



Designing Toilets with Children: A Design Adventure in Preschool Educational Institution

Araştırma Makalesi
Research Article

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ABSTRACT

Children have long been neglected by designers. However, children's participation in the design process is essential for the creation of creative spaces. Children have the right to be involved in the design of the spaces they use based on their personal experiences. Preschool educational institutions are essential as the initial socialization environment for the child. The designs of these facilities will affect children's lives in the future. The toilet training process, which includes the pre-school years, affects children's future lives and development. In addition to a healthy toilet routine, it is necessary for children to develop awareness in many areas, such as muscle control and self-care abilities. The design of toilet interiors in preschool educational institutions also affects the cognitive, physical and mental development of children. The purpose of this study is to determine the interior design criteria of the toilet as a wet area in preschool educational institutions in line with the expectations of children age 36-72 month who are members of Gen Alpha. The study used a case study of qualitative research methods along with a mosaic approach that enabled the process to be carried out with children. The study's findings revealed that the suggestions for the design of the toilet interiors for children in the 36-72 month group, who are Gen Alpha, are tech-focused.

ARTICLE HISTORY

Received 16 / 08 / 2023

Accepted 12 / 03 / 2024

KEYWORDS

Child-centred design
Co-design
Preschool interior design
Technology-oriented design
Toilet interiors design

Çocuklarla Birlikte Tuvalet Tasarlamak: Okul Öncesi Eğitim Kurumunda Bir Tasarım Serüveni

ÖZ

Çocuklar uzun zamandır tasarımcılar tarafından göz ardı edilmektedir. Ancak, yaratıcı mekânlar tasarlamak için çocukların tasarım süreçleri içerisinde yer alması önemlidir. Çocukların kullanıcı oldukları mekânların tasarım sürecinde, kendi deneyimleri doğrultusunda sürece dâhil edilmeye hakları vardır. Okul öncesi eğitim kurumları, çocuğun sosyalleşmeye ilk başladığı yer olarak önemlidir. Bu mekânların tasarımları çocukların gelecek yaşamlarını etkilemektedir. Okul öncesi dönemini de kapsayan tuvalet eğitimi sürecinde de çocukların gelecek yaşamlarını ve gelişimlerini etkilemektedir. Çocukların sağlıklı bir tuvalet alışkanlığı kazanmasıyla birlikte kas kontrolleri ve öz bakım becerileri gibi birçok alanda farkındalık kazanması açısından önemlidir. Okul öncesi eğitim kurumlarındaki tuvalet iç mekânlarının tasarımı da çocukların bilişsel, fiziksel ve zihinsel gelişimlerini etkilemektedir. Araştırmanın amacı, kullanıcı olarak Alfa kuşağı olan 36-72 ay grubu çocukların beklentileri doğrultusunda okul öncesi eğitim kurumlarındaki ıslak hacim olarak tuvalet iç mekân tasarım ölçütlerinin belirlenmesidir. Araştırma kapsamında, nitel araştırma yöntemlerinden durum çalışması ve çocuklarla birlikte sürecin yürütülmesine imkân sağlayan Mozaik yaklaşım kullanılarak veri toplanmıştır. Çalışma sonucunda, Alfa kuşağı olan 36-72 ay grubu çocukların tuvalet iç mekânlarının tasarımına yönelik önerilerinin teknoloji odaklı olduğu belirlenmiştir.

MAKALE BİLSİ

Geliş 16 / 08 / 2023

Kabul 12 / 03 / 2024

ANAHTAR KELİMELER

Çocuk odaklı tasarım
Ortak tasarım
Okul öncesi iç mekan tasarımı
Teknoloji odaklı tasarım
Tuvalet iç mekan tasarımı



INTRODUCTION

According to Article 1 of the United Nations Convention on the Rights of the Child (2021), “a child means every human being below the age of eighteen years unless under the law applicable to the child, majority is attained earlier”. According to Smith (2020), the earliest years of a child's life are critical in shaping their development. Preschool educational institutions are among the most significant educational institutions that assist in this growth. Preschool education institutions promote the communication, language, physical, personal, social, and emotional development of children, which are the most important fundamental learning areas for their future learning and development (Aubrey & Dahl, 2014). This stage, which is subdivided into physical (motor), cognitive, emotional-social, and linguistic development, is particularly significant for understanding children's competencies, spatial demands, and expectations.

During these developmental stages, children form habits that will serve as the foundation for many enduring behaviors and ways of thinking that they will uphold as adults. One of them is establishing proper and healthy toileting training and self-care skills. “The period when toilet training begins corresponds to the age range of 1-3. This period is defined as the period in which the child develops self-awareness. (Marcdante & Kliegman, 2001). During the toilet training process, children learn to regulate their muscles and meet their own needs with the use of tools or products such as potties. Their learning processes are affected by the spaces and tools they employ during their development. In this procedure, children's spaces should be built in accordance with their physical development, requirements, and expectations.

It is of great significant to collaborate with children as co-designers in the process of designing spaces for children's spatial expectations and needs. However, despite the fact that numerous research methods can be employed to comprehend the spatial needs and desires of children as users (Clark, 2005), children are typically appraised as the end consumers of the place or product after the ideation process has been completed with them (Landoni, Rubegni, Nicol & Read, 2016). The ability of children to articulate their imaginative ideas in the context of the design process is a tremendous asset regardless of the physical space when children are involved as co-designers. In addition, children provide information on the user group by relating their personal experiences with the places they use. In this context, the differentiation of designers' user-centered works based on the target audience, as well as variances in the needs and expectations of individuals based on generational structures, has an impact on design processes.

In this context, the design proposals of users from different generations also vary. With Gen Alpha's engagement in the design process as a co-designer, it is possible to ascertain their spatial expectations and desires. As a result of having grown up with technical developments, Gen Alpha is known to be prone to technology-based products in their daily lives. The fact that individuals of Gen Alpha

have grown up with digital tools such as video games, smartphones, and computers have an effect on the fluidity of space and equipment utilization.

As enthusiasts of technology, Gen Alpha members are actively employed technology in their daily lives. Many researchers argue that this generation is most pronounced due to its exposure to the digital environment, its capability to incorporate technological advances into everyday life, and the ability to effectively communicate through technology. It is worth noting that Gen Alpha, growing with technological advances, has never lived without technological products and infrastructure, which directly impacts habits of living and space use and many aspects of their lives. According to Prensky (2001) “Children have spent their entire lives surrounded by and using computers, video games, digital music players, video cams, mobile phones, and all the other toys and tools of the digital age”. Children's exposure to digital technologies, such as video games, smartphones, and computers affects the fluidity of space and tools. It is not surprising that when they are involved in the design process as co-designers, they offer technology-oriented design concepts.

In this context, the purpose of this study is to define the interior design criteria of the toilet as a place where children can self-care in preschool educational institutions. This identification process will take place in line with the expectations of the 36-72 month group of children, who are members of Gen Alpha. In this regard, below is the research question that will be addressed in this study.

1. What are children's perspectives on technology-oriented toilet interiors design in preschool educational institutions?

Within the scope of this research, the expectations and demands of children for the design of toilet facilities in preschool institutions were determined, as well as the preferences of Gen Alpha users for the design of toilet interiors.

The Significance of the Preschool Period

The preschool period supports all developmental areas of children and provides an environment for them to acquire basic knowledge and skills. Yavuzer (2017) highlights the fact that if a child's preschool experiences are positive and meaningful, he will start primary school with a positive self-image and a greater chance of success. Pre-school education is a prerequisite for the child to develop self-awareness, to behave according to his or her abilities, and to identify the traits that distinguish him or her from age.

Parallel to their developmental period, children's spatial perceptions evolve. Altman and Chemers (1980) indicate that the process of spatial perception in children begins around 1 year of age when the child realizes that objects continue to exist even when they are not visible. The notion of privacy evolves along with the perception of space. Thus, the relationships that children make with their environment during the process of developing their privacy perceptions are crucial. In this regard, it is of the utmost importance that the toilet interiors in preschool

educational institutions be designed with the privacy perceptions and spatial expectations of children in their developmental phase in mind. The development of defecation-appropriate solutions in wet areas, where one of the most basic biological functions is carried out, is vital in the course of the development of the sense of privacy. This study aims to examine children's expectations regarding the spaces in wet areas in preschool educational institutions, as well as their perceptions of space and privacy.

Self-care Process

Children begin to acquire self-care skills as a result of their physical, cognitive, linguistic and social development. Self-care skills are defined as the skills necessary for a child to take responsibility and play role in self-care and cleanliness (Uyaroglu, 2017). In this context, toilet training is defined as the child developing control over feces and urine during sleep and wakefulness, noticing when to use the bathroom helplessly and without an advice, and therefore going to the toilet and meeting their needs (Marcadante & Kliegman, 2001). In addition, according to Dr. Lee Salk (1993), the urge for the toilet is the first major opportunity for the child to master his body and regulate his behavior, thereby reacting completely autonomously to feelings of internal pressure from his body. Hence, in order to support the child's self-care skills and meet their most basic needs in properly designed environments, the design of toilet interiors is crucial. It is of the highest concern to design these places so that the child can move independently and safely meet their needs.

As stated in the Toronto Child Care and Technical Guide (2016), children should be given the opportunity to meet their own needs in order to develop their self-care skills. In this respect, children will be able to use spaces safely on their own and care for themselves in a healthy environment due to the opportunities that the space will offer them. During the research, it was discovered that these criteria were not adhered to in many existing spaces and that the space design was completed with the selection of a handful of paintings, ornaments, and tiny sanitary ware components. Therefore, it will be vital to underline the significance and necessity of toilet interior design in early childhood education institutions. In order to comprehend the spatial demands and expectations of children throughout the design process of these spaces, it is not adequate to just monitor the developmental processes of children and their spatial expectations. Choosing the content of children's environments solely from the standpoint of the designer is similar to disregarding them entirely. In this case, children's participation in the design process as co-designers contribute to the achievement of more fruitful outcomes.

Child as a Co-designer

Engaging children as co-designers in the design process entails evaluating the spaces from their perspectives and producing potential design proposals with them. This enables children to make innovative recommendations regardless of value judgments and physical constraints.

According to Binder, Brandt and Gregory (2008), designers should be encouraged to communicate with people and users working in diverse professions. Sanders and Stappers (2008; p.6) define co-creation as a collaborative creative approach that includes the entire design process.

To develop products that are suited for the lives of the people who will use them, designers require information about the context of users' interactions with products, which they attempt to reveal through collaboration during the design process (Sleeswijk Visser, Stappers, Van der Lugt & Sanders, 2005). Consequently, it is important that the process be conducted with the children, who are the users of the spaces. This allows them to interact with the designed spaces and products in a meaningful way. Children as co-designers have distinct physical qualities, thoughts, cultural infrastructures, and age ranges, and their suggestions for space design vary accordingly. Muller (2002) identified a wide range of benefits such as enhancing mutual learning and understanding, merging the views of diverse individuals, and enhancing communication and cooperation amongst diverse groups. Thus, this is considered the product of the co-design process.

Another essential component of the interviews with children as co-designers is that they mirrored the qualities of their generation in the field of design. In this regard, the Gen Alpha user group's space design concept have the opportunity to be evaluated in terms of their own generation. The inclination towards technological improvements, which is one of the main elements of Gen Alpha, also takes its place in the space design process.

Gen Alpha Characteristic

The digital world they were born into and the idea of connection being at the core of their existence are the two most significant characteristics of Gen Alpha (Tootell, Freeman & Freedman, 2014), which is a term used to describe those born after 2010 (Nagy & Kőlcsey, 2017). Since 2010, the Alpha generation's daily life practices, methods for producing solutions to the challenges they face, and spatial expectations and needs have been influenced by the increasing use of Instagram, drone technology, humanoid robot trials, 3D printer-based production, artificial intelligence, and smart homes.

When considering the characteristics of Gen Alpha as a whole, it is notable that they are adept at incorporating technological advancements into their daily lives and that their communication abilities are technologically inclined (McCrinkle, 2014). Technology is an integral part of daily life for Gen Alpha, which has grown with the increasing use of technological devices in their living places. As technology-driven solutions influence how individuals utilize the spaces and items they use, it is natural for their spatial expectations and desires to be shaped in this manner. Prensky (2001) noted that numerous labels are given to new generations, but that "digital native" is the name that most accurately captures the qualities of this generation: "...but the most useful designation I have

found for them is Digital Natives. Our students today are all “native speakers” of the digital language of computers, video games and the Internet”.

Children of the Gen Alpha can readily incorporate technology into their life while continuing their developmental phase with technological solutions in the environments in which they live (Edwards, Henderson, Gronn, Scott & Mirkhil, 2017). According to Prensky (2001) “Children have spent their entire lives surrounded by computers, video games, digital music players, video cams, cell phones, and all the other toys and tools of the digital age”. In this context, children of Gen Alpha spend the most of their time using technological products. Children enroll in preschool educational institutions are more likely to study and utilize technology than those of older generations. This situation causes them to prefer technology-driven solutions in the designs of the spaces they use.

MATERIALS AND METHOD

In this study, which examined the usage preferences of 36-72 month-old children for wet areas in preschool institutions from a user-centered approach, a case study based on qualitative research methodology and research data collection instruments and analyses were conducted. Within the purview of Creswell's (2007) evaluations of analyzing the circumstance or situations using observation, interview, and documentation to collect in-depth data for a case study, observation, interview, and analysis of children's pictures and drawings were employed extensively in this study. In this process, the mosaic approach, which allows the employment of a variety of techniques alongside a child-centered methodology, is implemented. The development of the mosaic approach grew out of international, interdisciplinary and intergenerational dialogue, as outlined in the book *Listening to Young Children: The Mosaic Approach* (Clark & Moss, 2011).



Figure 1. The mosaic approach illustrates verbal and non-verbal data collection techniques

Compatible with Loris' hundreds of children's languages and offering a versatile perspective, the mosaic approach relies on data collection using verbal and non-verbal methods to analyze children' s relationships with the physical environment in the pre-school period. (Clark, 2005).

With the mosaic approach, research has been conducted on the connection between early childhood and the physical environment. The purpose of this procedure is to collect information on how children recognize, interpret, and request their environment. Several data-gathering methods are utilized to identify the interaction between children and their environments. As Clark describes it, this method

combines observation, interviews, photography, field trips, the creation of maps, and conversations with authorities and parents to enable young children's expression. (Clark, 2005). Using techniques that encourage children to express themselves in early childhood, Clark argues that data can be collected from children during this period.

Interviews and drawings were used to obtain data from 36-72 month-old children in institutions for the purpose of this study. It is said that it is acceptable to use techniques such as drawing in the study process because they are based on children's abilities (Punch, 2002).

After the drawing technique, interviews with the children were conducted for the triangulation of the data. Interviews were conducted after the children finished their drawings and described them. The interviews were conducted one-on-one and in a semi-structured form. The semi-structured interview form, which was developed based on literature research and specialist opinion, contains a total of 47 questions, 11 main questions and 36 sub-questions. 5 of these questions were designed to prepare children for the interview, 19 were designed to determine the current situation based on children's expressions, and 23 were designed to comprehend children's design ideas.

Table 1. Data collection process



The study included 25 children who volunteered in private independent kindergartens for children aged 36 to 72 months, such as Altın Çocuklar Academy Sumer, Altın Çocuklar Academy Batikent, and Altın Çocuklar Academy Yenikent Kindergarten, all of which were located in different regions of Eskişehir province.

Descriptive analysis was employed in the analysis of the qualitative data acquired within the scope of the study (Yıldırım & Şimşek, 2016). The descriptive analysis approach is described as the data obtained are summarized and interpreted according to the predetermined themes. Nvivo 12 program was used in the descriptive analysis of qualitative data.

FINDINGS

When the categories under the theme of toilet area preferences for children aged 36-72- months are analyzed, it is possible to see the expectations of children in this month's group regard to toilets in preschool educational facilities. These expectations were examined alongside the current toilet facilities in preschool educational institutions. The new spatial expectations of Alpha Gen, which uses existing structures and prefers digital media and technology, have been found not to include manual systems. As a user, children are known to be used to digital and technical products and learning techniques unlike previous generations. (Prensky, 2001). In this regard,

users' hardware and spatial preferences are expected to offer them technology-oriented solutions.

Design concepts for toilet interiors as wet areas have been examined alongside the children's drawings as co-designers. Technology-driven solutions have been produced regarding the use of space components and pieces of equipment used in the area. These are technological solutions for lighting, doors, and windows as space components. It also contains high-tech solutions for types of equipment like siphons, napkin holders, faucets, towel holders, soap dispensers, illumination, cabinet dividers, and scent equipment. According to the data, it is clear that automation proposals in the framework of technology-oriented design are dominating. The proposal of participant D6 is likewise a drawing with technology-oriented design examples.



Figure 2. D6 drawing

The arrows used in the drawing represent mobility. According to the description, the sink, lighting tools, siphon, and cabinet dividers can be moved using buttons. When asked how cabin doors and sections should work, D6 responded, "The doors open upwards and close downwards." If I like, I can raise my hand and the barriers between the cabins will come down, allowing us to see each other." By lowering the cabins upon request, it will be able to converse with the person in the adjacent cabin. The technology-oriented design approach was also instrumental in the lighting design. Participant D6 expresses their thoughts as follows:

"There is a lamp here. There is a place near the door the lamp is coming out of the rope, but I made a section to hold it, so that it does not swing too far. It's all lighting. They'll go down when they're pressed. It opens automatically in windows. They're up there to prevent us from hitting them."

The circular area depicted as sinks in according to the handwashing section, represents the faucet's automatic operation sensors. Another participant proposed a design proposal for the automatic use of sensors similarly described.

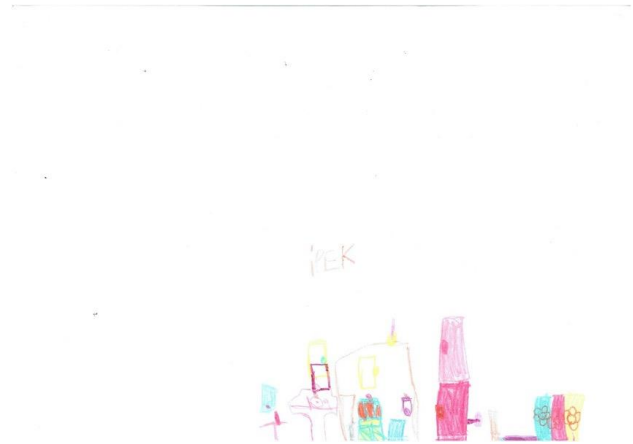


Figure 3. D16 drawing

The faucets, soap dispensers, siphons, lighting, dustbins and doors in the toilet interiors are designed with sensors. When asked about the trash can, D16 responds that they use tools that dispense napkins automatically and that there is a trash can underneath it for disposal. Another design parameter that was expected to work automatically was lighting equipment. It has been proposed that the lighting, which is intended to activate automatically to illuminate the room when needed, should fall from the ceiling floor when it is dark and perform its role.



Figure 4. D15 drawing

The heart-shaped pieces falling from the ceiling to the floor in the illustration represent automatic lighting equipment. These automatic product requests apply to sinks, toilet bowls, soap dispensers, napkin holders, and even shower facilities. According to the study, the person who suggested the shower area recommended automated shower heads.

Technology-oriented design proposals for toilet areas and other spaces related to these areas were gathered. One of the proposals that will affect the spatial divisions is the ability to remove the cabinet dividers with the push of a button. About the partitions between the cabins, D6 states, "There will be walls, but something similar will occur next to the toilet, and the walls will collapse." Then we can see one another, but when it is pressed, it will disappear.



Figure 5. D12 drawing

"When the cabin doors are triangular, they provide a view that cannot be seen in its entirety but may be viewed on demand." (D12) Another suggestion is to play music automatically if someone is in the cabin. If the interior of the cabinet cannot be seen and it is unknown whether someone is inside, it is suggested that "if there is someone inside, let the music play" (D8). It has also been proposed that the door to the cabinets automatically closes if there is someone inside (D8).

Concurrently, those who described toilets as noisy spaces produced design proposals. During the interview, D15 noted that toilets are noisy and suggested, "Let's start a song so that it is not noisy and everyone pays attention. Let the music come from the roof". In this instance, the suggestions regarding the noise issue and the lack of auditory privacy were related to the tech-based design solution.

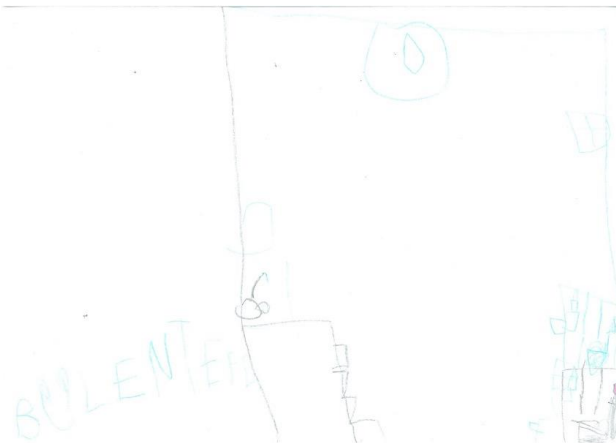


Figure 6. D4 drawing

Regarding cabin time, it was suggested that televisions be mounted within the cabin doors. A proposal was suggested, "Let's mount it on the closet doors and watch as we do it" (D4). Suggestions have been made to use areas other than the toilet area and the handwashing area as a playground or waiting area. When asked about the space between the toilet area and the handwashing area, it was answered that it was intended to serve as a waiting room and a place to play games. (C4). By stacking the cabins, additional toilet rooms can be obtained.



Figure 7. D8 drawing

Concepts regarding the spaces specifically created for users were examined. A toilet area with a make-up table and mirror is considered. When asked where he wanted the toilet paper to sit, they replied, "Under the toilet." The handle is another design device strongly related to the toilet bowl. Fears of falling into the toilet bowl when using the toilet section have led to the observation that grasping components are expected to be incorporated into the design. Red paint on the siphon section of the designed toilet bowl is one of its most distinguishing characteristics. This part contains the sensor for the toilet's automatic operation. The siphon is meant to operate automatically once the toilet bowl is used. The sensor is identified as the red-painted area on the luminaire and is automatically activated. The illustrated perfume bottle is also activated automatically if a foul smell is detected.



Figure 8. D23 drawing

Having windows was suggested as a solution to the odor problem as well. According to the toilet design requirements, the Restroom Association's declaration that there should be a window in the toilet area was similar to the collected data (Restroom Association. 2014. p.5). Also, a design proposal for window areas with automatic opening and closing has been devised. As a design suggestion, (D20) states that "Sensors operate the windows. The windows will automatically open if ventilation is required. As can be seen, large windows were included in the toilet's design as an attempt to mitigate the

odor. Also, this works in tandem with the auto-activating air freshener in the top right corner. D18 said, "Everything is automatic, everything," in response to a question about the space components and the types of equipment employed.

By complementing the proposed spaces and products with technology-oriented designs, it may be possible for children to grow less reliant on adults in the space. This suggests that the design of the space helps Gen Alpha children build self-confidence, while it requires less assistance from adults while using the restrooms in preschool educational institutions, which are public settings.

CONCLUSIONS

It has been noticed that the children in the 36-72 month age range, who are Gen Alpha, have generated technologically advanced design concepts for both space-based products and equipment. It is not surprising, however, given their affinity for technology, despite the fact that they are somewhat considered a new generation. (Augusto dos Reis, 2018). According to several sources, Alphas, as a generation that has grown up with technology, tend to favor technology-driven design solutions. In this context, as co-designers, the Alpha generation children's recommendations for spatial components and equipment include automatic lighting, sanitary ware, a siphon, a faucet, a window, and a door. In addition to the information gathered from children through drawing and interviews, existing structures were analyzed and specialists who designed children's spaces were interviewed. As shown in tables 2 and 3, the views of participants and field experts on the existing toilets interiors and their equipment are presented. In this context, the non-existent properties are indicated by the x sign, while the existing or requested properties have the ✓ sign.

Table 2. Technology-oriented design for space components

Technology-oriented design	Existing structures	Data collected from children	Data collected from specialists
Automatic lighting	×	✓	×
Automatic window	×	✓	×
Automatic door	×	✓	×

By examining the existing structures, high-tech solutions were rarely observed. The interviews with the specialists demonstrated that children had limited knowledge of technology-oriented design proposals.

It is evident that it represents the characteristics of Gen Alpha, which desires spatially-focused technological

design solutions. According to Prensky (2001), it is natural for individuals who spend their entire lives interacting with online platforms and digital-age toys to generate technology-oriented design solutions. According to the findings, Gen Alpha requires technologically advanced space equipment and solutions that differ from those requested by other generations. This is due to Gen Alpha's inclination toward technology, which distinguishes them from other generations. In contrast to the commonly utilized manual design solutions, it has been recognized that spaces can be built with technology-supported designs by considering the new user profile. In this regard, it is vital to design spaces that meet the spatial expectations and desires of children of Gen Alpha by incorporating technology-driven solutions into the space design process. Designing toilet interiors in accordance with the expectations, desires, and daily life practices of new generations also aids in reducing the challenges children face when using restrooms.

Table 3. Technology-oriented design for equipment

Technology-oriented design	Existing structures	Data collected from children	Data collected from specialists
Automatic sanitary ware	×	✓	×
Automatic faucet	×	✓	×
Automatic siphon	×	✓	×

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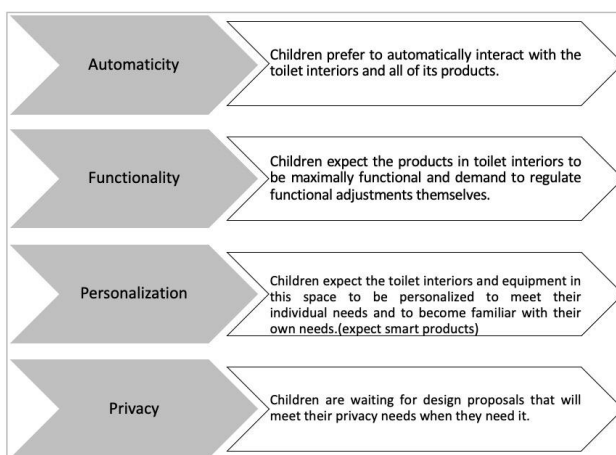
expectations, desires, and daily life practices of new generations also aids in reducing the challenges children face when using restrooms.

Children have the right to live in environments that allow them to behave independently as users, contribute to their self-confidence, aid in their development, permit the growth of self-care abilities, and reflect the features of their generation. In this regard, it is crucial that children participate in space design processes as co-designers. It is important for space designers to be able to articulate design solutions for children's spatial desires and expectations. In the design process carried out with Gen Alpha children, a co-design approach incorporating technology-driven solutions enables designers to reveal the spatial needs and expectations that are frequently overlooked by adults.

Interior architects have a significant responsibility to design places for children in line with the lifestyles of the next generation using their professional skills. When technology-focused advances and behaviors they experience are analyzed, it is not surprising that the Gen Alpha children's preferences for space design are technology-oriented. In addition, it is evident that Alpha generation children are prepared for these shifts if high-tech solutions to prevent contact with surfaces and tackle challenges like cleaning after the Covid-19 outbreak are discovered. Hence, it has been attempted to contribute to the design procedures of children's toilets that will be newly built or renovated.

In the study, children's perspectives on the design of high-tech toilets at preschool institutions were determined. The most prevalent terms in these approaches are illustrated in Table 4 below:

Table 4. Prominent approaches as a result of research



Within the scope of the data obtained from the observations and diaries of the authors, efficient research was conducted in the interior design process with children, and the design expectations of the children's toilet interiors of Gen Alpha were defined. During the research process, it was determined that the children effectively communicated their design ideas by being aware of their expectations and requirements for the interior design of toilet interiors. This may be an indication that children can take part in the design processes of the spaces they use. In

line with the recommendations of children of Gen Alpha for toilet interiors, it facilitates the incorporation of technology-driven solutions into the design of the spaces. It is anticipated that this study will contribute to future studies, research processes, and the formulation of design criteria.

Acknowledgement

This article was produced from the Master's thesis titled Toilet Interior Design Criteria and a User-Oriented Approach in Preschool Educational Institutions: A Research on 36-72 Month Old Children, completed at Anadolu University Fine Arts Institute, Department of Interior Design.

In the scope of the research, the children and parents who participated in the study were presented with the certificate of the ethics committee numbered 24.06.2019 and 48692 of the Anadolu University Board of Social and Humanities Research and Publication Ethics and they were included in the study if they declared that they were volunteers.

Author Contribution and Conflict of Interest

There is no conflict or interest.

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