabukları, yapraklar ve sudur. Sentetik serbest parçalara örnekler ise, bahçe ve tamir malzemeleri, büyüteçler, mandallar, bloklar, ahşap veya plastik süt kasaları, tuğlalar, kumaş, tıbbi kitler (dil çubukları, pamuk vb) ve tıbbi aksesuarlar, kıyafetler, mutfak araç-gereçleri, fasulye torbaları, toplar, ipler, çemberler, egzersiz topları ve

düğmelerdir. Ayrıca oyuncak arabalar, kamyonlar, oyuncak bebekler ve çeşitli oyun gereçleri de serbest parçalara dahil edilir (Gull, 2017).

Öğretmenlerin etkin bir planlama ile serbest parçaları günlük akışlarına dahil etmeleri gerekmektedir (White, 2010). Ayrıca öğretmenler öğrenme ortamının serbest parçalar açısından zengin olmasını sağlamalıdır. Bu ortamda da çocuklar, öğrenme ve gelişim sürecini zenginleştirmenin önemli bir parçası olan bu materyalleri istedikleri gibi kullanmakta özgür olmalıdırlar (Daly ve Beloglovsky, 2015; Casey ve Robertson, 2016; White, 2017). Nicholson'ın (1971) serbest parçalarla oyuna dair önerisi, öğretmenlerin çocukların farklı düşünme becerilerini desteklemeleri için küçük yönlendirmeler yapmaları şeklindedir. Ayrıca, Casey ve Robertson (2016), yetişkinlerin serbest parçalarla oynama konusunda desteğinin ve katılımının önemini vurgulamaktadır. Aynı şekilde Dockett (2011) ve Fumoto ve ark. (2012) gerektiğinde çocukların bir etkinlik veya oyun sırasında desteklenmelerinin, onların farklı düşünme ve yaratıcılıklarını etkileyebileceğini öne sürerek, bunun öğretmenlerin sahip olduğu bilgi, yetenek ve deneyimle de bağlantılı olduğunu belirtmektedir. Bu bakış açısı, Vygotsky'nin *Yakınsal Gelişim Alanında* (ZPD, 1978) belirttiği gibi çocukların mevcut düşünme, öğrenme veya gelişim potansiyellerini bir adım daha ileri taşımak için öğretmenler tarafından desteklenmesi gerektiği önerisini güçlü bir şekilde yansıtmaktadır.

Araştırmacılar, serbest parçalarla oyunun ilerlemesini kolaylaştırmada öğretmenlerin rolünün önemine ve mesleki gelişimin süreklilik içermesi gerektiğine işaret etmişlerdir (McInnes ve diğerleri, 2011). Bernard Spodek ise; "...öğretmenler tüm etkinliklerin merkezindedir. Doğrudan veya dolaylı olarak, bunların çoğunu kontrol ederler ve okul ortamında çocukların başına gelen her şeyden sorumludurlar. Gün içinde çocukların ihtiyaçları ortaya çıktıkça bunlara cevap vermelidirler" (Spodek, 1985, s.1) demiştir. Bu bakış açısıyla paralel olarak, erken çocukluk eğitiminde öğretmenin rolü çok önemlidir.

Yukarıdaki görüş ve öneriler ışığında, bir diğer önemli husus da oyun temelli bir ortamda çocukların gelişim ve öğrenme becerilerinin desteklenmesi ve bu desteğin etkisinin artırılması için öğretmenlerin görüş ve uygulamalarının yakından incelenmesidir (Ashiabi, 2007; Erwin ve Delair, 2004). Wilcox-Herzog ve Ward

(2004) tarafından yapılan bir araştırma, öğretmen-çocuk etkileşimi ve sınıf ortamındaki uygulamalara ilişkin öğretmen görüşleri ile uygulamaları arasında güçlü bir ilişki olduğunu göstermiştir. Üstelik öğretmenlerin görüşleri, uygulamaların ön işaretleridir. Sonuç olarak, kaliteli erken çocukluk eğitiminin inşası için ilk adım olarak öğretmen görüşlerinin araştırılması önerilmektedir.

Bu çalışmaların yanı sıra Bodrova ve Leong (2003) öğretmenlerin sınıftaki aktif katılımının oyun planlamasını güçlendirdiğini belirtmektedir. Öğretmenler sınıf uygulamalarına aktif olarak katıldıklarında rolleri, yardımcı oyuncu (Reynolds & Jones, aktaran Perry, 2001), oyun lideri (Johnson, Christie & Yawkey, 1999), ortak model, kolaylaştırıcı, iletişimi güçlendirici (Bodrova & Jones) olarak tanımlanmıştır. Bu roller, çocukların sınıfta öğrenme ve gelişimini destekleyen ve düzenleyen özellikler olarak düşünülebilir (Bodrova ve Leong, 2006).

Öğretmenlerin serbest parça materyalleri hakkındaki görüşlerini veya uygulamalarını araştıran çalışmaların yardımıyla, eğitimcilerin sadece serbest parça materyallerinin çocukların oyunu üzerindeki etkilerini değil, aynı zamanda bilişsel beceriler gibi çeşitli gelişim alanlarına kattığı değeri de ortaya çıkarabilir (Gibson ve diğerleri, 2017). Böylece, okul öncesi öğretmenlerinin serbest parçalarla oynama ile gelişim becerileri arasındaki bağlantıları nasıl ana hatlarıyla çizdikleri, eğitim uygulamaları için hayati önem taşımaktadır (Pellis ve Pellis, 2007).

Bahsedilen noktalara ek olarak, çocuklar için hem iç hem de dış mekanlarda serbest parçaların kullanımını yaygınlaştırmak için öğretmenler gibi paydaşlarla çeşitli çalışmalar yapılması önemlidir. Serbest parçalarla oynama fikrine aşina olmak, öğretmenin bakış açısıyla bağlantılıdır (Spencer vd., 2019). Casey'e (2016) göre, çocuklar bazen serbest parça malzemeleriyle uğraşırken rehberlik veya desteğe ihtiyaç duyabilirler. Bu durumda, eğitimcilerin karşılaştığı bazı zorluklar, çocukların oyun veya etkinlikleri için yeni yollar açabilir. Bu nedenle öğretmenlerin görüşleri kadar uygulamaları da çok önemlidir.

Yukarıdaki bilgiler ışığında, bu çalışmada, serbest parçaların sadece oyun ve yapılandırılmamış oyunlar sırasında değil, aynı zamanda günlük akışta farklı gelişim ve öğrenme alanlarını destekleyen etkinliklerde kullanımına ilişkin öğretmenlerin görüşleri, kendi bildirdikleri uygulamalar ve gerçek uygulamalar incelenmiştir.

Çalışmanın Amacı

Bu çalışma, okul öncesi öğretmenlerinin günlük eğitim etkinliklerinde serbest parça materyallerinin kullanımına ilişkin görüşlerini, kendi beyanlarına dair uygulamalarını ve gerçek uygulamalarını incelemeyi amaçlamaktadır. Araştırma tasarımına karar vermek ve bu çalışmada bazı bulgular elde etmek için dört ana araştırma sorusu belirlenmiştir:

1. Okul öncesi öğretmenlerinin günlük etkinliklerde serbest parçaların kullanımına ilişkin görüşleri nelerdir?
2. Okul öncesi öğretmenleri günlük etkinliklerde serbest parçaları nasıl kullanır?
3. Okul öncesi öğretmenleri hangi etkinlik türlerinde serbest parçaları daha sık kullanır?
4. Günlük etkinliklerde hangi tür serbest parçalar daha sık kullanılır?

Çalışmanın önemi

Bu çalışma, okul öncesi eğitim ortamında uygulanan günlük etkinliklerde serbest parçaların kullanımına dair öğretmen görüşlerinin, kendi beyanlarına dair uygulamalarının ve gerçek uygulamaların önemini vurgulamayı amaçlamıştır. Yukarıda belirtildiği gibi, öğretmenlerin görüşleri uygulamalarını etkileyebilir. Dolayısıyla bu görüşlerin olumlu olması durumunda sınıf içi uygulamalar daha etkili ve çocuğun gelişimine katkı sağlayan bir atmosfere dönüşebilir (McInnes vd., 2011). Böylece öğretmenlerin görüşlerinin alınması ve uygulamalarının gözlemlenmesi, farklı etkinliklerde serbest parçaların nasıl kullanıldığına dair veri sağlamaktadır.

Bu çalışmayla ortaya çıkacak öğretmen görüşlerinin ve uygulamaların belirlenmesi, okul öncesi dönemdeki çocuklar için kolay erişilebilir, ucuz ve etkili materyaller kullanarak nitelikli programlar geliştirme ve uygulamaların geliştirilmesini sağlayabilir. Serbest parçalarla oyun, erken çocukluk eğitimi alanında dünya çapında ilgi görmektedir (The Empowered Educator, 2018; McClintic, 2014; Oxfordshire Play Association, 2014; PennState Extension, 2019; Van Rooijen, 2017). Erken çocukluk eğitiminde gelişim ve öğrenme için kullanılan açık uçlu materyaller, çocukların duyuşsal algıyı artırma, keşif becerilerini teşvik etme, karmaşık oyunları teşvik etme, yaratıcılığı ve hayal gücünü zenginleştirme, çocukların kendi fikirlerini

geliştirmelerine izin verme, dil becerilerini zenginleştirme, sosyal-duygusal yetenekleri artırma, ince motor becerileri destekleme, erken matematik becerilerini geliştirme gibi çeşitli gelişim özelliklerini zenginleştirecektir (Daly ve Beloglovsky, 2016; Myskiw, 2019).

Son zamanlarda yapılan araştırmalarda, serbest parçaların özellikle çocukların bilişsel gelişimleri gibi alanlarına yönelik araştırmaların sınırlı olduğu belgelenmiştir (Gibson ve ark., 2017). Çalışmaların çoğu, açık hava oyunlarında serbest parçaların kullanımına ilişkin çocukların fiziksel ve sosyal gelişimine odaklanmıştır (Sutton, 2011). Ancak bu çalışma, öğretmenlerin bakış açısıyla çocukların farklı gelişim ve öğrenme alanlarını kullanabilecekleri günlük eğitim etkinliklerinde serbest parçaların kullanımına odaklanmayı amaçlamaktadır. Bu çalışmada elde edilen bulgulardan hareketle, güçlü ve etkili öğrenme materyalleri olarak serbest parçaların farklı öğrenme alanlarında kullanılması için çeşitli çıkarımlar önerilebilir.

Yukarıdaki noktalara ek olarak, serbest parçalarla ilgili çalışmaların çoğu fiziksel etkinlikleri araştırmıştır (Dobbins, Husson, DeCorby & LaRocca, 2013; Engelen ve diğerleri, 2013; Houser, Roach, Stone, Turner & Kirk, 2016; Ridgers, Carter, Stratton ve McKenzie, 2011). Ancak, okul içindeki etkinliklerde veya oyunlarda kullanılan serbest parçaların, çocukların gelişimi üzerindeki etkilerini araştıran çok az çalışma vardır (Gibson ve diğerleri, 2017). Açık hava oyunlarında veya dış ortamlardaki serbest parçaların en sık araştırma alanı olduğu, ancak daha çok iç mekan etkinliklerinde serbest parçaların kullanıldığı bildirilmektedir (Sutton, 2011). Çocuklar ve öğretmenler günün büyük bir kısmını kapalı ortamlarda geçirdikleri için, kapalı mekan etkinliklerinde serbest parçaların etkin öğrenme materyalleri olarak kullanımının araştırılması önemlidir.

Önceki paragraflarda belirtilen noktaların yanı sıra öğretmenlerin görüşleri, kendi bildirdikleri uygulamalar ve gerçek uygulamalar, çocuklara yönelik daha nitelikli uygulamaların geliştirilmesine yardımcı olması açısından değerlidir. McInnes ve ark. (2011) öğretmenlerin oyuna bakış açıları üzerine bir araştırma yapmış ve öğretmenlerin oyunu kolaylaştırmadaki rolleri konusunda tereddüt edebileceklerini bulmuşlardır. Ayrıca, Erken Yıllarda Etkili Pedagoji Araştırması (REPEY) (Siraj-Blatchford ve diğerleri, 2002), çocukların öğrenmelerini veya gelişimlerini çeşitli

düzeylede geliřtirmek için desteęe ihtiya duyabileceklerini öne sürmektedir. Nutbrown (2012), öz-yeterlik düzeyleri yüksek öęretmenlerin oyunun önemini ön planda tuttuklarını ve bunun da çocukların öęrenmesi ve geliřimi üzerinde önemli bir etkisi olduęunu öne sürmüřtür.

Bir dięer nokta ise, serbest paralarla ilgili alıřmaların daha ok ilkokul aęındaki çocukları iermesidir (Sutton, 2011). Ancak, bu alıřma erken ocukluk aęındaki çocuklara odaklanmaktadır. Aık ulu materyaller ve küük çocuklar üzerindeki etkileri üzerine az sayıda alıřma olduęundan, serbest paraların faydalarının arařtırılması erken ocukluk ortamlarındaki deneyimlerin anlaşılmasına yardımcı olacaktır (Gibson, 2017). Reggio Emilia ve alternatif eęitim yaklařımlarında serbest paralar yaygın olarak kullanılmaktadır. Ancak herhangi bir eęitim yaklařımını veya ekolü kullanmayan okullar veya eęitimciler için de bu alıřmadan elde edilecek sonuçlar, serbest paralar kullanılarak tasarlanacak eęitim uygulamaları için yeni fikirlerin doęmasına katkı saęlayacaktır.

Son olarak, arařtırmacı Türkiye'de spesifik olarak serbest paralarla oyun bařlıęı altında bir arařtırma ile karřılařmamıřtır. Türkiye'nin okul öncesi eęitim programı oyun temelli, ocuk merkezlidir ve öęretmeni ocuęun geliřimi ve öęrenme sürecinde destekleyici bir rolde algılamaktadır (MEB, 2013). Bu arařtırmanın sonuçları Türkiye'nin okul öncesi eęitim programı ile ilişkilendirilebilir ve yeni alıřmalara ve entegrasyonlara ışık tutabilir. Özellikle Türkiye ECE programında yer alan etkinlik türleri, oyun türleri ve öęrenme alanları tanımlarının serbest para materyallerinin buralarda kullanılması ile örtüřmesi alıřmanın bir katkısı olarak ortaya ıkabilir. Bu alıřma, öęretmen uygulamaları, müfredat planlaması, etkinlik tasarımı ve serbest paralar kullanılarak oyun temelli programların hazırlanması ile ilgili daha fazla arařtırma yapılması için de bir temel oluşturabilir.

Önemli Terimlerin Tanımları

Serbest paralar: Bu materyaller genellikle aık ulu olarak tanımlanır. Yaratıcı veya sembolik olarak birçok farklı şekilde kullanılabilir (Elder & Pederson, 1978; Crum ve dięerleri, 1983; Lewis ve dięerleri, 2000; Drew & Rankin, 2004; Daly & Beloglovsky, 2016; Kiewra & Veselack, 2016; Shafer, 2016). Örneęin, ocuk oyunlarında meře palamudu bir orbanın malzemesi haline gelebilir veya araba ya da hayvan olarak

kullanılabilir. Benzer şekilde, bir kumaş parçası, dramatik oyunlarda bir kostümün parçası, kutuya konulacak bir eşya veya bir denge oyunu aracı olabilir (Guyton, 2011). Bu materyaller, yetişkin katılımı olsun veya olmasın, tek başına veya diğer materyallerle birlikte (Daly ve Beloglovsky, 2016) veya yapılandırılmış veya yapılandırılmamış oyunlarda (Crum ve diğerleri, 1983; Park, 2019; Forman, 2006) çocuk oyunlarına dahil edilebilir (Trundle, 2018; Stagnitti & Unsworth, 2004).

Destekleme (Scaffolding): Öğrencilerin öğrenme hedeflerine ulaşmak için bir öğretmen veya daha yetkin bir öğrenci ile çalışarak, daha fazla gelişmelerine yardımcı olan bir öğretim yöntemidir (Vygotsky, 1978).

Yakınsal Gelişim Alanı (ZPD): "Bağımsız problem çözme ile belirlenen gerçek gelişim seviyesi ile yetişkin rehberliğinde veya daha yetenekli akranlarla işbirliği içinde problem çözme yoluyla belirlenen potansiyel gelişim seviyesi arasındaki mesafe" (Vygotsky, 1978, s. 86).

Etkinlikler: Bu çalışmada günlük etkinlikler, farklı öğrenme ve gelişim alanlarına göre her gün planlanan etkinlikleri ifade etmektedir. MEB Okul Öncesi Eğitim Programı çerçevesine göre dil, sanat, drama, müzik, hareket, oyun, fen, matematik ve okuma günlük etkinlikler olarak tanımlanmaktadır (MEB, 2013). Bu etkinlikler yarı yapılandırılmış ya da yapılandırılmamış olarak sınıf içinde ya da sınıf dışında küçük ya da kalabalık çocuk gruplarıyla gerçekleştirilebilir (MEB, 2013). Bu çalışma oyun temelli bir okul öncesi ortamında yürütüldüğünden, tüm etkinlikler bu çalışma boyunca belirtildiği gibi yarı yapılandırılmış, dil, matematik, fen ve doğa ve sanat etkinliklerinden oluşmaktadır.

Sembolik oyun: Öğretmenin oyunu bir senaryo çerçevesinde işlemeye devam ettiği, bazen çocukların bizzat sürecin başından itibaren süreci yürüttüğü oyun türüdür (Goldstein, 2012).

Duyusal-motor oyun: Çocukların beş duyusunu aktif olarak kullanabilecekleri bir oyun türüdür. Bu tür etkinliklerde çocuklar, özellikle farklı doku ve boyutlara sahip olan açık uçlu materyallerle yoğun bir şekilde oynarlar (Gauvain ve Cole, 2018).

Yapılandırma oyunu: Çocukların Lego®, bloklar, kutular ve yapı-inşa oyuncakları veya materyalleri kullandığı bir oyun türüdür (Drew ve diğerleri, 2008)

Dokümantasyon: Öğretmenlerin çocukların fotoğraflarını, video kayıtlarını, anekdot kayıtlarını, çalışma örneklerini ve kontrol listelerini/değerlendirme ölçeklerini topladıkları bir değerlendirme yöntemidir (Oken-Wright, 2001).

YÖNTEM

Bu çalışma “gerçek insanların gerçek ortamlarda yaşanan deneyimlerini” anlamayı amaçladığı için nitel araştırma yaklaşımı tercih edilmiştir (Hatch, 2002, s. 6). Çalışma verileri görüşmeler ve gözlemler yoluyla toplanmıştır. Ayrıca, bu çalışmada elde edilen bulguları destekleyip güçlendirmek için çocukların etkinlik dokümanları ikincil veri kaynağı olarak kullanılmıştır. Öğretmenler ve çocuklar bu çalışmanın sürecine aşina oldukları için araştırma ortamının asıl aktörleridir.

Nitel araştırma yöntemi çerçevesinde bu çalışma bir örnek olgu çalışması olarak gerçekleştirilmiştir. Merriam (2009), olgu çalışmasının bir ortamın veya tek bir konunun, bir belge koleksiyonunun veya belirli bir olayın ayrıntılı bir incelemesi olduğunu öne sürmektedir. Ayrıca, Creswell (2007) olgu çalışmasını, araştırmacının gözlemler, görüşmeler, görsel-işitsel araçlar, belgeler ve raporlar ile birleştirilmiş farklı bilgi kaynaklarını kullanarak ayrıntılı veriler toplayarak zaman içinde sınırlı bir sistemi veya birden çok sınırlı sistemi keşfetme yaklaşımı olarak açıklamaktadır.

Araştırma konusu oldukça spesifik olduğundan, bu çalışmayı yürütmek için bazı kriterlere ihtiyaç duyulmuştur. Bu kriterler, katılımcıların oyun temelli öğrenme hakkında bilgi sahibi olmaları; süreç odaklı gözlem tekniklerine hakim olmaları ve açık uçlu materyalleri aktif olarak kullanmalarındadır. Dolayısıyla, amaca yönelik örneklem seçimi yapılmıştır. Bu araştırmanın yapıldığı okulda araştırma başlamadan bir yıl önce aynı katılımcılar oyun temelli program eğitimi almış ve bu yaklaşımı planlarına uygulamışlardır. Okulda 16 öğretmen çalışmaktadır; ikisi pilot çalışmaya katılmışlardır. Diğer dört öğretmen, çalışmaya dahil edilmeyen oyun gruplarıyla (18-36 ay) çalışmaktadır. Sonuç olarak, çalışmaya dört-altı yaşındaki çocuklarla çalışan 10 öğretmen katılmıştır.

Veri toplama

Bu çalışmada, araştırma sorularını cevaplamak için yarı yapılandırılmış görüşmeler yapılmıştır. Merriam (2009), araştırmacının doğrudan gözlemleyemeyeceği kişilerin duygularını veya görüşlerini araştırmayı amaçladığında mülakat yapılmasının gerekli olduğunu öne sürmüştür. Sonuç olarak, erken çocukluk öğretmenlerinin etkinliklerde serbest parçaların kullanılmasına ilişkin görüşleri ve kendi bildirdikleri uygulamalar hakkında ayrıntılı bilgi elde etmek için bir görüşme protokolü kullanılmıştır.

Görüşmeler, görüşmeci ve görüşülen kişi arasındaki ilişkiyi vurgulayan ve ayrıntılı anlamaya odaklanan esnek bir tasarım olarak Rubin ve Rubin'in (2005) duyarlı görüşme yaklaşımına başvurulmuş ve gerçekleştirilmiştir. Görüşme protokolündeki sorulara ek olarak bazen daha detaylı anlatılması gereken diyaloglar kurulmuş ya da öğretmenler cevaplarını sürdürmekte zorlandıklarında sorular başka bir şekilde tekrar sorulmuştur. Görüşmeler sırasında katılımcıların cevapları yönlendirilmemeye özen gösterilmiştir.

Görüşme protokolü uygulanmadan önce, uzman görüşü almak amacıyla, sorular erken çocukluk eğitimi uzmanı ve on beş yıllık deneyimli bir okul öncesi öğretmeni ile paylaşılmıştır. Görüşleri alındıktan sonra gelen geri bildirimler sonucunda bazı soruların içerikleri değiştirilmiştir. Örneğin, serbest parça kavramı net bir tanımla katılımcılara anlatılmalı ve açık uçlu malzemeler ile serbest parçalar arasındaki fark örneklerle anlatılmalıdır. Görüşme protokolü üzerinde yapılan bu yapılandırmadan sonra pilot çalışmada test edilerek gerekli düzeltmeler yapılmıştır.

Mülakat protokolünün ilk bölümünde, öğretmenler hakkındaki temel bilgilere odaklanılmıştır. Protokolün ikinci bölümünde, serbest parçaların tanımı ve kullanımı hakkındaki öğretmen görüşlerine odaklanılmıştır. Öğretmenlerden önce serbest parça teriminin onlar için ne anlama geldiğini açıklamaları beklenmiştir. Cevapların ardından araştırmacı, protokoldeki diğer sorulara devam edebilmeleri için öğretmenlere “serbest parçalar”ın net bir tanımını vermiştir.

Mülakat protokolünün üçüncü ve son bölümünde ise, öğretmenlerin serbest parçalarla uygulamalarına ilişkin görüşleri ve öğretmenlerin kendi beyanlarına dair uygulamaları hakkında altı soru sorulmuş ve detaylı görüşmeler yapılmıştır.

Gözlemler

Gözlem, nitel arařtırmalarda veri toplanması için temel ve gerekli yöntemlerden biridir (Marshall ve Rossman, 2011). Gözlem, arařtırmacının, mülakatlar sırasında katılımcıların istedikleri oranda ifade edemedikleri veya hiç yansıtmadıkları noktaları yakalamasına yardımcı olur (Dewalt ve Dewalt, 2002). Bu çalışmada gözlem özellikle “öğretmenlerin serbest parçaların kullanıldığı etkinliklerdeki uygulamaları” ile ilgili araştırma sorularına cevap vermek için kullanılmıştır.

Gözlemler, alan notları, anekdot kayıtları ve fotoğraflar gibi farklı yöntemler kullanılarak sistematik olarak not edilmiş ve kaydedilmiştir. Yin'in (2009) önerdiği gibi, bu gözlemsel kayıtlar iki temel yolla elde edilmiştir. Biri, ortamın ve olguların genel resmini ortaya koyan açıklayıcı notlardır. Diğer ise arařtırmacının görüş ve duygularını içeren yansıtıcı notlardır. Bogdan ve Biklen (1998) ve Merriam (2009) tarafından yapılan önerilere dayalı olarak, bu çalışma için arařtırmacıya yol göstermesi amacıyla bir gözlem formu tasarlanmıştır.

Gözlem protokolünün tasarlanması sürecinde, güvenilirliği artırmak için üniversitede asistan olarak görev yapan yüksek lisans derecesine sahip bir uzman, pilot çalışma öncesinde dört gözlem oturumuna katılmıştır. Araştırma sorularına dayalı olarak oluşturulan kategoriler bu oturumlara katılan uzmanın oluşturduğu kategorilerle karşılaştırılmıştır. Temel kategoriler üzerinde görüş birliğine varılırken, diğer uzmanın çocukların ebeveynlerinin eğitim durumları ile ilgili bir noktanın göz önünde bulundurulabileceği şeklinde bir önerisi olmuştur. Ancak bu kategori doğrudan araştırma soruları ile ilgili olmadığı için görüşme protokolüne dahil edilmemiştir. Yin'in (2009) belirttiği gibi, bu dört gözlem oturumunda iki gözlemci aynı süreçleri takip edebilmiş ve aynı bulgulara ulaşmıştır. Daha sonra ilk olarak pilot çalışmada kullanılmak üzere gözlem protokolü oluşturulmuştur. Gözlem protokolünü kullanma prosedürleri bu bölümdeki pilot çalışma oturumunda açıklanacaktır.

Gözlem formu beş ana bölümden oluşmaktadır. Birinci bölümde programın günlük akışı ve farklı etkinlikler izlenmiştir. Ayrıca çember zamanı etkinliklerinin, geçişlerin, günlük rutinlerin ve diğer etkinliklerin birbiriyle nasıl bağlantılı olduğu not edilmiştir. İkinci bölümde öğretmen-çocuk, çocuk-çocuk ve öğretmen-bütün grup etkileşimleri not edilmiştir. Öğretmenlerin sınıftaki çocuklarla etkileşimleri, çocuklara olan

tepkileri (yanıtları), oyun veya etkinlik yoluyla yönlendirmeleri gözlemlenmiştir. Ayrıca öğretmenlerin sınıfta çocukları nasıl motive ettiği veya teşvik ettiği, çocukların birlikte nasıl oynadıkları ve çalıştıkları gözlemlenmiştir. Üçüncü bölümde ise öğretmenlerin etkinlikleri nasıl planladıkları ve uyguladıkları izlenmiştir. Öğretmenlerin etkinliklerle ilgili hazırlıkları, materyaller ve fiziksel ortamla ilgili tüm hazır bulunuşlukları, etkinliklerde aktif-pasif dengesini korumaları, etkinlikleri başlatma ve bitirme yaklaşımları gözlemlenmiştir. Ayrıca rehberlik, yönlendirme, destekleme ve öğrenmeyi bir üst seviyeye taşıma eylemleri ve etkinliklere aktif katılımlarına dair kriterler yerleştirilmiştir. Ayrıca formun bu bölümü kullanılarak öğretmenlerin serbest parçalarla yapılan etkinliklerde ne tür dokümantasyon teknikleri kullandıkları not edilmiştir. Son olarak gözlem formunda farklı etkinliklerde kullanılan serbest parça malzemeleri belirtilmiştir. Kullanılan materyal türleri, çocukların serbest parça seçimi, süre, serbest parçaların aktivitelerdeki rolü, serbest parçalar ve aktiviteler arasındaki ilişki ve çocukların bu materyalleri ne için kullandıkları gözlem formuna not edilmiştir. Her öğretmen 24 kez gözlemlenmiş ve her bir gözlem ortalama 30-40 dakika sürmüştür. Bu çalışma için toplam 120 saatlik gözlem yapılmıştır.

Çocukların çalışma örnekleri ve öğretmenlerin anekdot kayıtları bu çalışma için ikincil veri kaynağı olarak kullanılmıştır. Araştırmacıların doküman analizini kullanmayı tercih etmelerinin birkaç nedeni vardır. Birincisi, çalışma örnekleri ve anekdot kayıtları uygulamanın içindeki kaynaklar olduğundan veri toplamanın etkili bir yoludur (Bowen, 2009). İkincisi, bu dokümanlar istikrarlı veri kaynaklarıdır, yani birden çok kez okunup gözden geçirilebilir ve araştırmacının etkisi veya araştırma süreci ile değişmeden kalır (Bowen, 2009, s. 31). Bu çalışmada, araştırma sorusunun “Öğretmenlerin serbest parçaları farklı etkinliklerde kullanma uygulamaları nelerdir?” kısmını güçlendirmek için çalışma örneklerinin fotoğrafları, boş zamanlarında yapılan video kayıtları ve öğretmenlerin anekdot kayıtları ikincil veri kaynağı olarak kullanılmıştır.

ARAŞTIRMA SORULARI VE VERİ KAYNAKLARI

Araştırma Sorusu	Veri kaynağı
1. Okul öncesi öğretmenlerinin günlük etkinliklerde serbest parçaların kullanımına ilişkin görüşleri nelerdir?	Mülakatlar
2. Okul öncesi öğretmenleri günlük aktivitelerde serbest parçaları nasıl kullanır?	Mülakatlar Gözlemler
3. Okul öncesi öğretmenleri hangi etkinlik türlerinde serbest parçaları daha sık kullanır?	Mülakatlar Gözlemler Dokümanlar
4. Günlük etkinliklerde hangi tür serbest parçalar daha sık kullanılır?	Mülakatlar Gözlemler Dokümanlar

Pilot Çalışma

Pilot çalışmada iki öğretmen seçilmiş ve bu öğretmenler asıl çalışmaya dahil edilmemiştir. Pilot çalışmanın amacı mülakat sorularını ve gözlem sürecinin test edilmesidir. Ayrıca hangi etkinliklerde serbest parçaların en çok kullanıldığının anlaşılması da amaçlanmıştır. Bir aylık pilot çalışmanın sonucunda bazı soruların, katılımcıların ayrıntılı cevaplar vermesini kısıtlayıcı olduğu anlaşılmış, bu yüzden bu sorular daha açık uçlu, net ve araştırma sorularına yönelik olarak dönüştürülmüştür. Ayrıca soru sayısı 18'den 13'e indirilmiştir. Son olarak, gözlem protokolü kodları ve kategorileri revize edilmiştir.

Veri analizi

Bu çalışma nitel bir olgu çalışması olarak tasarlanmıştır. İlgili literatüre dayalı olarak gerekli veri analiz adımları takip edilmiştir. Verileri analiz etmek için tüme varımsal bir yaklaşım kullanılmıştır. Bu süreç araştırma sorularının tanımlanması, verilerin toplanması, kodlanması, kategorilere ayrılması ve kategorilerin ilişkilerinin incelenmesi ile başlamıştır (Bryman, 2004). Veri analizinin diğer adımları, veri azaltma, veri görüntüleme ve sonuç çıkarmadan oluşmaktadır (Huberman ve Miles, 1998). Bu çalışma boyunca toplanan veriler, karmaşık konuları daha açık ve anlaşılır kılmak için temel bölümlere ayrılmıştır (Bernard, 1988, aktaran Huberman & Miles, 1998).

Wellington'a (2000) göre nitel verilerin analizi karmaşık ve kafa karıştırıcı bir süreçtir. Sonuç olarak, yansıtma, parçalara ayırma, birleştirme, ilişki kurma ve verileri sunma bu çalışmanın analiz aşamasındaki adımlardır. Bu çalışmanın veri analizi sırasında Wellington'un (2000) önerdiği adımlar takip edilmiştir.

Görüşmelerin kayıtları öncelikle yazıya dökülmüş, sonra veriler için kodlar belirlenmiştir. Kodlama, “soru yanıtlarının ve yanıtlayıcı bilgilerinin analiz amacıyla belirli kategorilere çevrilmesidir” (Kerlinger, 1970, s. 96). Kodlamadan sonra bütünlük bir açıklama oluşturmak için veriler kategorilere ayrılmıştır (Rubin ve Rubin, 1995). Daha sonra araştırma sorularına dayalı olarak temalar ortaya çıkarılmıştır.

Her bir öğretmen 24'er kez gözlenmiş, her gözlem ortalama 30-40 dakika sürmüştür. Özetle her öğretmen için ortalama 12'şer saat ve toplamda 120 saat gözlem yapılmıştır. Tüm yazılı notlar kodlanmış, kategorize edilmiş ve göze çarpan temalar altında derlenmiştir.

Ayrıca çocukların grup çalışmaları, bireysel oyun ve etkinlikleri ile öğretmenlerin anekdot kayıtları, etkinlik türü, etkinliğin içeriği, öğretmenin katılımı ve etkinliğin süresi ile ilgili dokümanlar incelenmiştir. Bu araştırmanın iki ana yönü bulunmaktadır. Birinci yönü, “öğretmenlerin görüşlerini ve kendi beyanlarına dair uygulamalarını” araştırmak; diğeri ise “öğretmenlerin gerçek uygulamalarını” keşfetmektir. Mülakatlar, ilgili araştırma sorularına cevap bulmada öncü rol oynamıştır. Gözlemler de çalışmanın bütün resmini tamamlamada önemli bir rol oynamıştır. Ayrıca doküman incelemesi hem görüşler hem de uygulamaları kapsamıştır. Böylece, bu üç tür veriyi kullanmak ve analiz etmek, araştırmacının her veri kaynağı altında farklı temalar oluşturmasını sağlamıştır.

Çalışmanın Güvenilirliği

Güvenilirliğin amacı, çalışmanın veri toplama, analiz ve uygulama gibi nitel olgu çalışması süreçlerinde meydana gelebilecek olası önyargıları yönetmek gibi konular için kanıt oluşturmaktır (Bloomberg ve Volpe, 2008; Merriam, 2009). Sonuç olarak nitel araştırmalarda geçerlik, güvenilirlik ve genellemeyi artırmak için kullanılan bazı yaklaşımlar bulunmaktadır (Merriam, 2009; Yin, 2009). Maxwell (2005) geçerliliği,

bulguların veya yorumların doğru ve güvenilir açıklamaları olarak tanımlamıştır. Ayrıca Maxwell, geçerliliğin, bir başka kişi tarafından da gözlemlerin yapılarak sonuçların karşılaştırılması gibi yaklaşımlarının yanı sıra bazı ek alternatif açıklamalardan oluştuğunu öne sürmüştür. Ayrıca kapsamlı ve zengin veriler, ortama uzun süreli katılım, olumsuz durumları belirtme, çoklu veri kaynağı kullanımı ve karşılaştırma yoluyla araştırmacı tarafından geçerlilik artırılabilir (Maxwell, 2005). Bu çalışmada da yukarıda belirtilen öneriler kullanılmış, ayrıca bulgular kuramsal çerçeve ile de ilişkilendirilmiştir.

BULGULAR

Bulgular, mülakat soruları, gözlem kriterleri ve doküman analizlerine göre, araştırma soruları ışığında açıklanmıştır. Aşağıdaki tablolarda araştırma sorularına ve veri toplama aracına göre hangi temaların oluşturulduğu paylaşılmıştır.

Gelişim Alanları	Serbest parçaların yararları (mülakatlardan çıkan öğretmen görüşleri)	Öğretmen sayısı
Fiziksel gelişim	Risk alma	3 öğretmen
	Motor becerileri etkili kullanma	Tüm öğretmenler
	El-göz koordinasyonu	Tüm öğretmenler
	Fiziksel denge becerileri	9 öğretmen
	Beş duyunun aktif kullanımı	Tüm öğretmenler
Bilişsel gelişim	Problem çözme	Tüm öğretmenler
	Dikkat süresinin artması	7 öğretmen
	Araştırma becerilerini kullanma	8 öğretmen
	Merak	9 öğretmen
	Keşif	Tüm öğretmenler
	Derinlemesine düşünme	6 öğretmen
	Yaratıcılık	Tüm öğretmenler
	Hayal gücü	Tüm öğretmenler
	Doğal öğrenme	1 öğretmen
Sosyal-Duygusal gelişim	Öz yeteneklerin tanınması	6 öğretmen
	Duyguların ifadesi	2 öğretmen
	Öz düzenleme	4 öğretmen
	İçsel motivasyon	8 öğretmen
	Sosyal etkileşim	Tüm öğretmenler
	Paylaşım	Tüm öğretmenler
	İşbirliği	9 öğretmen
	Sırasını bekleme	5 öğretmen
Dil gelişimi	Sesleri tanıma	7 öğretmen
	Açık uçlu sorular sorma	8 öğretmen
	Hikaye anlatımı	6 öğretmen
	Konuşma becerileri	3 öğretmen

Bu çalışmada günlük etkinlikler yedi temel kategori altında incelenmiştir. Bunlar, sembolik oyun, duygusal-motor oyun, yapılandırma oyunu, sanat, matematik, fen-doğa ve anadili etkinlikleridir.

Etkinlik Türü	Serbest parçaların rolü (mülakatlardan elde edilen öğretmen görüşleri, öğretmenlerin kendi beyanlarına dayanan uygulamaları, gözlemlerden ortaya çıkan asıl uygulamalar ve doküman incelemeleri sonuçları özetlenmiştir)
Sembolik oyun	Çocuklar serbest parçaları oyunları için ana araç olarak kullanmışlardır. Sonuç olarak, serbest parçalar sembolik oyunlarda öncü bir role sahiptir.
Duyusal-motor oyun	Çocuklar serbest parçaları özgürce seçme ve oynama şansına sahiptirler. Ayrıca dokunarak, görerek, koklayarak, duyarak ve bazen de tadarak tüm duyularını kullanma imkanı buldular. Böylece, serbest parçalar duysal-motor oyunlarda öncü bir role sahiptir.
Yapılandırma oyunu	Çocuklar serbest parçaları sıklıkla bloklarla karıştırarak (birlikte) oynadılar. Bu kombinasyonu yapılandırma oyunlarında kullanmayı tercih ettiler. Bu nedenle, serbest parçalar bu oyun türünde destekleyici bir role sahiptir.
Sanat	Sanat etkinliklerinde çocuklar çoğunlukla serbest parçaları tasarlamak, yaratmak, boyamak, yapıştırmak, kolaj yapmak ve kesmek için kullandılar. Böylece serbest parçalar sanat etkinliklerinde öncü rol oynamıştır.
Matematik	Çocuklar serbest parçaları sıralamak, eşleştirmek, saymak, gruplamak, örüntüler oluşturmak, tahmin etmek, eklemek, çıkarmak, şekiller oluşturmak, grafikler oluşturmak için kullandılar. Böylece serbest parçalar matematik etkinliklerinde öncü rol oynamıştır.
Fen-doğa	Öğretmenler, etkinlikler için araç olarak serbest parçaları kullandılar. Fen-doğa etkinliklerini çoğunlukla önceden tasarladılar ve hazırlık yaptılar. Sonuç olarak, malzemelerin kullanımı önceden planlanmıştır. Böylece, taşlar, yapraklar, deniz kabukları ve dallar gibi doğal serbest parçaların çocuklar tarafından önceden planlanmadan keşfedilmesi ve incelenmesi sırasında öncü rolde, önceden hazırlığı yapılan etkinliklerde ise destekleyici bir roldeydi.
Anadili	Dil etkinliklerinde, özellikle ses ve alfabe ile ilgili etkinliklerde serbest parçalar kullanılmıştır. Ayrıca, bu malzemeler üç boyutlu hikaye ve kitap tasarımları oluşturmak için de kullanıldı. Sonuç olarak, serbest parçalar dil etkinliklerinde destekleyici bir rol oynadı.

Aşağıdaki tabloda ise araştırma soruları çerçevesinde yedi ana etkinlik ve oyun türünde serbest parçaların kullanımı sırasında ortaya çıkan öğretmen katılımı ve yönlendirme ihtiyacı, öğretmenin çocukları destekleme derecesi, kullanılan dokümantasyon metotları, etkinlik türüne göre çocuklar tarafından en çok tercih edilen serbest parçalar ve etkinlik-oyun süreleri özetlenmiştir. Bu tablodaki sonuçlar tüm veri kaynakları sonucunda elde edilen öğretmen görüşleri, kendi beyanlarına dayalı uygulamaları ve asıl uygulamaların gözlem notları ile doküman incelemeleriyle ortaya çıkmıştır.

Günlük etkinlik türleri	Öğretmenlerin Rehberliği ve Katılımı	Öğretmen desteğinin derecesi (scaffolding)	Dokümantasyon metotları	En çok tercih edilen serbest parçalar	Etkinlik süresi
Matematik Etkinlikleri	Yüksek düzeyde rehberlik, katılım ve gözlem	Bireysel konuşmalar ve gözlemler yoluyla çocukları desteklemek için yüksek düzeyde fırsatlar ortaya çıkmıştır	Çalışma örnekleri Fotoğraflar ve video kayıtları Kontrol listeleri ve derecelendirme ölçekleri	Düğmeler, şişe kapakları, taşlar, yumurta kartonları, fasulyeler, çubuklar	20-30 dakika
Fen-doğa etkinlikleri	Orta düzeyde rehberlik ve katılım	Özellikle etkinliklere ekstra serbest parçalar ekleyerek öğrenim sürecini desteklemeye yönelik yüksek fırsatlar ortaya çıkmıştır	Çocuk çizimleri Fotoğraflar ve video kayıtları anekdot kayıtları, kontrol listeleri, derecelendirme ölçekleri	Kum, deniz kabukları, taşlar, fasulye, çubuklar, ponponlar, şişe kapakları, yapraklar, kağıt havlu ruloları, ahşap parçalar	30-40 dakika
Yapılandırma oyunu	Düşük düzeyde rehberlik ve katılım	Desteklemek için düşük düzeyde ihtiyaç/fırsat	Fotoğraflar ve video kayıtları anekdot kayıtları	Karton kutular, yumurta kartonları, şişeler, hediye kutuları, taşlar, ahşap tabaklar, çam kozalakları, mutfak eşyaları, vidalar, kumaş, lastikler, CD'ler	40-50 dakika
Sanat Etkinlikleri	Orta düzeyde rehberlik ve katılım	Orta düzeyde destekleme fırsatları veya ihtiyaçları	Çalışma örnekleri Fotoğraflar ve video kayıtları	Taşlar, fasulyeler, tohumlar ve kuruyemişler, perde halkaları, ponponlar, kumaş, ip, ağaç dalları, kuru sebze ve meyveler, pirinç, deniz kabukları, yapraklar, çubuklar, şişe kapakları, küçük boyutlu doğal ve sentetik malzemeler	20-30 dakika
Sembolik oyun	Düşük düzeyde rehberlik ve katılım	Orta düzeyde destekleme fırsatları veya ihtiyaçları	Anekdot ve video kayıtları Sıklık çizelgeleri Oyun gözlem ve Derecelendirme listeleri	Mutfak eşyaları, tamir aletleri, kumaş, şişeler, eski çantalar, giysiler, başlıklar, taşlar, dallar, eski takılar, eski mobilyalar, eski telefonlar, yastıklar, karton kutular	40-50 dakika
Duyusal-motor oyun	Düşük düzeyde rehberlik ancak yüksek düzeyde katılım	Yüksek düzeyde destekleme fırsatları	Fotoğraflar ve video kayıtları anekdot kayıtları	Fasulye, fındık kabuğu, ponpon, çakıl, farklı dokulu kumaşlar, kağıt parçaları, maşa, kaşık, çatal, payet, çubuk, ince dal, taş, ayna, kum, yaprak, dal, çam kozalakları, ip, keçe, mandal, düğmeler, şişe kapakları, boncuklar, plastik kutular	30-40 dakika
Anadil etkinlikleri	Yüksek düzeyde rehberlik ve katılım	Yüksek düzeyde destekleme fırsatları	Anekdot kayıtları Kontrol listeleri derecelendirme ölçekleri Çalışma örnekleri Ses kayıtları	Küçük figürler, taşlar, şişe kapakları, deniz kabukları, ipler, tahta çubuklar, sönül	20-30 dakika

TARTIŞMA

Serbest Parçalarla Oluşturulan Etkinliklerde Öğretmenlerin Katkısı

Bazı araştırmacılar öğretmenlerin oyuna veya etkinliklere müdahale etmeden tamamen serbest bırakılmasına bir eleştiri getirerek, bağımsız oynamanın çocuklara önemli katkılar sağlamasına rağmen oyunlarda sürekli tekrarlanan ve kontrol edilemez bir ilerleme olabileceğini öne sürmüşlerdir (DFE, 2012). Bu görüşü destekleyici bir sonuç olarak bu çalışmadan elde edilen bulgulara göre de öğretmenler serbest parçaların kullanımına yönelik yarı yapılandırılmış planlamalarla çocukların etkinliklerine katılmışlardır. Öğretmenlerin etkinlik ve oyunlara aktif katılımı veya süreci kolaylaştırıcı rolü ile aynı serbest parçaları farklı alanlarda kullanmak mümkün olmuştur. Öğretmen katılımı olmadan, aynı materyallerin farklı gelişim ve öğrenme alanlarında bu kadar etkili bir şekilde kullanımı mümkün olmayabilirdi.

Hem görüşme hem de gözlem verilerinde vurgulanan noktalardan biri de öğretmenlerin çocuklarla sürekli etkileşim halinde olmalarıydı. Bulgular, serbest parçalarla uygulanan etkinlikler sırasında öğretmenler tarafından sorulan soruların veya geri bildirimlerin çocukları tek bir sonuca yönlendirmemesi öğrenimi destekleme sürecini etkili hale getirdiğini ortaya çıkmıştır. Benzer şekilde Thompson (2017) ve Godfrey (2017), çocukların oyun veya etkinlikleri sırasında geri bildirim ve açık uçlu soruların öğrenme ve gelişimi artırmak için gerekli olduğunu belirtmişlerdir. Buna ek olarak, çocuğun merkezinde gelişecek etkinliklerden önce bu soruların veya geri bildirimlerin öğretmen tarafından düşünülmesi gerektiğini savunmuşlardır.

Önceki paragraflarda belirtilen noktaların yanı sıra bulgular, serbest parçaların materyal yerine bir öğrenme aracı olarak kullanılmasında öğretmenin yaklaşımının önemli olduğunu göstermektedir. Bu noktayı destekleyen bir görüş olarak (Malaguzzi, 1993; Prentice, 2000), öğretmenlerin çocuğun yapabilme kapasitesine ilişkin görüşlerinin zayıf olmasının, yaratıcılık fırsatlarını engelleyen bir faktör olabileceğini belirtmişlerdir. Aynı şekilde Fisher (2016), öğretmenlerin serbest parçalarla oynama konusunda yeterli olmayan bilgi, beceri ve farkındalığa sahip olmaları durumunda çocukların yaratıcılığını engelleme riskinin olduğunu vurgulamıştır. Fisher (2016) ayrıca bir etkinliğe veya oyuna öğretmenlerin katılım derecesinin önemli olduğunu öne sürerek, oyunda yetişkinlerin ya işbirliği yapacağını ya da doğrudan müdahale

edeceğini öne sürmüştür. Bu noktada Fisher (2016) öğretmenin doğrudan müdahalesi ile destekleyici olması arasında anlamlı bir fark olduğunu belirtmiştir. Bu çalışmada da hem öğretmenlerin kendi beyanlarına dayalı uygulamalarında hem de gözlemler sonucunda serbest parçalarla oluşturulan etkinliklerde öğretmenlerin destekleyici rolü ön plana çıkmıştır.

Açık Uçlu Materyal Olarak Serbest Parçalar

Öğretmen görüşlerinden ortaya çıkan bulgulardan biri de tek tip bir kullanımı olmayan serbest parçaların kullanımı ile çocukların sonuçtan çok sürece odaklandıkları, deneme yanılma yapmaktan çekinmedikleri ve özgüvenlerinin desteklendiğidir. Okul öncesi dönemde çocukların deneme yanılma yapmaları, sonucu gözlemlmeleri ve beş duyarlarını aktif olarak kullanmaları oldukça önemlidir. Öğretmenler, özellikle matematik, fen-doğa ve anadili gibi akademik daha görünen öğrenme alanlarında serbest parçaların kullanılmasıyla bakış açılarının değiştiğini ifade etmişlerdir. Örneğin, matematik etkinliğinde kağıt üzerinde basit işlemlerin veya etkinliklerin ötesine geçerek taşları özelliklerine göre gruplandırma, sıralama, karşılaştırma, örüntü oluşturma gibi çalışmalarla keyifli bir öğrenme serüvenine dönüştüğünü ifade etmişlerdir. Bu bulguları destekleyen bir görüş olarak Drew (2007), açık uçlu materyallerin kullanımının çocuklar üzerinde birçok olumlu etkiye sahip olduğunu belirtmiştir. Açık uçlu materyallerle kurulan bir oyunda ulaşılması gereken katı kurallar veya tek bir hedef olmadığı için çocuklar üzerinde herhangi bir zorlama veya stres yoktur ve bu da çocuklara bir oyun veya etkinlikte sınırsız girişimde bulunma fırsatı vermektedir (Drew, 2007).

Açık uçlu materyallerin kullanımının bir çocuğun yaşamının birçok yönünü etkilediği kabul edilmektedir. Hem eski hem de yeni araştırmalar, açık uçlu materyallerle uğraşmanın çocukların öğrenme ve gelişim sürecini olumlu olarak etkilediğini göstermiştir. 4 ve 10 yaşındaki çocukların açık uçlu materyallerle etkileşimlerinin gelişimsel ilerlemeyi nasıl etkilediğini belirlemek için bir çalışma yapılmıştır. Bulgular, farklı ve karmaşık yapıdaki materyallerle oynayan çocukların, klasik oyuncaklarla oynayan çocuklara göre daha farklı oyun fikirlerine sahip olduklarını ortaya koymuştur (Vandenberg, 1981). Ayrıca, yakın zamanda yapılan bir araştırma,

çocukların eğlenmek için oyuncaklar veya belirli bir işlevi olan nesnelere yerine serbest parçalarla oynamayı tercih ettiklerini göstermiştir (Mincemoyer, 2013)

Çocukları Desteklemek ve Öğrenim Süreçlerini Kolaylaştırmak

Bu çalışmadaki veriler, çocukların serbest parçaların kullanımında zenginlik yaratması için öğretmen desteğinin önemli olduğunu göstermektedir. Matematik etkinliğinde ağaç dalı sayma aracına dönüşürken, bir sanat etkinliğinde resim fırçası olarak kullanılmıştır. Burada, öğretmen desteği yoksa, çocuğun oyun ve etkinlikler yoluyla beceri geliştirmeye daha fazla zaman ayırması gerekebilir. Bu nedenle öğretmenlerin günlük eğitim akışında etkinlikleri planlamaları ve buna göre ilerlemeleri gerekmektedir. Öğretmenlerin verdiği yanıtlarda, oyun geliştirmede serbest parça malzemelerinin kendileri için çok önemli bir kaynak olduğunu belirtmişlerdir.

Araştırmacılara göre okul öncesi dönemdeki çocukların oyun konusundaki gelişimleri için daha bilgili veya deneyimli yetişkinler ya da daha büyük çocuklar tarafından desteklenmesi veya yönlendirilmesi oldukça etkilidir. Bu nedenle, çocukların oyunlarını geliştirmek veya süreci desteklemek, küçük çocuklarda öğrenme ve gelişim için önemlidir. (Bodrova & Leong 2012). Buna ek olarak, erken çocukluk eğitimi ortamlarının, çocukların farklı oyun veya etkinlik türlerini öğrenebilecekleri en etkili ortam olduğu söylenebilir, ancak çocuklar çoğunlukla yaş gruplarına göre sınıflara yerleştirildiğinden, daha büyük oyun arkadaşlarından ziyade, öğretmenlerinden destek alabilmektedir. Sonuç olarak, öğrenmeyi kolaylaştıracak ve gelişimsel becerileri destekleyecek çeşitli etkinlikler öğretmenler tarafından yarı yapılandırılmış etkinlikler olarak planlanmalıdır. Bu nedenle, çocukları daha hızlı desteklemek için stratejik olarak tasarlanmış eğitim programları gereklidir. Bu çalışmanın sonuçlarına göre, yarı yapılandırılmış olarak planlanan etkinlikler veya oyunlar, öğretmenlerin çocukları farklı öğrenme ve gelişim alanlarında desteklemelerine olanak tanımıştır.

Serbest Parça Etkinlikleri ile Dokümantasyon

Öğretmenlerin yaptıkları uygulamaları belgelemek, etkinlikleri ne sıklıkta ve nasıl yaptıkları kadar önemlidir. Bu çalışmada, serbest parçalarla oynanan oyunların ve uygulanan etkinliklerin dokümantasyona ne kadar uygun olduğu ortaya konmuştur.

Öğretmenlerin çok sıklıkla çocukların çalışma örneklerinden ve anekdot kayıtlarından oluşan dokümantasyon yaptıkları görülmüştür.

Pedagojik dokümantasyon, çocukların veya öğretmenlerin çalışma örneklerini bir araya getirerek çocukların öğrenme sürecini görünür bir resim olarak sunmanın bir yoludur (Cadwell, 1997). Amaç mükemmel görüntüler yaratmak değil; daha ziyade bir süreci inşa etmek ve şekillendirmektir (Guidici, Krechevsky & Rinaldi, 2001). Bu süreçte öğretmenler ve çocuklar arasındaki iletişim ve etkileşim güçlenmektedir (Cadwell, 2003). Dokümantasyon, öğretmenlerin çocukların bireysel gelişimi ve öğrenme süreci hakkında derinlemesine bilgi edinmeleri için bir fırsattır. Ek olarak, dokümantasyon çocukların kendi öğrenme ilerlemeleri hakkında bir farkındalık kazanmalarını sağlar.

Açık uçlu sorular, anında geri bildirim, çocukların katkıları ve dokümantasyon için toplanan verilere ilişkin yorumlar öğretmen-çocuk etkileşimini artırır. Böylece, öğretmen çocukları desteklemek için çok daha geniş bir yelpazeye sahip olmaktadır. Serbest parçalarla uygulanan etkinliklerde öğretmenlerin soru sorma, ve etkileşim kurma şansı çok yüksektir. Bu çalışmada öğretmenler, serbest parçaların çocukların gelişim alanlarında çok etkili olduğunu belirtmişler ve gelişim alanlarının da özelliklerini detaylı olarak anlatmışlardır. Katılımcıların tümü serbest parçaların özellikle bilişsel ve sosyal-duygusal gelişim alanlarında birçok farklı beceriyi desteklediğini düşündüklerini söylemişlerdir. Tüm öğretmenlerin katıldığı beceriler ise şu şekildedir: ince motor beceriler, el-göz koordinasyonu, problem çözme, keşfetme, yaratıcılık, hayal gücü, sosyal etkileşim ve paylaşma.

Nitel araştırmalar, bu çalışmanın bulgularını destekleyen sonuçlar bildirmiştir (James, 2012; Lester, Jones & Russell, 2010). Lester, Jones ve Russell (2010), serbest parçalarla oynamanın, gelişmiş sosyal davranış ve akademik katılım açısından avantajları olduğunu belirtmişlerdir. James (2012) ayrıca serbest parçaların etkilerini değerlendirmek için mülakatların yoğunlukta kullanıldığı bir çalışma yürütmüştür. Katılımcılar çocukların özgüven, sosyal katılım ve keyifli vakit geçirme oranlarında gelişme olduğunu bildirmişlerdir. Bu arada oyun süresi ile ilgili monotonluğun ve sınıf içi çatışmaların azaldığını belirtmişlerdir. Buna ek olarak, birkaç çalışma, küçük çocuklarda araştırma, sorgulama ve hayal gücünün, sonuçları tahmin etmelerine, yeni

görüşler yaratmalarına ve problem çözüme durumlarında mantıklı sonuçlara ulaşmalarına yardımcı olduğunu öne sürmüştür.

Farklı Etkinliklerde Serbest Parçalar

Bu çalışmadaki dikkat çekici bulgulardan biri, öğretmenlerin serbest parçaların kullanımını en etkili buldukları etkinlik türlerinin matematik, sanat, duyuşal-motor etkinlikler ve sembolik oyun olmasıdır. Alanyazında, bu etkinlik türlerinde serbest parçaların kullanılmasının etkilerini doğrudan açıklamasa da, açık uçlu malzemelerin kullanımı ile ilgili araştırma sonuçları bulunmaktadır.

Bairaktarova et al. (2011) yaptıkları çalışmada, duyuşal oyunu teşvik eden açık uçlu veya duyuşal materyallerin çocukların bilişsel ve sosyal-duyuşal gelişimi için gerekli olduğunu açıklamıştır (s. 220). Bu çalışmada, duyuşal oyun sırasında açık uçlu materyaller kullanan çocukların araştırma, sonuçları gözleme (örneğin, bir çocuk kürek kullanılırsa kovaları daha hızlı bir şekilde doldurabileceğini fark etmiştir), sorunları tanımlayıp açıklığa kavuşturma ve çözümleri paylaşma gibi becerileri kullandıklarına dair bulgular ortaya çıkmıştır. Ayrıca, tüm çocuklar başarılarına bağlı olarak olumlu duyuşalara sahip olduklarını göstermiştir (Bairaktarova ve diğerleri, 2011, s. 222). Araştırmacılar, çocukların açık uçlu materyallerle uğraştıklarında, problemlere yaratıcı çözümler bulmak için hayal güçlerini kullanarak daha fazla keşfedici davranış sergilediklerini belirtmişlerdir (Bairaktarova ve diğerleri, 2011, s. 230).

Kiewra ve Veselack (2016), doğal materyallerin de tıpkı açık uçlu materyaller gibi çocuğun bilişsel gelişimi üzerinde olumlu bir etkiye sahip olduğunu göstermiştir (s. 84). Yazarlar, doğal malzemelerin, çocukların farklı düşünme yeteneklerini kullanmada yardımcı bir unsur olduğunu doğrulamıştır. Ayrıca açık uçlu materyaller, çocukların kendi başlarına karşılaştıkları problemlere yaratıcı çözümler bulmaları konusunda da önemli bir destek sağlamıştır (Kiewra ve Veselack, 2016, s. 84).

Bu çalışmada da öğretmenler doğal materyallerin çocukların ilgisini çektiğini, onların hayal gücünü, yaratıcı düşünmeyi ve problem çözüme becerilerini desteklediğini belirtmişlerdir. Ayrıca sınıf gözlemlerinde çocukların bu materyallerle oyunlar sırasında üst düzey becerileri kullandıkları gözlemlenmiştir. Swank ve Shin (2015)

tutarlı bir şekilde çocuğun doğal malzemelerle etkileşiminin duygusal becerilerini geliştirmeye yardımcı olacağını belirtmiştir. Ayrıca çocukların iç yaşamlarının sağlıklı gelişimi için doğal malzemelerle oynamanın gerekli olduğu düşünülmektedir (Louv, 2012).

MEB Programına Uyum

Araştırmanın bulguları MEB okul öncesi programı (2013) ile ilişkilendirilecek olursa, öncelikle oyun temelli bir program olması ile bu araştırmanın oyun temelli bir eğitim programı zemininde ilerlemesi arasındaki tutarlılık ortaya çıkmıştır. Bu nedenle, oyun temelli bir programda serbest parça materyallerinin kullanılması, çocukların gelişimi ve öğrenme süreçlerinin olumlu ilerlemesi için uygun olabilir. Bu materyallerin sembolik veya yapılandırma gibi farklı oyun türlerine entegre edilmesi, öğretmenlere ve çocuklara açık uçlu oyun fırsatları yaratma konusunda çeşitli fikirler verecektir. Ayrıca bu çalışmada da kullanılan ve MEB programında belirtilen sanat, fen, matematik vb. yarı yapılandırılmış etkinlik türlerinde serbest parçaların kullanılması önerilmektedir. Bu çalışmada serbest parça malzemelerinin kullanımına ilişkin çeşitli etkinlikler incelenmiştir. Bu çalışmada yarı yapılandırılmış etkinliklerin önemi, öğretmenin önceden belirlenmiş hedefleri ile çocukların uygulamaya aktif katılımının bütünleştirilmesidir. İlgili literatür de bu araştırma bulgularını ve MEB programının görüşünü desteklemektedir. Bir araştırmaya göre, oyun temelli öğrenme etkinliklerine katılan çocukların, oyun içermeyen yapılandırılmış etkinliklerle daha fazla zaman geçiren çocuklara göre sorumluluk alma becerilerinin çok daha yüksek olduğu ortaya konmuştur (Manuilenko, 1975). Ayrıca, Liu (2017), ABD'de oyun temelli öğrenme yaklaşımı uygulayan anaokullarında eğitim gören çocukların, ilkokulda diğerlerine göre daha iyi akademik başarıya ve sosyal motivasyona sahip olduğunu bulmuştur.

İkincisi, MEB programı (2013) öğretmenin çocukların öğrenme ve gelişimini kolaylaştırıcı rolünden bahseder. Bu bakış açısına benzer şekilde, bu çalışmanın bulgularında da belirtildiği gibi, farklı tür etkinliklerde serbest parçaların kullanılması öğretmenlere gelişim ve öğrenmeyi bir adım öteye taşımak için çocuğu destekleme fırsatları sağlamıştır. Howes ve ark. (2008), bir öğrenme ortamında öğretmen-çocuk etkileşiminin çocukların kazanımlarının kalitesini artırdığını belirtmiştir. McCartney (1984), öğretmen-çocuk arasındaki sözlü etkileşimin çocukların dil gelişimindeki

sonuçlarını olumlu yönde etkilediğini belirtmiştir. Holloway ve Reichhart-Erickson (1988) tarafından yürütülen bir başka çalışma ise, öğretmenleriyle daha kaliteli etkileşimleri olan çocukların, sosyal problemleri çözme becerilerinin de daha olumlu olduğunu ortaya koymuştur.

Gelecek çalışmalar için öneriler

Bu araştırmada serbest parçaların müzik ve ritim etkinliklerinde yararlarını belirten öğretmen bulunmamaktadır. Bunun nedeni müzik etkinliklerinin ayrı bir branş dersi olarak uygulanması olabilir. Nitekim bu çalışmanın yapıldığı okulda her yaş grubuna müzik dersi vermek üzere bir branş öğretmeni gelmiştir. Bununla birlikte, müzik ve ritim dahil olmak üzere çeşitli alanlarda serbest parçaların etkileri üzerine araştırmalar yapılabilir.

İkincisi, anaokullarındaki öğretmenler ve diğer uygulayıcılar, etkinlikleri yapılandırma, sembolik ve duyuşal-motor oyun olarak ayırarak serbest oyunlar düzenleyebilirler. Genel olarak serbest oyun, çocukların tamamıyla özgür olduğu, öğretmenlerin işleriyle ilgili diğer rutinlerle, örneğin velilere günlük notlar yazmak veya sınıfı düzenlemek gibi, uğraşmalarına izin verdiği bir zaman dilimi olarak düşünülebilir. Ancak bu serbest oyun etkinlikleri, farklı öğrenme ve gelişim alanlarını destekleyen serbest parçalarla tasarlanabilir. Bu durumda çocuklar da özgürce ama önceden planlanmış çevre koşullarında oynayacaktır. Bu ortam içerisinde de pek çok araştırma tasarlanabilir.

Üçüncüsü, öğretmenlerin serbest parça materyalleriyle kurulan oyunlara aktif katılımı, her bir çocuğun öğrenme ve gelişim özellikleri hakkında daha ayrıntılı verilerin toplanmasını sağlayabilir. Bu araştırmanın bulgularına dayanarak, öğretmenlerin çoğu, çocukların desteklenmesi gereken becerilerini yakından gözlemleme ve tanıma fırsatı bulduklarını açıkladı. Ayrıca bu çalışmadaki öğretmenler, serbest parçaları kullanmaktan çok keyif aldıklarını ve sadece onlarla oynayarak çocukları desteklemek için birçok fırsata sahip olunabileceğini belirtmişlerdir.

Dördüncüsü, serbest parçalarla oluşturulan etkinlikler sırasında çeşitli dokümantasyon teknikleri kullanılabilir. Çocukların bu materyaller aracılığıyla oynadıkları oyun veya etkinlikler sürece dayalı olduğundan, öğretmenlerin video kayıtları, fotoğraflar, çocuk

izimleri, alıřma rnekleri ve derecelendirme lekleri gibi oklu veri kaynaklarını kullanma fırsatları olacaktır. Farklı ğrenme ve gelişim alanlarında serbest paraların kullanılması, ğretmenlerin “ocuklara farklı aılardan bakmalarını” ve sınıflarındaki tm ocuklar zerinden daha nesnel bir bakıř aısı geliştirme fırsatı bulmalarını saėlayacaktır.

Son olarak, Vygotsky'nin aıkladıėı gibi, ZPD (yakınsal gelişim aralıėı) erken ocukluk dneminde oldukça nemli bir konudur. Nitelikli bir erken ocukluk eėitimi sreci oluřturmak iin ocukların ğrenimini kolaylařtırmak ve yetiřkin desteėiyle bir adım daha ileriye tařımak ok nemlidir. Serbest paralar, ğretmenlerin ocuklarda eřitli kavramsal kazanımları ve eřitli yetenekleri geliřtirmelerine olanak tanıyan sayısız ğrenme fırsatına entegre edilebilen ok zengin materyallerdir. Bu nedenle serbest paralar ve yakınsal gelişim aralıėı iliřkisi daha detaylı řekilde arařtırılabilir.

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