

## **Developing Educational Environmental Foundations for Kindergarten Garden Designs in Baghdad**

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### **Abstract**

*The research is concerned with the problem of the educational environment in the designs of kindergarten Gardens by verifying its goals in identifying the educational environmental reality of kindergarten gardens and to achieve the research goals, the descriptive curriculum was used and identified the community of government kindergartens in Baghdad and selected from it (20%) a representative sample of this total community for research, bringing the sample number to (38) kindergartens, and the personal observation form was used as a research tool that included a number of Main and sub-paragraphs that were prepared through a preliminary survey study of a number of kindergartens, as well as literature, periodicals, Arabic and foreign studies related to the subject of research, and after the data dump Using the appropriate statistical means, the research results showed that all kindergartens in Baghdad are almost devoid of most of the elements that arouse the child's motivation to search and explore and raised questions, and therefore do not represent a typical learning environment.*

**Keywords:** Kindergarten, educational environment, kindergarten garden.

### **Introduction**

The childhood stage is one of the most important stages that a person goes through, because the child at this stage is susceptible to all the factors surrounding him, which reflects on the characteristics and requirements of his various development, which will therefore be reflected on the formation of his personality in the future, and from this point of view, we find that many educators emphasize the need to take care of this stage, and provide a suitable environment for the child, contributing to the activation of his abilities, stimulate talents, and develop them to the maximum. According to the above, the kindergarten garden is one of the most important spaces for the child because it can provide unique stimuli that attract their interest, such as exploring soil, flowers, water, rocks, trees and other natural objects and materials with enthusiasm and curiosity .these materials can be classified with open ends with the possibility of responding to children's needs and imaginations. for example, when children assign new meanings to objects and engage in reinvention processes, they mobilize skills such as divergent thinking, problem solving and creativity.

First: the research problem:-

The early childhood stage is one of the most important stages that a person goes through, in which his susceptibility to surrounding factors increases, his inclinations and trends

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Bloom and he gains colors of knowledge, concepts, values, ways of thinking, principles of behavior and methods of treatment, the early years are crucial in his future, and their effects remain deep in his formation for a lifetime, therefore, attention to childhood is one of the most important criteria by which the progress of societies is measured, because raising children and preparing them to face the challenges of civilization imposed by the inevitability of development is an interest in the reality of the nation and its future (Badran,2003: 31), that the process of developing an understanding of the world around children can be achieved through the provision of exploration activities for the outside world through direct observation and meditation sessions, and the practical application of concepts abroad (Al-Arishi et al., 2014: 207), as well as that the garden is a stimulating environment for the process of direct and indirect learning, through the available stimuli and stimuli that excite the child and help him explore and explore, such as insects and pets ((Mustafa, 2012:P29-30)).

Despite the availability of many kindergartens in the city of Baghdad, the gardens of those kindergartens almost lack the simplest Arabic and international standards and specifications that make them an educational environment through which the child's need for exploration and exploration can be satisfied and achieve the demands of his mental and cognitive development, which prompted the researcher to choose the subject of her research, which: Developing educational environmental foundations for kindergarten garden designs in Baghdad .

Second: the importance of research:-

Kindergarten represents the second environment after the family to take care of children and discharge their energies in various activities that deal with aspects of their mental, psychological and social development to become educationally, psychologically and socially competent, thereby satisfying many of the child's psychological and social needs and gaining him a lot of multiple experiences that enable him to develop normally (ANI et al., 1999: 3), this is confirmed by (Eastman) (Astman) when she pointed out that "the kindergarten stage is a typical stage for the formation of knowledge and skills base, development of environmental responsibility for children and awareness of environmental issues".(Simon, 2002: 26) kindergarten is the foundation on which a child is built and influences his behavior and qualities throughout his life (Jassim, Raddam,2022:p6692).

The kindergarten garden is a space that brings excitement and fun to children, as it contributes to satisfying the love of exploration and learning, increases the child's mental development and increases social communication between children, as well as creating an environment for Adventure, Imagination, exploration, making friends, getting to know living things from animals and plants, observing the shedding of leaves and branches, collecting stones, playing with sand and mud, contributes to the child's mental development and is more fun for him, and is a stimulating, fun and joyful environment as an educational environment that urges children to explore their World by themselves through play (Amin, 2014 :68). The importance of the current research is evident because it will shed light on one of the important environments in the child's life, which is the educational environment of the kindergarten garden, making it suitable for the child's proper development in mental and cognitive terms, and if the research achieves its goals, its results can benefit decision makers and those interested in the educational environment and kindergarten Gardens from engineering and educational institutions, individuals, teachers, supervisors and others.

Third: Research objectives:

Identify the educational environmental reality of kindergarten garden designs in Baghdad and identify the most important design and functional problems that suffer from them.

### **Theoretical framework and previous studies:-**

The kindergarten stage is one of the important stages in human life, in which the basic concepts are formed and the elements of creativity and excellence are rooted, and what makes this stage more important than the rest of the human age is the child's enthusiasm, vitality, tendency to acquire skills and knowledge, the formation of conscience and the beginning of the formation of personal the image of the child's behavior with individuals, things and the environment (Al-Habib, Al-Holi, 2009:5), Kindergartens are one of the important institutions in the integrated and comprehensive development of the child, as they are the first educational ladder that contributes significantly to the formation of personal, cognitive and social aspects of the child with the programs, ideas, information and experiences provided (Ali & Saleem: 2019, p113). Therefore, we find that psychology schools with different orientations have agreed on the need to pay attention to the kindergarten stage, and to know the first experiences that the child acquires at this stage because of their importance in helping him grow, and it is agreed that the experiences that the child interacts with at this stage lead to the formation of his basic values and trends and learns his behavior and habits, which often accompany him in all the following stages of his life (al-Abadi: 2020, 15-16), And the kindergarten stage is one of the fertile stages in the formation of thinking patterns, where the identity of the child as a thinking person takes root, because the mind begins to open up in the first formative years, at this age stage, the weight of the brain is 90% of the weight of the adult brain, and the organs of the child are the sensory system is highly developed and developed and ready to absorb raw thinking materials, so there is a need to establish children's thinking skills, clear their minds and formulate their ideas at this important age stage (Mussa & AL-Jaafari: 2021, p382).

While (Abu Mirza, 2001) emphasizes the importance of kindergarten, saying: in the past, children saw with their own eyes how parents prepare the necessary requirements of life from plowing the land, sowing grain, preparing bread and sewing clothes, and they raised domestic animals and birds, took care of them and benefited from their milk, wool, meat and skins, but today their children are far from those sensory environmental stimuli, they eat bread they bake bread and wash their hands with water without knowing how to get home and their houses are lit, they watch TV without knowing how this happened and why, and they ask thousands of questions without receiving an answer, that all that The above highlights the importance of kindergarten in addressing the shortcomings in a child's life) (Abu Mirza, 2001:39).

This is why he called for the most important goals of kindergartens to be those that respond to the needs of the child, and to create educational environments for him, and the goals are generally determined in the light of a number of basic variables, such as the philosophy of society, the philosophy of education, the requirements of development, and the goals derived from modern scientific research, and :

- 1 -providing the child with a set of basic health standards and information appropriate to his age and related to his surroundings (Hariri: 2002, 13-14)
- 2 -helping the child to gain practical and scientific experiences by raising the motivation of reconnaissance, research and investigation (Goldfinch and others, 1982:8)
- 3-learn to deal with some components of the natural environment (Sharif, 2005: 225)
- 4-providing experiences, activities and calendar methods that take into account the individual differences between kindergarten children.

Characteristics and requirements for the development of a child at the kindergarten stage

Understanding the growth of a kindergarten child is one of the most prominent aspects in understanding the nature of this stage, and therefore determining what should be available in the kindergarten building, which differs in form and subject from the buildings of other

educational institutions, because of the different age stage it serves-to meet the requirements of this growth and to achieve it, and:-

1-characteristics of language development: The kindergarten stage is characterized by rapid language development, acquisition, expression and understanding, and among the characteristics of this development, the child's pronunciation improves and the child's speech disappears, such as missing sentences, substitution and lisp, the child's understanding of other people's words increases, the child can disclose his needs and experiences, the child skillfully imitates the methods associated with speech such as the methods of news, negation, exclamation and question, the child imitates the sounds of animals and birds and natural phenomena and familiar things like the clock and the train, the child relies in his language depending on The heard word, not the written one, self-centeredness, repetition of words and phrases, and a lot of questions and is 10-15% of the conversation Children are questions.(Abu Sakina, Al-Safty,2010: 43)

2-characteristics of cognitive mental development: the strength of children's concentration on a work at this age is short-term, they are never able to process abstract ideas, they are characterized by curiosity and the need for research and discovery, they ask a lot of questions, even though many of them are not related to the topic at hand, they like to learn words and understand their meaning, they listen to stories and tell them, listen to songs and chant them, they like to talk about their lives even if they interrupt the teacher's words, they love the world of fantasy and their imagination is wide and believe what they hear from fairy tales, and they give objects, animals and other creatures human characteristics, they like to learn new words and play with them phonetically and kinesthetically.(Al-Saud, 2010:56-59)

#### Kindergarten curricula

- Montessori curriculum : The curriculum is based on providing an opportunity for free activity necessary for the development of the child's body and mind, where every child learns and works according to inclination, relying on the opening of his abilities and potential without interference from adults, and education, according to a Montessori curriculum, must be effective in support and guidance of the child's nature, using a simple system of education and moving away from the accumulation of information, learning and memorization, because the child must get to know the world around him through his senses, and she also believes in the necessity of The environment should be suitable for educational materials, and the requirements of the child's development should be taken into account and the educational environment should be similar to the home environment (Abu Sakina, Safty,2011: 33) , It is necessary to develop the motivation to search for knowledge, perseverance and effort among children and adolescents alike, for its role in achieving cognitive balance, raising levels of motivation and encouraging children to learn by research and investigation(Abd& Mohamed,2022: p102).

- Project approach: the project approach is considered one of the important methods that arose from the principle of activity by work, and this method is based on the activity of children in the environment and their free choice of topics that they do cooperatively, where each child has a clear role and a specific responsibility agreed upon, they participate together in the development of plans, thinking, work and criticism, and the project approach is based on motor activity, where it leads to the acquisition of physical experiences and language activity, and it satisfies the love of exploring the child and his questions originate from within the child and are not imposed on him from outside (Jad, 2004: 212).

Methods of education that are used in kindergarten:-

- The method of education by exploration: Children tend to examine and experiment out of a desire to know and explore the surrounding environment, and this method is used to give children an opportunity to observe relationships, deduce new data,

explore ideas, search for solutions to various problems, and practice certain activities for the purpose of reaching the target performance level, so it is necessary to create attitudes that encourage the child to the memory lasts longer and the process of exploration becomes a powerful stimulus for education (Atiya et al., 2016: 71-72).

- The method of education through acting and role-playing : This type of play is manifested in the child's assimilation of the characters of adults and their lifestyles that he sees and is influenced by, and these games rely on the child's broad imagination and are based on cooperation between the body and the mind(Ahmed: 2016, 75). Since the kindergarten child is characterized by the power of observation and imitation, and acting is a behavioral imitation of situations from everyday life, it is a purposeful and entertaining educational method that creates an exciting learning environment that leads to children acquiring behaviors in a fun and simple way (Atiyah et al., 2016: 72), Certainly, the child learns by observing others around him and observing his parents and siblings,because they are the closest to him and those with whom he interacts daily( al Mousawi & Ali,2022: p1).

The kindergarten building is the first official building used by the child, and it is the building that represents the environment that will educate and educate him, and the design of the kindergarten building and its equipment is the container in which various activities are practiced by children, and this is what Attar stressed (2021) when he said, "the design of the kindergarten building plays an important role in the educational process, as it can provide spaces performing the educational process" (Al-Attar, 2021: 444). This applies to all the indoor and outdoor spaces of the kindergarten, including the kindergarten garden, which is the ideal place to give children the experiences and skills they need at this age in an easy and fun way .we will try to identify this space and what it plays a big role in teaching children different types of experiences and skills.

The outer garden:

Kindergarten gardens are one of the most important spaces in the kindergarten building,because they provide children with knowledge and experiences, and the spacious space and green gardens with their trees and natural orchards give them opportunities for meditation and mental clarity, and it is very necessary to develop modern designs for kindergartens to ensure the presence of gardens that refine their talents as one of the primary sources in the development of cognitive sense (Dudek, 2005 :p215).The garden represents the first environment that the child goes out to, and he is at the stage of exploration and experience, so we notice recently that there are a lot of transcendent voices to take care of the garden and consolidate the child's relationship with nature, due to the competition of devices Electronic and virtual reality games, and the lack of a Home Garden that suits the child's inclinations, as the garden is an influential tool in education and an activator for him, so the need for the garden came because of its importance in the development and development of the motor, mental and social side of the child).(Day&Midbjer,2007:p181), and( Khalaf 2005) ( believe that a well-prepared garden full of diverse stimuli helps the growth and development of children in all physical, social, psychological, emotional and moral aspects, provides them with a wealth of experiences and motivates them to observe, ask questions and satisfy their love of exploration (behind, 2005: 36). Its impact is not limited to giving children some new skills and experiences to add to their previous skills and experiences, but it also has a significant impact on their mental and physical health, as the sun they enjoy outside the classroom has an impact and benefit on their physical development (ADAS, 2001: 35). Since the garden environment and its human and material elements are a rich educational environment that helps the child to get out of the classroom environment to the external environment rich in materials, tools and living organisms, which adds more vitality and activity to education, increases the child's motivation and reduces his behavioral problems, it has been found that the activities of the external educational environment go beyond traditional education, relying on play, excursions, discovery and free education,

helping the child to form a good relationship with nature ( Al-shawarab, Ghaith, 2007: 36).

According to the foregoing, the garden is one of the most important spaces in the kindergarten, it is an important part of the educational environment that must be taken care of to provide the child, through the garden it is possible to develop many scientific and mathematical concepts and perceptions of the child, it helps children to acquire the concepts of time, space, change, growth and many concepts, through the activities that he does, so the garden must contain a corner for vegetables and fruits, through which the child learns the difference between them through the senses of sight, smell, taste and touch, and the corner of trees and flowers through which the child can recognize the types of trees and flowers and distinguish between them through the sense of sight Touch and smell (Jaradat,2013: 46). In the garden, children interact in a variety of ways with ordinary subjects and natural materials such as pebbles, stones, sticks and leaves, where they stack them or process them with their hands.trees and plants can be used to clarify the shadow and create hidden paths, and plants such as leaves, flowers and fruits are considered props that can alert children to discovery and imagination (Kandil, Badawi, 2006: 127) .

The teacher can use the nature surrounding the kindergarten garden to teach children the following:-

1-wind: where children can learn the speed of the wind, the level of its coldness, its relationship to objects, carrying objects, including clouds, and its relationship to rain...etc.

2-plants and herbs: where children learn about the types of herbs and what is useful for humans and animals, how they grow, flowers, reproduction, how they grow every year and the relationship with rain....etc.

3-insects: where children learn about existing insects such as flies, ants or bedding, how these creatures live and how they reproduce ...etc.

4-sounds: learn about the power of sounds, the types of sounds of animals and objects, how people hear sound and how language is transmitted through sound.

5-using different environmental conditions such as shade, sunlight, rain, snow or dust...etc. (Jaradat,2011: 63-64).

The kindergarten garden can also be used to provide children with the following experiences:-

1- Growing plants (gardening): The child can get acquainted with the types of plants such as fruits and vegetables, their benefits and the variety of food provided, and the types of flowers and their different forms, through planting some plants, watering them and following up their growth stages, children can also do some other activities such as watering cultivated plants and also picking fruits when they become ripe and edible, and also learns the need to wash fruits and vegetables before eating, collecting and classifying plants, removing dead parts from them, and they can also watch the farmer while working in the garden and learn about the tools he uses and how to use and care for plants and take care of them, as well as the cultivation of plants from Pre-group of kids can significantly contribute to increased bonding, cooperation and socialization among themselves ( Herington,2008: p15 ).

2- Learning mathematics: The child can be helped to take advantage of the kindergarten Garden in giving him the opportunity to discover that everything around him is based on mathematics by watching the areas, sizes, weights, geometric shapes of the garden, and he can also measure and make plans for the growth of plants and calculate weekly or monthly changes in them (Devrim,2018:,204).

3- Learn Environmental Science: It is necessary to provide several basic spaces in the child's environment, such as spaces that encourage social interaction between children and hand games to develop physical skills, construction games for the development of imagination and creativity, spaces of a special nature such as playing with water, caves, as well as spaces that are interested in the environment of the child through visual, auditory, olfactory, kinesthetic the child's relationship to the components of space itself, such as heights, tunnels, barriers, roads, and no This relationship with the natural world can be discovered only by experiencing it with the growth, development and interaction of the natural environment (Khudhair & Jasim ,2020: p1858). Therefore, it is very important to provide the child with many toys, in a variety of ways and in a way that arouses his attention, so we must make his environment full of diverse and exciting experiences derived from his daily life as if he were living in a familiar atmosphere (ADAS,1995: 154). A study (Meiboudi & Khalilnejad, 2011 ) indicates that knowledge of the importance of the educational environment for children is one of the educational objectives in kindergarten, which should be taken care of at an early stage of through the provision of activities that provide the child with information and concepts about the components of the environment and provide opportunities for reflection on the environment and its beauty, what develops the child's love Nature, its appreciation, respect for it and respect for other creatures are not what children are distinguished at this stage by activity, curiosity, love of exploration and a lot of questioning). ( Karimzadegan & Khalilnejad,2011:p1020-1021).

#### Previous studies

The research and investigation process carried out by the researcher resulted in obtaining a number of previous studies related to the research topic, some of them local, some Arab and some foreign:-

1- The Hidden Chambers study (2000) ,(Assessment of the children's Garden in the development of greater sensitivity to the environment in preschool children).

The study aimed to determine the functions of the garden and evaluate its effects in increasing children's information, and to achieve the research goal, the descriptive method was used, and the researcher used the method of recording observations, personal interviews and a key questionnaire, as a tool for collecting data, and the research sample was an educational kindergarten inside the residential complex of the American University (Carbandale in the form of small gardens, namely: A dinosaur garden, a garden planted with vegetables and fruits, a garden containing plants with a smell, a garden containing various plants, a garden of birds and butterflies, and the use of the percentage as a means of calculation to reach the research results, which indicated the following: that the kindergarten garden was an effective tool in the field of educating children and enriching their information about plants, animals, insects and the environment, in addition to the fact that the presence of the garden in to use it and make it part of the education curriculum (middle & chambers 2000).

2- Shura tattoo Study (2018) (study (study and evaluation of public kindergarten Gardens "future roses kindergarten in the suburb of Qudisia")

The study aimed to study the reality of public kindergarten Gardens in the suburb of Qudisia by evaluating the future roses kindergarten Garden in terms of meeting the requirements of children, and to achieve the research goal, a descriptive approach was used, and the open questionnaire is a data collection tool, which was distributed to the research sample of (200) people with kindergarten children, the questionnaire was analyzed using the SPSS program and using the percentage as a calculation method to reach the research results that indicated : That there is a lack of interest in the kindergarten garden, which led to the unavailability of any service facility or recreational elements, the absence of cultivated areas, insufficient and diverse play equipment, and the lack of periodic maintenance of it, (Shura wishma:2018 ).

### 3- Daoud's study (2020) (design of outdoor spaces for kindergartens in Baghdad).

In kindergartens for age groups (3-5) years to meet some of their wishes at such a stage, and to achieve the research goal, the descriptive approach (content analysis) was used, as for the research tools were represented by: personal observation, on-site interview and questionnaire form, which was distributed to a random sample of (102) managers, assistants and teachers distributed to (18) kindergartens in different locations of the city of Baghdad, and the percentage:-

- It was noted that some sample kindergartens contain a small percentage of green open spaces and are not fully qualified for children of this age , some of them have large, neglected and underutilized tiled areas, and there are kindergartens that have large areas dedicated not to create gardens, but they are unused and neglected, and other kindergartens do not have a garden at all since it was established until now, as there is no interest in this vital aspect.
- The lack of gardens of the simplest types of natural ingredients.
- The two dominant shapes in garden design are the rectangle and the square ‘
- Among the plants in the garden are flowers of various types, in addition to green areas, trees, shrubs and aromatic plants. (Daoud:2020).

### **Research methodology and procedure:-**

First: research methodology

According to the title of the research, the descriptive method (content analysis) will be used as the appropriate method for describing facts related to the subject of the field study and interpreting them in terms of the available facts, as the descriptive method is defined as ( a way to describe the subject to be studied through a correct scientific methodology and depict the results reached on expressive digital forms that can be interpreted (Mahmoudi,2019: 46).

Second: the research community

The research community is referred to as (all the vocabulary of the phenomenon that the research is studying(Mohamed & et a, 2016: p119 ).

The current research community included the government kindergartens affiliated to the general directorates of education in Baghdad for the academic year (2022-2023) next to Karkh ( the first, second and third) and Risfa (the first, second and third) of the (191) kindergartens, and the statistics of the research community were obtained from the Statistics Department of the general directorates of education in Baghdad, as shown in Table (1)

Directorates	The number of Riyadh	The campus
Karkh 1	31	82
Karkh 2	30	
Karkh 3	21	
Risfa 1	28	109
Risfa 2	58	
Risfa 3	23	
Total		191

Third: research sample

The research sample is defined as (a partial group of society that has the same original characteristics as the one to which it belongs and whose purpose is to obtain information related to the society by selecting a number of people for the study representing the society) (Al-Shayeb, 2009: 55).



The researcher chose the simple random method of a representative sample of kindergartens, the number of which was (38) kindergartens out of the total number of (191) government kindergartens, i.e. by (20%) of the total community, and due to the fact that the number of kindergartens of the Risfa education directorates is more than the number of kindergartens of the Karkh education directorates, and to achieve the highest degree of credibility, the two researchers selected (16) kindergartens from the three Karkh education directorates out of (82) kindergartens and (22) kindergartens from the three directorates of al-Risfa education are out of (109) kindergartens, the percentage is (20%) in both sides (Al-Karkh and Risfa), and the graph below.

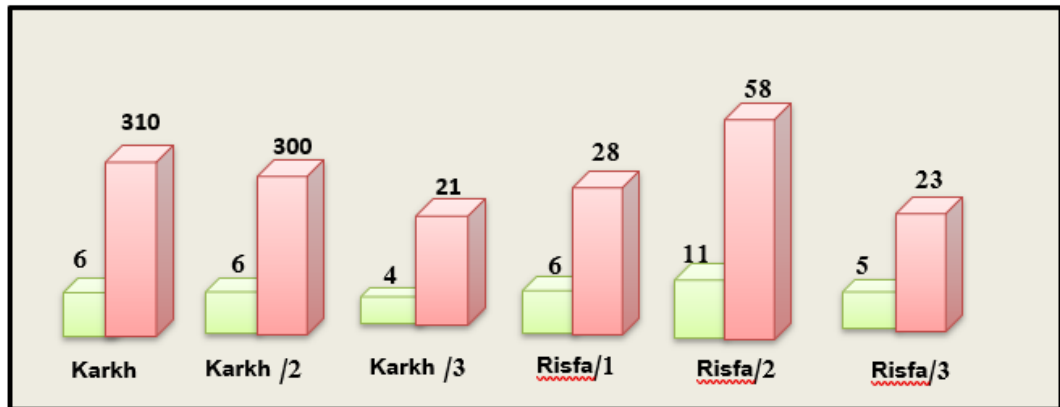


Chart positions / Shows the preparation of kindergartens of the selected sample from the research community in the city of Baghdad next to (Karkh and Risfa)

Fourth: research tool

To achieve the research objectives, collect the required information and reach the results, the two researchers prepared an observation form that included a number of Main and sub-paragraphs as follows :-

Observation Form

- 1- types of educational corners (Pets Corner, a corner dedicated to agriculture by children with supplies (gardening), sand and water basins and their supplies, insects corner) available in the garden.
- 2- -types of cultivated plants (Elias shrubs), various flowers, large, medium and small trees, palms, perennial flowering herbs, silhouettes)
- 3- type of trees ( perennial, deciduous, flowering)
- 4- type of flowering (Gori, sunflower, Clematis, Cardinia, climbers)
- 5- types of insects (ladybugs, butterflies, locusts inside greenhouses, bees inside greenhouses)
- 6- Animal species (birds, cats, fish, rabbit, turtles).

- Tool construction:

The search tool has been prepared through the following:-

- The purpose of reviewing the previous international, Arab and local literature and studies within the field of research.
- A preliminary survey study conducted by the researcher for a number of kindergartens\* about the reality of the gardens of those kindergartens.
- The need to familiarize yourself with the International and local standards for kindergarten Gardens.

- Believe the tool :-

Apparent truthfulness means" the general appearance of the measurement,that is, its external framework, including the type of vocabulary, how it is formulated, clarity and degree of objectivity " (Mutashar, Al-Waily, 2021:104).

In order to identify the apparent honesty of the research tool and verify the validity of its paragraphs, the researcher presented it to a group of specialized experts in the field of (kindergarten, education, psychology, design, agricultural engineering, architecture), and it was agreed on the validity of the paragraphs of the form by (100%)opinions.

\* Preliminary survey study of a number of kindergartens

2/10/2022 AL-Alhan /AL-Shaquq / Daoudi / Al-Qusr AL-Ahmer.

4/10/2022 kindergarten of happiness / Flowers/AL-Nessren / Paradise.

9/10/2022 Rawdat Al-Abeer / Al-balabel/Al-Kadhimiya / Arab House

-Stability of the tool :

Constancy in scientific research is defined as(the property that expresses the convergence of the values and readings of the measurement standard each time it is applied, or the amount of the measurement standard does not change when it is repeated at different times and different samples, and when the results do not change after the instrument is re-applied, this means that the instrument is constant) (Al-Qahtani et al., 2020:190-191).

In order to verify the stability of the form for determining the design axes, the two researchers used external analysts with experience in the field of design\*, and the stability of the tool was confirmed after the two experts and the two researchers analyzed the same model of the research sample and then compared the results of the analysis as follows: Table (2)

Table (2) Constancy

Analysts	Percentage of agreement
Senior analyst+ researcher	96%
Second analyst+ researcher	95%
First analyst + second analyst	94%
Overall average	95%

-Application of the tool :

To apply the research tool, the two researchers prepared a program for (38) days to visit kindergartens, one kindergarten every day, and an hour was allocated for each kindergarten, and this was in the period between ( 7/12/2022-31/1/2023), and they took taking into account Fridays, Saturdays and public holidays, where the two researchers filled out the form themselves by recording their personal observations about the axes of the kindergarten garden design, and after completing the data collection for all the gardens in the sample kindergartens, the data was unpacked and appropriate statistical means were used To get to the search results.

-Statistical methods:

To get to the research results accurately, the researcher adopted a number of statistical and computational methods, including:

$$\text{Percentage} = \frac{\text{Total repetitions}}{\text{Total collection}} \times 100$$

### **Presentation and discussion of the results:-**

Identify the educational environmental reality of kindergarten garden designs in Baghdad and Identify the most important design and functional problems that suffer from them.

1-parking available in the garden:-

As for the presence of various corners in the kindergarten garden, the results showed that there are no types of corners available in kindergarten Gardens, Table (3).

Table (3) Percentage of available corners in the garden

Parking available in the park	Redundancy	Percentage
Pet corner	0	0%
A corner dedicated to planting by children with supplies (gardening)	0	0%
Sand and water basins and accessories	0	0%
Insect corner	0	0%
Total	0	0%

2-The Garden contains plants: -

The research results showed that (80%) of kindergarten gardens contain plants and(20%) do not contain plants. Table (4)

Table (4) Percentage of plants in the garden

Paragraphs	Yes		No		Total %	
	Redundancy	Percentage	Redundancy	Percentage	Redundancy	Percentage
The garden contains plants	20	80%	5	20%	25	100%

3-types of plants:-

As for the types of plants found in the garden, the research results showed the following: the percentage of using shrubs(Elias) (33%) of the gardens contain shrubs (Elias, (19% ) various flowers, (17% ) large, medium and small trees, (19% ) palms, (4%) flowering and perennial herbs, (4% ) silhouettes and(4%) various other plants such as( Cactus and tomato).

\* It should be noted that the division was made on (52), which represents the number of repetitions due to the presence of more than one type of plants in one Garden, Table (5)

Table (5) Percentage of plant species grown in the garden

Types of plants grown in the garden	Redundancy	Percentage
Elias bushes	17	33%
Variegated flowers	10	19%
Large, medium and small trees	9	17%
Palm trees	10	19%
Perennial flowering herbivores	2	4 %
Silhouettes	2	4 %
Other plants such as (Cactus, tomato)	2	4%
Total	52	100%

4-type of trees:-

As for the type of trees planted in Riyadh, whose gardens contain trees, the research results showed that ( 63%) of them are permanent trees, (7% ) of them are deciduous trees, and (30%) of them are flowering trees.

\* It is worth noting that the division was made by (27), which represents the sum of duplicates due to the presence of more than one type of trees in one Garden, Table (6)

Table (6) Percentage of the type of trees planted in the gardens

Types of trees planted in the garden	Redundancy	Percentage
Sustainable	17	63%
Deciduous	2	7 %
Flowering	8	30%
Total	27	100%

5-there are flowers in the garden:-

As for the presence of flowers in the garden, the research results showed that only (40% ) of kindergartens have flowers in the garden and( 60% ) of them do not have flowers, as indicated by the results of paragraph (27), Table(7).

Table (7) Percentage of presence of flowers in the garden

Paragraphs	Yes		No		Total %	
	Redundancy	Percentage	Redundancy	Percentage	Redundancy	Percentage
There are flowers in the garden	10	40%	15	60%	25	100%

6 - Type of flowering:-

With regard to the types of flowers planted in the garden, the research results showed that(40%) Gori, (10%) Cardinia, (10%) Jasmine, (10%) climbers, (30% ) other species such as ( Daudi, Raski, carnations), and sunflowers were not planted in any of the kindergarten Gardens where the results of their research showed(0% ).

\* It is worth noting that the division was made by (10), which represents the total number of repetitions in Riyadh in which there are various flowers table (8).

Table (8) Percentage types of flowers planted in the garden

Types of flowers planted in the garden	Redundancy	Percentage
Gori	4	40%
Sunflowers	0	0
Cardinal	1	10%
Jasmine	1	10%
Climbers	1	10%
Other flowers(dahlias, racemes, carnations)	3	30%
Total	10	100%

7-types of insects available in the insect corner:-

As for the types of insects available in the insect corner, the research results showed that there are no types of insects in all kindergarten gardens, as the percentage of their presence is(0%), Table(9).

Table (9) Percentage of insect species found in the insect corner

Types of insects found in the insect corner	Redundancy	Percentage
Ladybug	0	0%
Butterflies	0	0%
Locusts inside greenhouses	0	0%
Bees inside glass houses	0	0%

8-the types of animals found in the animal corne:-

As for the types of pets found in the animal corner, the research results showed that there are no types of these animals in kindergarten gardens, as the percentage of their presence is(0%), table (10).

Table (10) Percentage of animal parking in the park

Types of animals found in the animal corner of the park	Redundancy	Percentage
Birds	0	0%
Cats	0	0%
Fish	0	0%
Rabbits	0	0%
Turtles	0	0%

#### Discussion of the results

All kindergarten gardens are almost completely devoid of all corners of various kinds, such as a corner for pets, a gardening corner, an insect corner, a drawing corner, a corner for water and sand games with their supplies, a feeding corner....This leads to the loss of one of the most important sources of self-learning and exploration, deprivation of the sources of development of aesthetic sense and artistic taste, and its role in increasing his interaction with nature, achieving pleasure for him and alleviating psychological stress, which reflects positively on reducing his aggressive behavior, as for the plants that were planted in the garden, the results showed that despite All gardens are based on plants, but most of them lack diversity, which means depriving the child of one of the most important natural sources of learning, as well as the inability of the garden to attract the child's attention and achieve pleasure for him, and most of the plants available are permanent trees followed by shrubs, then palms, flowering trees, then large, small and medium trees and diverse roses, which results indicated limited diversity and limited to two or three types and a very small percentage.

#### Conclusions

1-most kindergartens in Baghdad have gardens, and some have more than one garden, but it does not represent the typical educational environment that a kindergarten child needs, as it does not correspond to his characteristics and does not meet the various demands of his development that are agreed upon by international standards.

2-all gardens are free of important educational pillars represented by the pillars of pets and insects.

3-The absence of one of the important educational corners in all kindergarten Gardens, which is the gardening corner for children.

#### Recommendations

1-Allocate sufficient funds to take care of the garden and equip it with everything that makes it a suitable educational environment for the child and commensurate with his characteristics and achieve the requirements of his development.

2-he held training courses for the educational staff on the importance of the garden and its active role in providing the child with information and experiences from its primary sources in a smooth and effective way, as well as its role in achieving pleasure and pleasure for the child, building his body, strengthening his muscles and social relations and unloading his surplus energy stores.

3-the Ministry of education should hold an annual competition among Riyadh to choose the most beautiful and best educational garden in order to develop gardens in kindergartens.

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