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Faculty of Engineering
Master of Architecture Program

Strategies to Improve the Architectural Design for Kindergartens In Gaza Strip

استراتيجيات تحسين التصميم المعماري
لمباني رياض الأطفال في قطاع غزة

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Declaration

The work provided in this research is the researcher's own work- unless otherwise referenced - and has not been submitted elsewhere for any other degree or qualification.

Student name:**Signature:****Date:**

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Abstract:

This research focuses on the current status of kindergartens in Gaza Strip with the aim of identifying problems and constraints related on the architectural situations and urban planning of these buildings. The research relied on the distributions of many questionnaires on a sample of kindergartens all over the Gaza strip provinces. The sample of the study represents about 24.5% of licensed kindergartens in Gaza strip.

The folds of this research include many questions and inquire about 6 main topics related on general information about the architectural situations of kindergartens, site plan analysis, interior spaces such as classrooms and activities rooms in order to know the availability of equipment, sets and tools for education and entertainment inside. The questionnaire also study the exterior environment and site coordination to measure the level of garden services and playgrounds status. The questionnaire was ended by the evaluation of kindergartens finishing for ceilings, walls, and floors which lead to estimate the availability and quality of furnishing in the interior spaces.

The study proves that the vast majority kindergartens in Gaza strip suffer from obvious shortage in the above mentioned subjects. It is in real need to new strategies and mechanisms in order to be improved and upgraded.

To prove this result the research is provided with analytical study for a neighborhood in Al-Shiek Redwan district with estimated area of 2.855 km square. This area include about 35 kindergartens. The analytical study proves that there are many problems in the urban planning of these kindergartens and there is scattered distribution all over the selected area. To evaluate the architectural situations of kindergartens at this area, 3 buildings have been analyzed in terms of site plan, building area, orientation and accurate description of kindergarten's schematics. The outputs confirm the findings of the questionnaires too. In the other hand, the research include a comparison among these kindergartens according to the Palestinian terms at the ministry of education.

Finally, proposals, mechanisms, case studies and design ideas are provided as recommendations and considerations for kindergartens in Gaza strip.

الملخص

يدور محور هذا البحث حول دراسة الأوضاع القائمة لمباني رياض الأطفال في قطاع غزة وتحديد المشاكل والمعوقات التي تعترضها، خاصة فيما يتعلق بالتصميم المعماري والتخطيط العمراني. وقد اعتمد البحث على توزيع عدد من الاستبيانات على عينة مكونة من 64 روضة أطفال موزعة على مناطق مختلفة من قطاع غزة، حيث تمثل هذه العينة ما يقرب من 24.5% من رياض الأطفال المرخصة في القطاع. وقد اشتملت طيات هذا الاستبيان على أسئلة واستفسارات حول 6 مواضيع رئيسية تتعلق بمعلومات عامة حول الروضة وتصميمها المعماري، تخطيط موقع الروضة، الفراغات المعمارية كالفصول وغرف الأنشطة ومدى توفر التجهيزات والادوات والوسائل التعليمية والترفيهية بداخلها. كما تطرق الاستبيان إلى دراسة الفراغات الخارجية ومكوناتها وتنسيق الموقع ومدى توفر و فاعلية العناصر التنسيقية وألعاب الأطفال فيها. وانتهى البحث بدراسة التشطيبات الداخلية والخارجية للجدران والأسقف والأرضيات ومدى توفر وجودة الأثاث والفرش في القاعات الصفية و الفراغات الداخلية الأخرى.

وقد أثبتت الدراسة أن الغالبية العظمى من رياض الأطفال في قطاع غزة تعاني من قصور واضح في الجوانب المذكورة آنفاً وأنها بحاجة إلى استراتيجيات وآليات من أجل تحسينها والارتقاء بها.

ولتأكيد هذه النتيجة تم إجراء دراسة تحليلية لمنطقة جغرافية في حي الشيخ رضوان تقدر مساحتها ب 2.855 كيلو متر مربع تشمل على 35 روضة أطفال، ثبت من خلالها أن هناك مشاكل تخطيطية لهذه الروضات، وأن هناك عشوائية في اختيار مواقعها، وأن هناك تكدر واضح في توزيعها الجغرافي على المنطقة المختارة.

ليس ذلك فحسب فقد تم اختيار ثلاث روضات من هذه المنطقة وأجريت عليها راسة تحليلية فيما يتعلق بالموقع والمساحة والتوجيه والوصف الدقيق للفراغات الداخلية والمساحات الخارجية، وكانت هذه الدراسة تؤكد مخرجات الاستبيان أيضاً. كما أجريت دراسة مقارنة بين هذه الروضات وفق المعايير المحلية الفلسطينية التي تشترطها وزارة التربية والتعليم لمباني رياض الاطفال.

وقد انتهت الدراسة بتقديم مجموعة من الآليات والمقترحات والأفكار التصميمية والحالات الدراسية للعناصر المعمارية المكونة لمبنى الروضة والتي تم اختيارها بناء على الاعتبارات التصميمية والتخطيطية لمباني رياض الأطفال.

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Chapter 1 - General Introduction

1.1 Background

Human development is very important because of its active ingredient roll in the community in terms of being a critical resource for the overall development of the state. Man is the mastermind who solves problems of the present and plan the successful drawing policies for the future. While the child is the first step in the stages of the lifespan, he must have the enough care and attention, because he needs other requirements which are necessary for his upbringing and nurtured properly.

The social and educational studies have confirmed that concern for children should begin in the early years of his life, because it is the first rule for the child thinking and his social composition. kindergartens are the base for all levels of education in the future, because the child receives a group of necessary cognitive science for mental thinking which acquires him the expertise to evaluate his behavior. It is also the stage that gives the child ready for school. Many studies proved that children who entered kindergarten have greater speed in learning and find no difficulty in primary school (Mordan,2008).

In view of the local realities in which children live, it is noticed that the Palestinian society live in hard political, economic and social conditions and suffer from apparent lack of services and declination in the level of education (Masri, 2011). This situations are reflected on the educational buildings in the Gaza Strip, including the kindergartens. " studies indicated that children kindergartens in Gaza Strip have the exceptional circumstances and lack of the minimum specifications of kindergarten criteria. Many kindergartens have been established at houses not allocated mainly for this purpose. They suffer from severe shortage of educational, recreational and health services (Bseiso,2000). This situation is reflected negatively on the slide of children which need a necessary care, whether at the level of the educational environment or at the level of recreational services. Therefore, it is necessary to consider this problem and know its dimensions to search for appropriate solutions in order to create a suitable environment for the child in Gaza Strip. This study attempts to find architectural solutions of kindergarten buildings in order to improve the architectural design for a set of its elements such as internal spaces and outdoors. The research includes several alternatives for different designs to study, compare and analyze according to planning and designing criteria which are compared with global case studies. The research access to a range of mechanisms and strategies for improving the architectural design of kindergartens in the Gaza Strip.

1.2 Study Limits

Territory, southeastern Mediterranean Sea coast. Area: (365 sq. km). Population: (2011 est.) 1,574,000. The region lies northeast of the Sinai Peninsula and is also the location of the city of Gaza, which has been a prosperous trading center for much of its history. The territory takes its name from Gaza, its main city. (Ministry of Local Government, 2011). Figure (1.1) displays the map of Gaza strip.



Figure (1.1) Map of Gaza Strip Source – (Ministry of Local Government, 2011)

This study was conducted in 2011 which coincided with the fact the blockade of the Gaza Strip, imposed by the Israeli occupation about three years after the war on Gaza Strip. The study was limited with kindergarten buildings in the Gaza Strip, especially the region of Al- Sheik Ridwan area.

1.3 Problem Statement

During the field visits to a group of kindergarten buildings in Gaza Strip, it was found that a large proportion of them suffer from a clear shortage in its architectural design. They are often not appropriate to the needs of child and are not equipped as required and in most cases, lacks the facilities and entertainment services.

1.4 The Research Hypothesis:

Development of the environment surrounding children and raise them to the required level - through the improvement of architectural design - will improve the educational and entertainment environment for kindergartens in the Gaza Strip. And will thus help in the development of the child mental capacities, provide him with different skills and assist in educational attainment.

1.5 Research Objectives:

The research aims to gain access to new mechanisms and strategies to improve the architectural design for the enhancement and upgrading of the premises of kindergartens in the Gaza Strip, from which to improve the environment surrounding children, provide the appropriate atmosphere and the necessary care for the child. This study will provide design ideas to improve the internal and external environment that ensures the quality of education and entertainment for children of kindergartens.

Other Sub-Goals Can Be Summarized As:

- Identifying the current situations of kindergarten buildings in Gaza Strip.
- Helping the child to interact within the environment of the kindergarten and define the role of effective architectural design in achieving this.
- Access to a set of strategies and mechanisms to deal with the status of kindergartens in Gaza Strip and try to improve them.
- Presenting a range of architectural designs of kindergartens that can be a model reference when designing similar buildings.
- knowledge which is necessary for pre- school children.

1.6 The Importance of the Research:

The importance of the study comes from the fact that it provides solutions proposed for many problems in the premises of kindergartens in Gaza Strip, particularly as these facilities need some planning and design standards and requirements.

Also, this study is important in terms to submit proposals, ideas and architectural solutions in realistic and local view, where the Palestinian community live in special situations which need appropriated submission proposals. This study represents an important reference for researchers, designers, interested people in children fields.

1.7 Research Questions:

•The first question: What are the current conditions of the premises of kindergartens in the Gaza Strip?

This question will be answered in the folds of the third chapter of the study and it can be identified:

- The status of kindergarten in terms of efficiency and effectiveness of building design and its relevance to the functions and special needs of children.
- Education quality and efficiency of teaching methods and the appropriateness of architectural space and interior design for this purpose.
- The current status of recreational activities and the availability of playgrounds units including the planning and coordination of the site.
- The availability of extracurricular halls such as chambers of games, music and arts (if design standards and requirements of children are considered).

• The second question: What is the role of architectural design in improving the learning and entertainment environment for kindergarten?

This subject will be included in Chapter II of the study, and through the answer of this question many goals can be achieved :

- Planning and landscaping of kindergartens site in better way. This include good site selection, proper guidance and landscaping of outdoor Gardens.
- Effective architectural spaces design and good choice of relations among them to meet the needs of children.
- Improvement of child's learning through a range of design solutions in the coordination of internal walls, the design of teaching aids and arranging furniture in the interior spaces.
- determining the impact of improving the architectural design at children behavior and activity in the kindergarten

• The third question: What are the strategies and mechanisms that can help in improving the architectural design of the premises of kindergartens in the Gaza Strip.

This question is the objective of the study can be answered through the fourth quarter. It includes range of ideas and design proposals and standards for the architectural spaces design in the kindergarten, such as:

- Classroom Halls.
- Halls of extracurricular activities.
- systems of open zonings and corners.
- children's libraries.
- playgrounds and open spaces.

1.8 The Research Methodology:

The research relied on a systematic and clear method of the scientific research methodologies. It is the analytical and descriptive Methodology, which depends on collecting information about the problem in order to pinpoint, analyze and then reproduce the results which can be generalized. This has been done through surveys , field visits and interviews in order to access the current situation to a group of children buildings in the Gaza Strip, then performing analytical studies of these samples to find out the shortcomings and try to reach good solutions through a range of proposals aimed to enhance the development of current situations.

The research relied on the distributions of many questionnaires on a sample of kindergartens all over the Gaza strip provinces which represents about 24.5% of licensed kindergartens in Gaza strip. The questionnaire include many questions and inquire main topics related on the architectural situations of kindergartens such as site plan analysis, interior spaces, exterior environment and site coordination. The questionnaire also include the assessment of kindergartens finishing for ceilings, walls, and floors which lead to estimate the availability and quality of furnishing in the interior spaces.

There have been several questions in folds of the questionnaire, including what is specific to managers of kindergartens to determine their problems and constraints they face and to know the goals and ambitions that are looking for. Other questionnaires seek for teachers in the kindergarten to see their requirements and interaction within and outside the classroom. Many questions focus on the children in kindergartens - which is the study sample - to determine their satisfaction and acceptance of the surrounding environment, to identify their wishes and directions, and to read their intelligence and thinking, in order to access the appropriate architectural design that meets their requirements.

The outputs of the questionnaire have been proved by the analytical study for a neighborhood in Al-Shiek Redwan with estimated area of 2.855 km square. To evaluate the architectural situations of kindergartens at this neighborhood, 3 kindergartens have been analyzed in terms of site plan, building area, orientation and accurate description of

kindergarten's schematics. The research include a comparison among these kindergartens according to the Palestinian terms at the ministry of education.

A set of proposals, alternatives and design ideas have been developed to solve the problem. These will then be evaluated, compared and verified in several ways including computer programs, and questionnaires aimed many directors of kindergartens.

The study also depend on similar buildings as case studies to take advantages of their planning and design approach. According to the analytical study for these cases, evaluation and comparison with local buildings, a set of mechanisms and strategies have been promoted in order to improve the architectural design of kindergartens in Gaza Strip.

1.9 The Previous Studies:

There are many studies in this area. Some of local studies are focusing on the current situations of kindergartens in Gaza Strip, and offer a range of solutions and ideas. Others are Arabian Studies conducted on children in Egypt, Jordan and Saudi Arabia to access some mechanisms for children intelligence measurement and mental development in order to improve the learning environment .

The main notice of these studies that the child is the subject of researches which respect the psychological, social and other similar fields, without raising too often to study of the architectural environment and the surrounding area. But there is a group of specialized foreign studies which presenting the matter from other angles as good case studies. These researches are addressed in the analysis of architectural elements necessary for the educational and recreational environment in kindergarten.

These studies helped to select the chapters in this research. The educational studies are important to understand a good view of the nature and behavior of the child in order to find out his requirements and needs. This will determine the nature of his movement and knowledge, his hobbies and orientations, that have been offered in the first chapters of the research. In other point of view, case studies give more advantages of the global knowledge for the design and planning criteria that must be taken in mind for kindergartens design. Then statistics and local studies were very important to know the indicators and figures that can develop strategies and mechanisms to provide ideas and architectural solutions accordingly.

A set of these studies can be listed as:

1- (ANERA , 2006) - American Near East Refugee Aid - Evaluation study of the quality of education of kindergartens in Gaza Strip - published search - The Islamic university magazine.

In this study produce a good evaluation of the quality of education in kindergartens which proved that there are a real problem in many fields. The researcher distributed many questionnaires to 54 kindergartens in many provinces of Gaza strip. The study aimed different subjects such as the headmasters, the books, the teachers and the environment of these kindergartens. The study found that there is a need for various improvements in the domain of curriculum, teacher's qualifications, educational materials, and parents participation. The study found that preschools use a traditional classroom-based approach. As for teacher's qualifications, the study considered that all teachers and holders of general Secondary Certificate and that one third of them are equipped with University degrees. Educational materials were found to be inadequate in preschools and parents participation was found to be limited. According to principals and teachers there are many obstacles, most challenging and inadequate experience in the field of early childhood education.

2- (UNICEF, 2011) Report on needs assessment for kindergartens in the Gaza strip.

This study was conducted by Ministry of Education and Higher Education with financial support from UNICEF. The study examined four main aspects of early childhood education, the educators, children's learning, kindergartens environment and the family-kindergarten relationship. In addition, it also defines the obstacles and challenges, from the perspective of kindergarten principals and educators, to provide the quality of early childhood education and to determine the needs assessment for kindergartens in Gaza strip. The study took place over the course of 6 months including the development of assessment tools, data collection and analysis. The quantitative and qualitative data collected by the Ministry of Education had been processed using a scientific and systematic methodology. The study built on the basis of all licensed kindergartens in Gaza strip. Data collection came from 3 main sources: kindergartens principals, kindergarten educators and families. The study outcomes indicated that there is real need for interventions in the areas of psychosocial support, qualification of educators , educational means, parental involvement.

3- (Mohammed Alamaira, 2000) - kindergartens in Gaza strip between fact and ambition – published Samed Journal magazine.

This study aims to address the current situations of kindergartens in the Gaza Strip during the period 1990 – 1995 and clarify existing problems in kindergartens. The research found that the vast majority of kindergartens in Gaza strip are not appropriate for children education because of the shortage in services providing in these buildings. The research aimed to study the demand on kindergartens in this period. As a result for distributed questionnaires, the percentage of the enrollment rate indicates that there is an increasing demand comparing with the previous years. The research also study the situations of kindergartens at this period, then produce future vision as an ambition for development through a proposed program. The researcher study the situation of kindergartens in two periods, the Israeli occupation and the Palestinian Authority by.

4- (Nadera Bseiso, 1998) – The problems of institutions of kindergartens in Gaza city – master studies – the Islamic university of Gaza.

This is a master study of the faculty of education in the Islamic University of Gaza – the research proved that there are an obvious lack of the facilities and services in kindergartens in Gaza city throughout many field visits and distributive questionnaires. The total number of kindergartens at this year were 97. The researcher distribute questionnaires on 25 kindergartens which present about 25% of the total number of kindergartens. There were several kinds of questionnaires which discussed the topics of health situations, building conditions, tools and equipment and teachers problems in these kindergartens. Then the researcher produced many recommendations to solve problems in this term.

5- (Gary Moore, 1996) - Designed Environments for Young Children: Empirical Findings and Implications for Planning and Design - Faculty of Architecture University of Sydney.

The researcher recalls here to design criteria and planning for buildings of children, such as size, shape , direction of the building, its location and the need to coordinate the internal environment. He determine the types of spaces such as attention spaces, external and refers for a good coordination of the site in line with the needs of the child.

6- (Mohammed Suleiman, 2003) - Proposed strategies for the development of kindergarten in Palestine according to the concept of total quality management – published in the educational Magazine - En shams university - vol. 29

This study seeks the concept of total quality in education and how it can be applied to kindergartens, which indicates that the application of the concept of total quality in education leads to the events of substantial results in the acquisition of basic science and improving the learning environment for children. The researcher refers to the quality of the environment surrounding the child as an important part of the concept of the total quality. The researcher studies the impact of kindergartens spaces on the child behavior to improve the important role of the environment on the total quality in education. Then the researcher suggests a series of steps and mechanisms by which access to the overall quality of education in kindergartens.

7- (Mark Dudek , 2000) - architecture of schools and kindergartens : The new learning environments oxford - architectural press.

This research is summarized on the architecture of educational buildings and indicates to design criteria and planning for improving the educational environment. The study includes the development of architectural elements of schools and kindergartens. It is also supported by many illustrations and case studies all over the world.

1.10 Study Outline


This research is divided into seven chapters:

The first chapter describes the plan of the research throughout general introduction which includes the research problem , objectives , mythology and the study limitations. The second chapter discusses the childhood period of human life with more explanations about the stages of child growth, the importance of this stage , and characteristics of preschool children. This chapter also introduces the situation of Palestinian children and their needs according to the international human rights.

As the early childhood is an essential period for the child, it is important to give more attention to kindergarten buildings. So, the third chapter discusses the definition, the history, the importance and the activities in kindergartens. It also presents the kindergarten situation in Gaza strip. This gives clear vision about the physical status , shows the adequacy to the preschool considerations and introduces general concept about its requirements.

Then the study moves to the architecture side of this topic. The fourth chapter give clear vision about the environment of kindergartens which includes the interior space and the exterior open zones which have great impact on the child behavior. So, the architectural consideration and the urban criteria have been addressed.

The next chapter provides the research with field visits to the kindergartens that includes questionnaires describing the current architectural situations of kindergartens in Gaza strip. The last chapter produce some proposals and suggestions for kindergartens in Gaza strip.



•chapter 1 •General introduction
•chapter 2 •childhood and children situation in Gaza strip
•chapter 3 •kindergartens and their situations in Gaza strip
•chapter 4 •The role of architectural design in improving the kindergarten's environment
•chapter 5 •Assessment of the architectural situations for kindergartens in Gaza strip
•chapter 6 •kindergartens Analytical study
•chapter 7 •proposals and recommendations

Chapter 2 - Childhood and Children Situation in Gaza Strip

2.1 Introduction

Childhood is a fundamental stage and its influence extends into adult life. To guarantee that children have the best possible start in life is the way to ensure the development and progress of nations.

Most of the physical and mental development of a person takes place in childhood. It is the critical period for establishing good habits of both exercise and nutrition which can last a lifetime (Foser, 2008).

As childhood is a critical period of human life, this chapter presents general concepts about childhood that clarify its importance and characteristics to know the need of children development. Childhood period can be divided into three main stages, early childhood, middle childhood and adulthood. This chapter focuses on early childhood characteristics and points to the child need. It also mentions the rights of children around the world especially the educational rights. It will also recognize the reality of the Palestinian child life and will give a clear image about children situations in Gaza strip. And this chapter displays more information about childhood in Palestine that includes demographic, psychological and social situations.

2.2 Childhood Definition

The legal definition of "child" generally refers to a minor, otherwise known as a person younger than the age of majority. "Child" may also describe a relationship with a parent or authority figure, or signify group membership in a clan, tribe, or religion; it can also signify being strongly affected by a specific time, place, or circumstance (American Heritage Dictionary, 2006). The United Nations Convention on the Rights of the Child defines a child as "a human being below the age of 18 years unless under the law applicable to the child, majority is attained earlier (CRC, 2008). Biologically, a child is anyone between birth and puberty or in the developmental stage of childhood, between infancy and adulthood. Children generally have fewer rights than adults and are classed as not able to make serious decisions, and legally must always be under the care of a responsible adult (Wikipedia, 2011).

2.3 Stages of Childhood Growth

There are three broad stages of development: early childhood, middle childhood, and adolescence. The definitions of these stages are organized around the primary tasks of development in each stage. Society's ideas about childhood shift over time, and research has led to new understandings of the development that takes place in each stage.

The definitions of the three stages of development are based on both research and cultural influences. Implications for schooling are drawn from what is known about how children develop, but it should be emphasized that growth is influenced by context, and schooling is a primary context of childhood. It is also important to be aware that the structure and expectations of schooling influence the ways in which children grow and learn (Education Encyclopedia,1998). Figure (2.1) displays the main three stages of children growth.

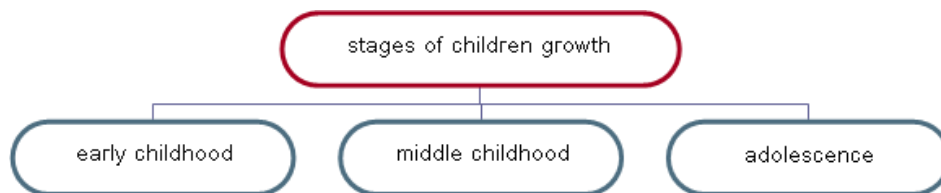


Figure (2.1) stages of children growth

Source (Education Encyclopedia,1998). Adapted by the author

2.3.1 Early Childhood

Early childhood is a time of tremendous growth across all areas of development. Physically, between birth and age three a child typically doubles in height and quadruples in weight. Bodily proportions also shift, so that the infant, whose head accounts for almost one-fourth of total body length, becomes a toddler with a more balanced, adult-like appearance. Despite these rapid physical changes, the typical three-year-old has mastered many skills, including sitting, walking, toilet training, using a spoon, scribbling, and sufficient hand-eye coordination to catch and throw a ball. Between three and five years of age, children continue to grow rapidly and begin to develop fine-motor skills. By age five most children demonstrate fairly good control of pencils, crayons, and scissors. Gross motor accomplishments may include the ability to skip and balance on one foot. Physical growth slows down between five and eight years of age, while body proportions and motor skills become more refined (Baldwin, 2006).

Physical changes in early childhood are accompanied by rapid changes in the child's cognitive and language development. From the moment they are born, children use all

their senses to attend to their environment, and they begin to develop a sense of cause and effect from their actions and the responses of caregivers (Beaver, 1995).

Children growth includes the formation of peer relationships, gender identification, and the development of a sense of right and wrong around the age of four years . when children are five years old , they enter into a broader peer context and develop enduring friendships. Social comparison is heightened at this time, and taking other people's perspective begins to play a role in how children relate to people, including peers. By age eight, children are able to demonstrate some basic understanding of less concrete concepts, including time and money. However, the eight-year old still reasons in concrete ways and has difficulty understanding abstract ideas (Baldwin, 2006).

2.3.2 Middle Childhood

Middle childhood brings many changes to a child's life. By this time, children can dress themselves, catch a ball more easily with only their hands, and tie their shoes. Developing independence from family becomes more important now. Events such as starting school bring children this age into regular contact with the larger world. Friendships become more and more important. Physical, social, and mental skills develop rapidly at this time. This is a critical time for children to develop confidence in all areas of life, such as through friends, schoolwork, and sports (CDC,2010).

During middle childhood children learn the values of their societies. As with physical development, the cognitive development of middle childhood is slow and steady. Children in this stage are building upon skills gained in early childhood and preparing for the next phase of their cognitive development. Children's reasoning is very rule based. Children are learning skills such as classification and forming hypotheses. While they are cognitively more mature now than a few years ago, children in this stage still require concrete, hands-on learning activities. Middle childhood is a time when children can gain enthusiasm for learning and work, for achievement can become a motivating factor as children work toward building competence and self-esteem (Baldwin, ,2006).

2.3.3 Adolescence

Adolescence is an important period for cognitive development as well, as it marks a transition in the way in which individuals think and reason about problems and ideas. In early adolescence, individuals can classify and order objects, reverse processes, think logically about concrete objects, and consider more than one perspective at a time.

However, at this level of development, adolescents benefit more from direct experiences than from abstract ideas and principles. As adolescents develop more complex cognitive skills, they gain the ability to solve more hypothetical problems (Education Encyclopedia, 1998). Teenagers are confronted by a diverse number of changes all at one time. Not only are they undergoing significant physical and cognitive growth, but they are also encountering new situations, responsibilities, and people. With so many intense experiences, adolescence is also an important time in emotional development. Mood swings are a characteristic of adolescence. While often attributed to hormones, mood swings can also be understood as a logical reaction to the social, physical, and cognitive changes facing adolescents, and there is often a struggle with issues of self-esteem (Malton, 1988).

2.4 The Importance of Early Childhood

Early childhood generally encompasses the first eight years in the life of an individual. These years of a child's life play a very important role and help in proper development of children. Recent research has shown that early eight years in any children's life are crucial time because during this phase their brain develops and much of its 'wiring' is laid down. The education experiences and relationships a child has along with nutrition can actually affect child mental growth enormously. While good early childhood education helps the brain to develop in healthy ways, improper education or study without play on the other hand may affect brain development in a different manner. So the experiences and the learning of a child in early years can support them in their entire life (Baldwin, 2006).

2.4.1 The Importance of Early Education

Some of the long-term benefits of early childhood education in quality preschools include: greater parental involvement, fewer referrals to special education or remedial services, higher grades, better social skills, and greater ability to focus. As well, some studies show that children attending pre-school are more likely to graduate and pursue higher education, and be well integrated socially as an adult. Pre-schools may greatly benefit children with developmental or physical disabilities. Also important is considering a child's individual personality. Individual differences in children mean that not all children will derive equal benefit from early childhood education (Christensen, 2011).

Pre-school education is the most important education stage where children acquire basic behaviors. Scientific studies in the education field have revealed that education should begin

in early stages of childhood in order to have more qualified and healthy generation. A child comes to world in a certain social environment and becomes a holder of this social and cultural heritage. One of the goals of education and may be the most important one is to ensure the social development of the individuals and community and also to realize balance adaptation to the environment. The realization of this adaptation can only be managed by apprehension of the early childhood period in kindergartens (Mehmet,2008).

2.4.2 The Importance of Play for Kindergartens' Children

When viewed as a learning process, play becomes a vehicle for intellectual growth, and it continues to be the most vital avenue of learning for kindergartners. In contrast, research indicates that academic gains from non-play approaches are not lasting. Play involves not only use of materials and equipment, but also words and ideas that promote literacy and develop thinking skills. Consequently, play also promotes problem-solving, critical thinking, concept formation, and creativity skills. Social and emotional development also are enhanced through play. Play fosters holistic learning. Children integrate everything they know in all domains when they play (Doyle,1992).

The child is able to play with another child, gradually learning to share and take turns. Eventually the group grows larger, to three or four children. By the time a child enters kindergarten, he or she is usually able to join in and enjoy group experiences (Lindon, 2001). A conception of play that recognizes the significance of autonomous, self-directed learning and active exploration and manipulation of the actual world gives a promising approach to the good development of children. Kindergarten teachers agree with researchers and experts who contend that child-centered activities that provide cognitive challenges, and also facilitate the development of autonomy and social skills, are essential for young children (ONeil,1992).

2.5 Prosperities and Characteristics of Early Childhood

Early childhood, typically defined as the pre-school years, is an important and distinct stage in childhood development. The general consensus is that biological, cognitive, and socio-emotional processes all play a considerable role children's growth. Psychologists and philosophers are generally in agreement about general characteristics of early childhood development. According to Santrock study- 2005, some of these characteristics of early childhood development are presented. Figure (2.2) can display these properties and characteristics of early childhood that Santrock mentioned.

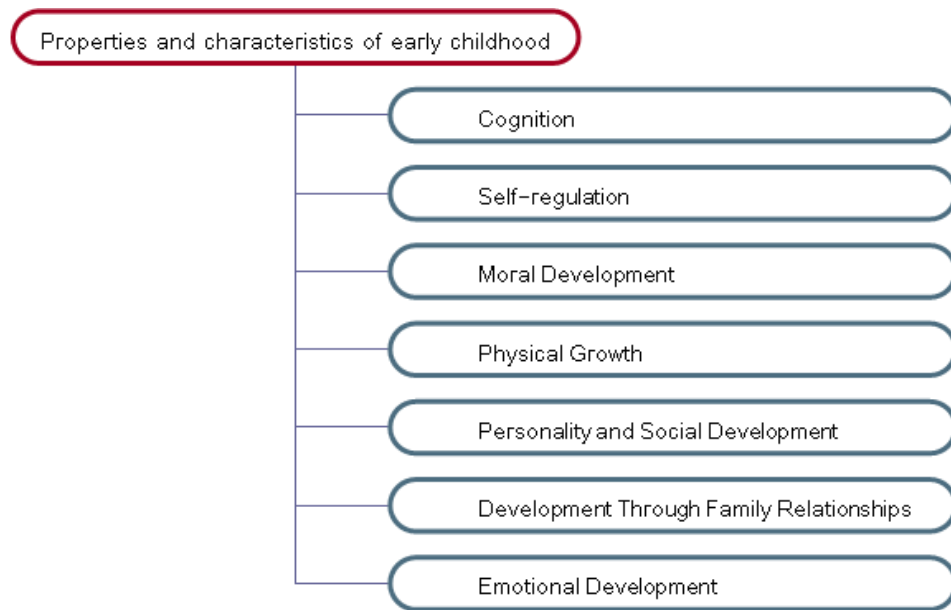


Figure (2.2) Properties and characteristics of early childhood
source Santrock study- 2005 Ad apted by the author

According to (Santrock, 2005) these Prosperities and characteristics are:

A. Cognition

To begin with, of all the parts of the body, the brain grows most during early childhood, making for dramatic changes in cognitive development. Children's memory greatly advances after infancy. Young children can remember large amounts of information. Second, children learn to convey thoughts and ideas relating to their everyday lives by using words and images. Children can't distinguish their perspectives from others. But most psychologists realize that all people can have false beliefs by the age of five.

B. Self-Regulation

Self-regulation is a deep, internal mechanism that enables children as well as adults to gage in mindful, intentional, and thoughtful behaviors. Children learn to self-regulate and control behavior without help of others.

C. Moral Development

Children begin to make progress in terms of moral development. This has much to do with the values that are instilled by parents. As time goes on in early childhood, children are able to develop their own senses of right and wrong.

D. Physical Growth

In order to grow, children's physical needs must be met. In early childhood, they require proper amounts of sleep. Most kids are able to get enough rest by sleeping throughout the night and taking one nap during the day. They also need timely immunizations, the right nutritious foods and exercise to lead healthy lives. Gross motor skills improve dramatically in early childhood if such needs are met.

As children play, they develop abilities to engage in many physical activities, from playing ball games to dancing and gymnastics.

E. Personality and Social Development

A child's social world influences the development of his personality and purposeful behavior. As children get into the latter stages of early childhood, they are given more responsibility. If they do not rise to the challenge of taking responsibility, they are likely to experience anxiety and guilt. In early childhood, children generally prefer to play in same-sex groups.

F. Development Through Family Relationships

Family relationships play a crucial role in the development of children. The parent-child relationship is one of the single greatest influences on a child's self-esteem and sense of self-control. Children make rapid language advancements at this stage. The type of environment parents create can set the foundation for literacy if books and effective verbal exercises are utilized.

G. Emotional Development

Preschoolers become increasingly able to discuss their emotions and those of others. They can understand that people can react to the same event with different emotions. Children at this stage can even develop the type of empathy that will allow them to understand and respond to a friend's sadness.

2.6 The Requirements and Needs of Early Childhood

Children are humans and have human needs. They also have additional needs unique to their particular situation. It is a profound responsibility of parents and kindergartens to provide for children needs, which can be classified for basic and developmental needs.

2.6.1 Basic Needs

Basic needs mean that there are some requirements for life being. Thurman study- 1985 mentioned some of these basic needs which include the following:

A. Food And Shelter

Children cannot acquire their own food or sustain any reasonable shelter. The initial responsibility of their parents or care houses is this to provide a roof over their heads and food in their stomachs.

B. Physical Safety

Children cannot protect themselves from aggressive adults (and other, stronger, children). They thus need others to provide physical safety, keeping them from harm and defending them when they are threatened or attacked.

C. Emotional Security

As their minds are developing, there is much that children do not understand and even the most innocent situations can be deeply distressing (Thurman, 1985).

Beyond the basic needs, in order to become functioning members of society, children need support in developing and learning important and useful skills. The National Association for the Education of Young Children (NAEYC,2008) had published a journal includes some of these developmental needs:

2.6.2 Developmental Needs

A. Social Skills

Children develop into people who must live and work with others. For this they need to learn the rules of society. They need to be able to communicate their ideas and desires. They need to persuade and change minds.

B. Career Abilities

To become functioning adults, children need to learn all kinds of things, both at school and outside. Many abilities that are useful in developing careers are not taught at school. This can be very much an exploratory activity as children discover their talents and the things that motivate them.

C. Internal Skills

Children also need to learn to be happy in themselves and to cope with the difficulties and traumas of life. They thus need to learn self-confidence and emotional maturity (NAEYC,2008). Figure (2.3) summarizes basic and developmental needs of children.

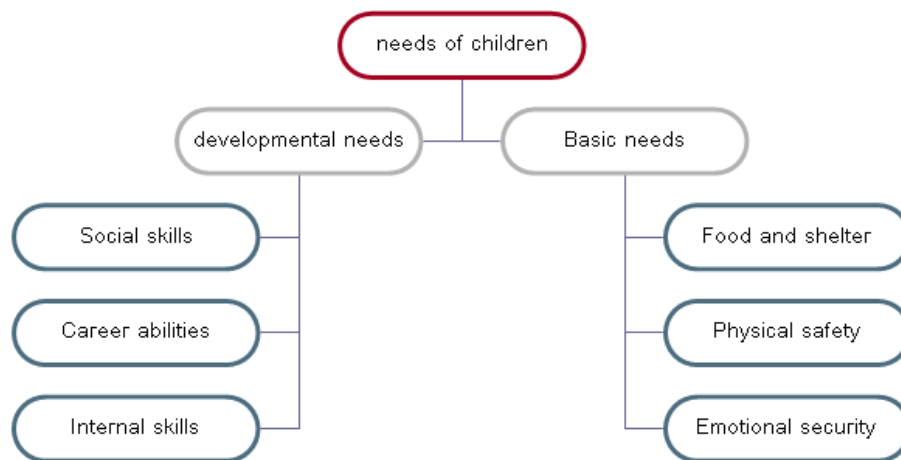


Figure 2.3 the requirements and needs of children

Source (NAEYC,2008) and (Thurman, K. 1985). Adapted by the author

2.7 Children Rights

Human rights apply to all age groups; children have the same general human rights as adults. But children are particularly vulnerable and so they also have particular rights that recognize their special need for protection.

There are basic standards set minimum entitlements and freedoms that should be respected by governments. They are founded on respect for the dignity and worth of each individual, regardless of race, colour, gender, language, religion, opinions, origins, wealth, birth status or ability and therefore apply to every human being everywhere. With these rights comes the obligation on both governments and individuals not to infringe on the parallel rights of others. These standards are both interdependent and indivisible; we cannot ensure some rights without other rights (Unicef,2008).

2.7.1 Definitions of Children's Rights

Consensus on defining children's rights has become clearer in the last fifty years. A 1973 publication by Hillary Clinton (then an attorney) stated that children's rights were a "slogan in need of a definition". According to (Ahearn, 2007), the notion of children's rights is still not well defined, with at least one proposing that there is no singularly accepted definition or theory of the rights held by children.

Children's rights law is defined as the point where the law intersects with a child's life. That includes juvenile delinquency, due process for children involved in the criminal justice system, appropriate representation, and effective rehabilitative services; care and protection for children in state care; ensuring education for all children regardless of their origin, race, gender, disabilities, or abilities, and; health care and advocacy(Ahearn, 2007).

2.7.2 Types of Rights

Children's rights are defined in numerous ways, including a wide spectrum of civil, cultural, economic, social and political rights. Rights tend to be of two general types: those advocating for children as autonomous persons under the law and those placing a claim on society for protection from harms perpetrated on children because of their dependency. These have been labeled as the right of empowerment and as the right to protection (Wikipedia, 2011).

2.7.3 Education Rights

Education is a fundamental human right: Every child is entitled to it. It is critical as individuals and as societies, and it helps pave the way to a successful and productive future. Education enhances lives. It ends generational cycles of poverty and disease and provides a foundation for sustainable development. A quality basic education better equips girls and boys with the knowledge and skills necessary to adopt healthy lifestyles, and take an active role in social, economic and political decision-making as they transition to adolescence and adulthood. Educated adults are more likely to have fewer children, to be informed about appropriate child-rearing practices and to ensure that their children start school on time and are ready to learn (UNICEF,2011).

2.8 Children Situation in Gaza Strip

It is necessary to spot a light on children's situations in Gaza strips . The following paragraph, presents demographic, healthy, educational and social situations of children in Gaza strip.

2.8.1 Demographic Situations

The study of age and gender contributes to understanding the demographic changes. The data of PCBS (Palestinian Central Bureau of Statistics) showed that the population in the Palestinian Territories in mid-2010, is 4.05 million of whom 2.51 million are in the West

Bank; 62.1%, and 1.54 million people in Gaza Strip; 37.9%. In 2010 The Palestinian population pyramid showed a high proportion of individuals under the age of 15 years 41.3%, while the proportion of elderly individuals is low. These percentages indicate high fertility rates and the fact that Palestinian society is a young society with a broad, young pyramid base. It has been estimated by the PCBS (Palestinian Central Bureau of Statistics) that the rate of natural increase in the population of the Palestinian Territory was about 2.9% in mid-2010. This is one of the highest rates in the world, since the average annual rate does not exceed 1.2%. The growth in the West Bank was estimated mid-2010 at 2.7% versus 3.3% in the Gaza Strip (PCBS,2011). Figure (2.4) displays the Population pyramid in the Palestinian Territory.

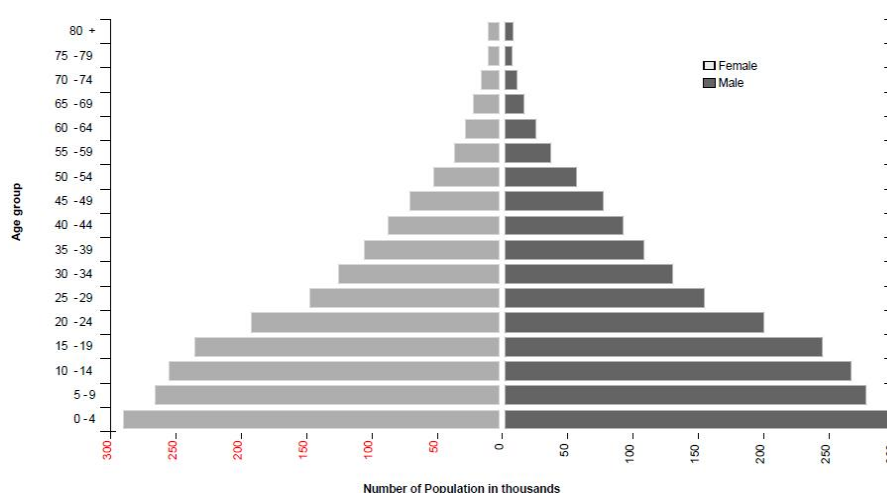


Figure (2.4) Population pyramid in the Palestinian Territory, mid 2010

Source - Palestinian Central Bureau of Statistics 2011

The following table displays the Demographic Indicators of children aged under 17 years in Gaza strip from the year 1997 to the year 2010.

Table (2.1) Demographic Indicators of children aged under 17 years in Gaza strip

Source- Palestinian Central Bureau of Statistics - demographic indicators - adapted by author

Selected Indicators	1997	2007	2008	2009	2010
Population in Gaza strip by Age	Demographic Indicators				
0-4	203,165	230,863	236,199	242,901	251,060
5-9	168,713	214,938	217,786	220,640	223,459
10-14	130,350	196,810	200,826	204,362	207,525
15-17	64,909	105,148	108,724	112,052	115,105

2.8.2 Health Situation

Understanding the significance of children is necessary in building the future of any society. The ongoing development of the child renders them the impact of surrounding internal and external factors. According to the Annual Report of the Palestinian Central Bureau of Statistics (Palestinian Children ,Issues and Statistics, 2011) these facts about the health of Palestinian children can be mentioned:

A- Children Suffer from Chronic Malnutrition.

Malnutrition in children often begins at birth and is associated with retarded physical and cognitive development. This, in turn, yields serious implications for the overall national development agenda.

Palestine is an exception as malnutrition is on the rise among children under-five. Between

the years 2000 and 2010, prevalence of malnutrition rose by 41.3% on the national level while Gaza Strip demonstrated a huge increase of 60.0%.Currently, 11 out of 100 children under-five suffer chronic malnutrition including 11.3% in the West Bank and 9.9% in Gaza Strip.

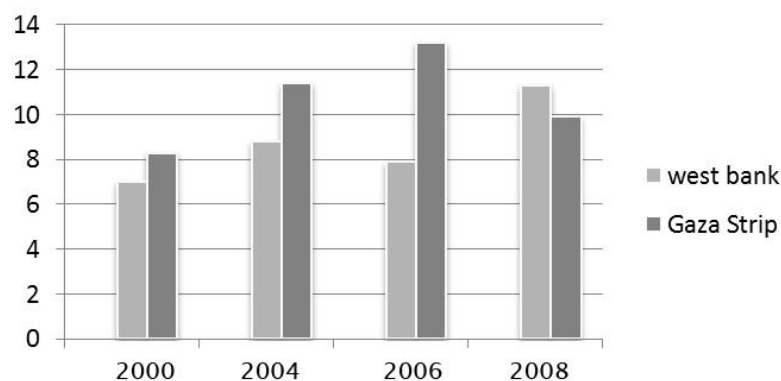


Figure (2.5) Prevalence of stunting among children under five, 2000-2010

Source - (PCBS,2011).

B - Underweight Rates

underweight is a significant indicator for measuring the prevalence of severe malnutrition rates. A decline in underweight rates had occurred between 2000 and 2010. the rates climbed in 2006 reaching a national rate of 4.9% in Gaza Strip.

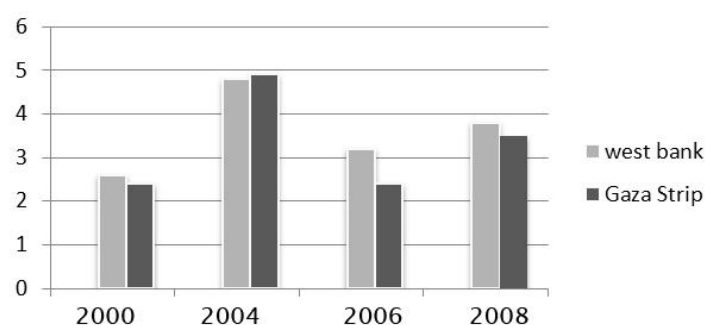


Figure (2.6) Prevalence of underweight among children under five, 2000-2010

Source - (PCBS,2011).

C - Mortality Rates

Child mortality rates over the last decade in Palestine are comparable to those in upper middle-income countries. Noticeably, the levels of infant and the under-five child mortality rates were on the decline until 2000 when they started to rise again during the period 2005-2010 due to the high rates of neonatal mortality, which affected the infants' mortality rates in general and reflected higher risk during pregnancy. Infant mortality rate in Palestine reached 20.6 per 1000 live births between 2005 and 2010. While Gaza Strip has the highest of these rates at 23.0 per 1000 live birth.

The under-five mortality rate was 25.1 per 1000 live births between 2005 and 2010. Gaza Strip had the highest rates at 29.2 per 1000 live births compared to the West bank at 22.1 per 1000 live birth.

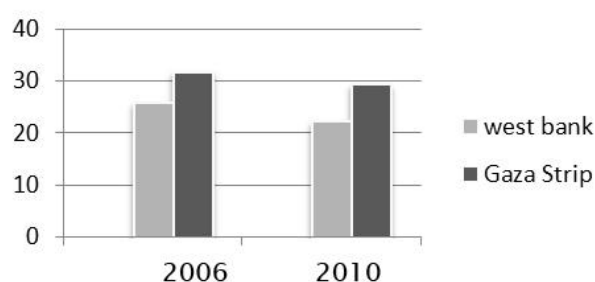


Figure (2.7) Under five child mortality rates by Region, 2006, 2010

Source - (PCBS,2011). Adapted by author

D – Anemia among children

The percentage of 19.4% of children 6-59 months have anemia; 25.6% in the West Bank and 13.4% in Gaza Strip.

In Gaza strip , Deir AL-Balah governorate reported the highest rate of anemia; 41.4%, followed by Gaza and Khan Yunis governorates; 31.3% and 21.8% , respectively.

Table (2.2) anemia indicators in Gaza strip among children under five years

Source- (PCBS,2011).

Gaza strip province	Deir AL-Balah	Gaza city	Khan Yunis	Gaza strip	West Bank
percentage	41.4%	31.3%	21.8%	13.4%	25.6%

2.8.3 Educational Status

The educational sector is one of the most important sectors in the society, which is given special attention by governments since it represents real investment in the future of nations.

Educational indicators are used to measure the government and society's performance in providing a suitable environment for children and youths' right to education.

Regarding Scholastic Year 2009/2010, the number of school students in the Palestinian Territory amounted to 1,113,802 student; of whom half are females. In addition, 40.6% of the students in Gaza Strip were enrolled in basic education (PCBS,2011).

A - Students in Basic Stage

At the outset of the scholastic year 2010/2011, 86.3% were enrolled in the basic stage; 59.4% of all students were enrolled in the basic education stage in the West Bank and 40.6% in Gaza Strip. A percentage of about 68.8% of total students were enrolled in governmental schools; 23.4% were enrolled in UNRWA schools, and 7.8% in private schools. The relatively large number of refugee students in Gaza Strip made the educational role of UNRWA in Gaza Strip larger than its role in the West Bank. There had been a steady increase in the numbers of school students between 1994/1995 and 2010/2011.

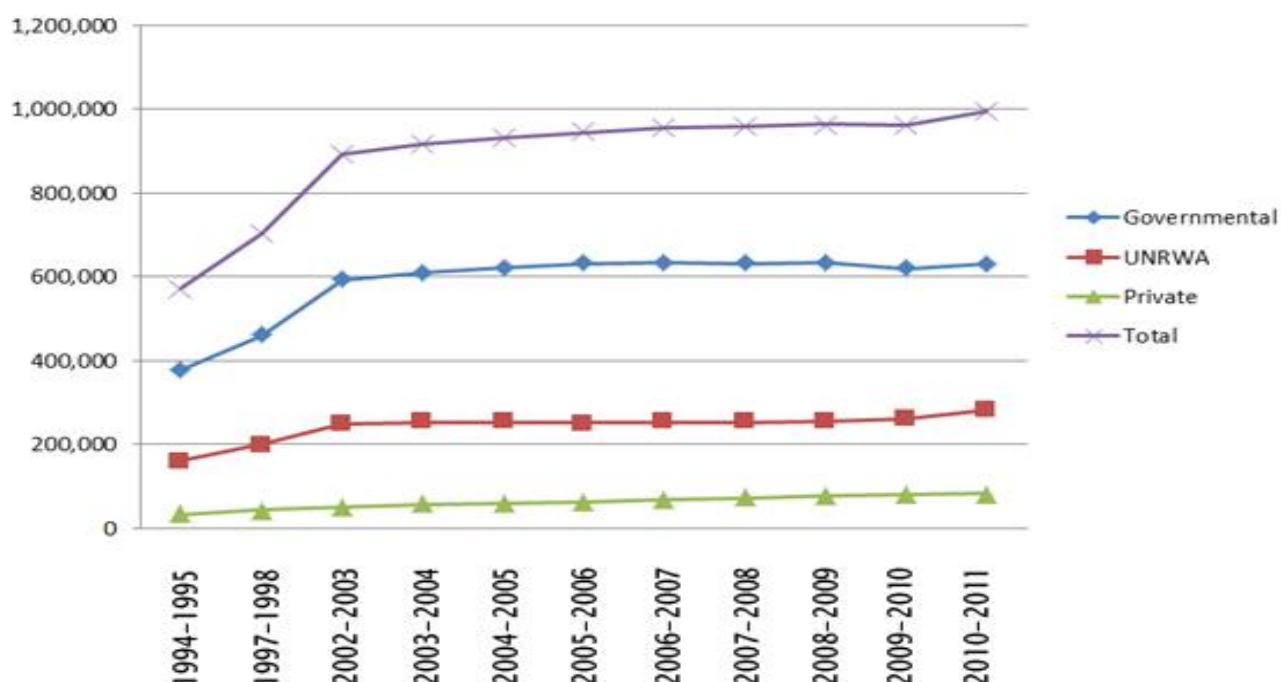


Figure (2.8) Distribution of Students in basic stage from 2004 to 2011

Source – (Ministry of Education and Higher Education – 2010)

B - Crowdedness Rate Per Class

Classroom density (number of students per classroom) is a good indicator of having the right educational environment. The average number of students per classroom in the scholastic year 2010/2011 was 32.0 at basic stage.

Comparing classroom density according to region, it is noticed that classroom density in basic schools is higher in Gaza Strip than in the West Bank (37.1 students per classroom in

Gaza Strip and 29.7 students per classroom in the West Bank in 2010/2011).

Table (2.3) Students per class in basic stage

Source - (PCBS, 2011) Education Survey Database.

Selected Indicators	1994 /1995	1997 /1998	2002 /2003	2003 /2004	2004 /2005	2005 /2006	2006 /2007	2007 /2008	2008 /2009	2009 /2010	2010 /2011
West Bank Basic Stage	33.4	33.1	33.0	32.5	32.2	31.7	31.3	30.7	30.1	29.3	29.7
Gaza Strip Basic Stage	45.2	45.9	43.9	43.1	42.3	41.2	40.5	38.1	37.5	36.8	37.1

2.8.4 Social and Economic Situation

The poverty rate in 2010 indicated that the rate of the total distribution of poverty among Palestinian households in the occupied Palestinian Territories was 21.4% in 2010 (using consumption data), of which 22.8% is among households with children and 15.8% is among households without children.

Regarding Gaza Strip, 31.9% of households were suffering from poverty in 2010 (34.4% among households with children and 18.8% among households without children).

Table (2.4) Likelihood of being poor among households according to households monthly consumption by region, 2010 – Source- (PCBS,2011). data base of Palestinian Expenditure and consumption survey, 2010

region	With children		Without children	
	value	contribution	value	contribution
Occupied Palestinian territories	22.8	100	15.5	100
West Bank	16.4	46.2	14.6	66.4
Gaza Strip	34.4	53.8	18.8	33.6

The percentage of 26.9% of children in the Palestinian Territory were poor in 2010; 19.0% in the West Bank, and 38.4% in Gaza Strip.

Table (2.5) Percentage of children in poverty by region, 2010
Source - data base of Palestinian Expenditure and consumption survey,2010

region	poverty	Deep poverty
Occupied Palestinian territories	26.9	14.6
West Bank	19	8.8
Gaza Strip	38.4	23.1

The results of labor force survey 2010 showed that the percentage of employed children, whether being paid or unpaid, amounted to 3.7% of the total number of children; 5.7% in the West Bank and 0.6% in Gaza Strip. In addition, 63.0% of the employed children were classified as unpaid family members (94.2% females, 57.9% males), compared to 31.4% employed as paid working for others (3.0% females and 36.1% males).

Table (2.6) Percentage distribution of children 10-17 years by employment status and selected characteristics, 2010 Source- (PCBS,2011). Labor Force 2010 - Labor Force Database

Characteristics	employed	Un- employed	total
Occupied Palestinian territories	3.7	96.3	100
West Bank	5.7	94.3	100
Gaza Strip	.6	99.4	100
sex			
males	6.3	93.7	100
females	1.1	98.9	100
age			
10-14	2.3	97.7	100
15-17	6.1	93.9	100

Data showed that 47.0% of employed children are working in agriculture sector; 49.0% in West Bank and 24.7% in Gaza Strip, and 27.1% are employed in trade, restaurants and hotels; 24.9% in the West Bank and 62.1% in Gaza Strip. (PCBS,2011)

Table (2.7) Percentage distribution of employed children 10-17 years by economy activity and region, 2010 - Source- (PCBS,2011). Labor Force 2010 - Labor Force Database

Economy activity	West Bank	Gaza Strip	Palestinian territories
Agriculture, hunting, foresting	49	24.7	47.6
Commerce, resturants, hotels	24.9	62.1	27.1
Other economic activities	26.1	1.2	25..3
total	100	100	100

2.8.5 Children Situations During the Israeli Occupation

A- Arrested Children

The Israeli occupation deprives detained Palestinian children from their basic rights awarded by international agreements regardless of their religion, race or ethnicity. These rights prohibit random imprisonment, and guarantee knowing the reason of imprisonment, the right of having a lawyer, informing families about the reason and place of their children's imprisonment, connections to the outside word, refuting the allegations and having human and dignified treatment. Despite the international agreements, Israel

violates these norms and practices by using extreme types of psychological and physical punishment against Palestinian children

in jails not only during interrogations but during other stages. Israel practices racial discrimination against Palestinian children. It has a double-standard law when dealing with Jewish children who receive a fair judgment. Furthermore, Israel considers Jewish children to be those under 18 while Palestinian children are those under 16 years old (Abu qtaish, 2003). Table displays an estimated number of children arrested during alaqsa intifada.

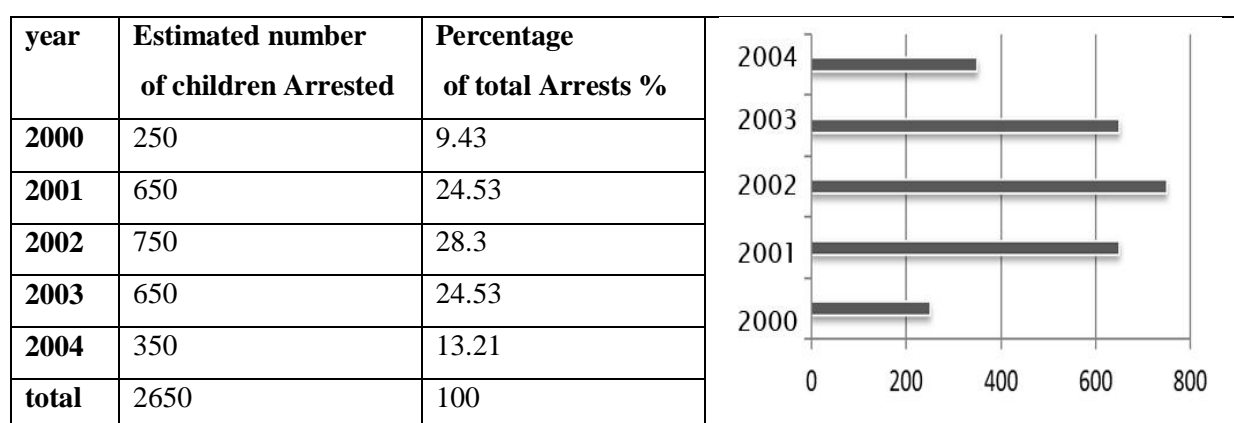


Figure (2.9) Estimated Number of Child Arrests, September 2000 – June 2004 Source - Defence for Children International / Palestine Section (DCI/PS , 2005) - adapted by author

According to the data of the Ministry of Detainees Affairs in 2011, the Israeli occupation authorities are holding 221 child in the age group 13-18 years, amid harsh conditions and flagrant violations of all rights. The Ministry of Detainees Affairs had also revealed that among these children, there were more than 34 child under the age of 16 years. Detained children constitute about 3.7% of the total detainees in Israeli jails (Ministry of Detainees Affairs, 2011).

In addition, the Israeli authorities exercise inhumane interrogation methods that include deprivation of sleep for several days, applying psychological stress, insults and verbal abuse, as well as violent shaking (carrying the child and shake him frequently till the child loses consciousness). Detained children are also subjected to torture methods such as spraying them with cold and hot water for long periods, forcing them to eat ice cubes, in addition to applying loud noise to the ears causing great harm and psychological stress to the detained child (Ministry of Detainees Affairs, 2011).

B- Education Status and the Intifada

The Israeli measures include the closure and siege of the Palestinian Territory and banning students from arriving to their schools, and killing, arresting and insulting teachers and students, as well as shelling school buildings, closing schools, and occupying schools for use as military posts and for detention purposes.

During Al-Aqsa intifada, Israeli occupation military forces have closed 9 schools in order to confiscate them for military posts; 269 schools were destroyed through shelling by missiles and tank shells, and during 2002/2003 498 schools were closed due to closure and curfew, in addition to 1,289 schools closed since the beginning of Al-Aqsa intifada.

C- Martyred And Injured Children

The right to life is the first and foremost right, which governments must safeguard. Nevertheless, data showed that the Israeli government uses all of its might to violate the Palestinian children's right to life. Israeli forces use all types of weaponry against Palestinian civilians in the Palestinian Territory. The force used against a civilian population is excessively disproportionate, and has resulted in a large number of Palestinian children and adults being either martyred, injured and/or disabled. Between 2000 and 2006, 786 Palestinian children were martyred, constituting 19.8% of the total martyrs; 344 children were martyred in the West Bank and 440 in Gaza Strip. During Al-Aqsa Intifada 43,761 Palestinians were injured, of which 29,096 were in the West Bank and 14,665 in Gaza Strip. and 28,822 Palestinian children were injured till September 28, 2005 States Parties undertake to respect and to ensure respect for rules of international (DCI/PS , 2005).

Table (2.8) Number of martyred and injured children during al Aqsq intifada (2000 – 2006) -

Source – (DCI/PS , 2005) - adapted by author

Martyred children			Injured children		
Gaza strip	West bank	total	Gaza strip	West bank	total
440	346	786	14,665	29,096	43,761

D- Indicators Of Killed Children

The total number of killed children by the Israeli occupation military was 595 children from the year 2000 to 2004 distributed by age as in the table below.

Table (2.9) Number of children killed by the Israeli occupation military

Age	2000	2001	2002	2003	2004	total
0-8	4	13	50	16	5	88
9-12	9	21	33	22	15	100
13-15	34	31	62	47	22	196
16-17	47	33	47	45	39	211
total	94	98	192	130	81	595

E- Psychological Impact On Children

Palestinian children live in conditions of Israeli violence that are similar to the worst periods of excessive violations and stress against children. Israeli occupation forces use all means of weaponry against Palestinian civilians including children. The harsh situation has its worst impact on children's psychology, hindering their social development, as well as subjecting children to direct, excessive physical Israeli violence. The degree of obvious psychological disturbance due to crises varies from one child to another according to the child's experience and the impact of the incidents on them and the way people around them deal with the incident.

Some of the psychological impacts on children include: absentmindedness, loss of memory and concentration, depression and sadness, restlessness, violence, disobedience, feeling unsafe thus staying with adults, bedwetting, sleeplessness or excessive sleep, nightmares, indigestion, loss of appetite. The Israeli violence has resulted in more children becoming obsessed with playing war games and their drawings became more influenced by pictures of Israeli violence.


The Psychosocial Survey 2004, carried out by the Palestinian Central Bureau of Statistics in April and May 2004 interviewed about 3,232 male and female children, aged (5-17) years. Data showed that the Palestinian children aged 5-17 years are suffering from a negative psychological attitude; 11% are suffering from extreme nervousness and continuous shouting, 10.8% from fear of loneliness, and also from fear of darkness, 8.4% are suffering from bad temper, 7.1% are suffering from frustration, 6.3% are suffering from nightmares and 4.3% have increased thinking of death (PCBS,2004).

Table (2.10) Indicators of Psychological Impact of Israeli occupation on Children
- Source (PCBS,2004).

Percentage %	Psychological Impact on Children
11	extreme nervousness and continuous shouting
10.8	fear of loneliness and also from fear of darkness
8.4	suffering from bad temper
7.1	suffering from frustration
6.3	suffering from nightmares
4.3	have increased thinking of death

2.9 Conclusion

The childhood period is the most important stages in human life. Where represents the mainstay of all stages in the future. The previous chapter summarized general information about the early childhood and the different periods of his growth. Every stage of child growth has its own characteristics and requirements. So it is important to understand the child behavior in order to adequate the surrounding environment for his development. In this chapter the needs and rights of the children are mentioned .The reality of the Palestinian child and its healthy, psychological and social and educational situation are summarized in charts and graphs. As a result of the study, there is an obvious lack of children services in Gaza strip and the Palestinian children are in dire need of care and attention. The next chapter will focus on the educational environment for Palestinian children to know what are kindergartens situation in Gaza strip.



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Chapter 3 - Kindergartens and their Situations in Gaza Strip

3.1 Introduction

This chapter presents more information about kindergartens such as history, the importance, the activities and other related topics. As it was mentioned in the previous chapter, the child situations in Gaza strip is critical and in real need to be improved. It is also necessary to have general view at kindergartens in Gaza strip, to evaluate the current physical situations of the educational environment and to estimate the adequacy of learning and leisure environment for children needs in Gaza strip.

3.2 The Definition of Kindergarten

Kindergarten is a classroom program that consists of children ages three to seven years of age. For most children this is the first step towards developing social skills in a group setting without the assistance of parents. Most kindergartens share the objectives of teaching social skills, self-esteem and developing a child's academic ability (Riley, 2005).

According to Annual Report which was published by the Palestinian Central Bureau of Statistics the definition of kindergarten is "Any educational institution licensed by the Ministry of Education to offer child education services two years prior to the basic stage (for 4 years old or 5 years old children). Kindergarten education is divided into two stages. First Grade: Offering educational services to four-year-old children & Second Grade: Offering educational services to five-year-old children"(PCBS,2006).

3.3 History of Kindergartens

The child-centered kindergarten is not new; it has its roots in the 19th century. At that time, the kindergarten was envisioned as a "garden for children" (the literal meaning of the German word "kindergarten"), a place where children could be nurtured and allowed to grow at their own pace. While that image has changed somewhat over the years, the "roots" of sensitivity to children remain (ACEI,2005).

The first kindergarten was established by a man named Friedrich Froebel. Friedrich Froebel was known as the "Father of Kindergarten" because he developed the first kindergarten in Germany in 1837. His kindergarten developed theories and practices that are still being used today in kindergarten classrooms. His ideas were that children need to have play time in order to learn. Kindergarten should be a place for children to grow and learn from their social interaction with other children. The first kindergarten was established to help children of poverty and who had special needs (Sharp, 1996).

3.4 The Importance and Purpose of Kindergartens

Children attend kindergarten to learn to communicate, play, and interact with others appropriately. A teacher provides various materials and activities to motivate these children to learn the language and vocabulary of reading, mathematics, and science, as well as that of music, art, and social behaviors. For children who previously have spent most of their time at home, kindergarten may serve the purpose of helping them adjust to being apart from their parents without anxiety. It may be their first opportunity to play and interact with a consistent group of children on a regular basis.

Kindergarten may also allow mothers, fathers, or other caregivers to go back to part-time or full-time employment (ACEI,2005).

According to (Riley , 2005) the importance of kindergartens can be summarized as:

- Recognizing and accepts individual differences in children's growth patterns and rates by setting realistic curriculum goals that are appropriate to their developmental levels.
- Educating the whole child-with attention to his or her physical, social/emotional, and intellectual developmental needs and interests.
- Responding to the needs of children as developing, thinking individuals by focusing on the process of learning rather than on disparate skills, content, and products.
- Providing multiple opportunities for learning with concrete, manipulative materials that are relevant to children's experiential background and keep them actively engaged in learning and discovering through use of all the senses, leading to more input upon which thought is constructed.
- Providing a variety of activities and materials.
- Viewing play as fundamental to children's learning, growth, and development, enabling them to develop and clarify concepts, roles, and ideas by testing and evaluating them through the use of open-ended materials and role-enactment. Play further enables children to develop fine and gross motor skills, to learn to share with others, to learn to see others' points of view, and to be in control of their thoughts and feelings.
- Providing many opportunities for the use of multicultural and nonsexist experiences, materials, and equipment that enhance children's acceptance of self and others; these experiences enable children to accept differences and similarities among people, including those who are challenged in some way.

- Embracing the teaching of all content areas, especially when they are presented as integrated experiences that develop and extend concepts, strengthen skills, and provide a solid foundation for learning in language, literacy, math, science, social studies, health, art, and music and movement.
- Allowing children to make choices and decisions within the limits of the materials provided, resulting in increased independence, attention, joy in learning, and the feelings of success necessary for growth and development.

Utilizing appropriate assessment procedures, such as observation techniques and portfolios, to measure learning for all kindergarten children (Riley , 2005).

3.5 Activities in Kindergartens

Early childhood is a significant period in human development. It is the time when children begin to develop independence, initiative, decision-making ability, creativity, early literacy and numeracy skills, the ability to learn, the ability to relate to others, verbal communication skills, and feelings of self-worth! What young children learn at this stage will have a major impact on successful learning experiences in school, on personal development and on future participation in society. Table (3-1) displays that Kindergartens provide clear expectations in seven learning areas which they are:

Table (3-1) learning areas which Kindergartens provide

Source (LRC, 2010) - adapted by author

1.	Early Literacy
2.	Early Numeracy
3.	Citizenship and Identity
4.	Environment and Community Awareness
5.	Personal and Social Responsibility
6.	Physical Skills and Well-being
7.	Creative Expression.

The learning areas focus on the early learning's language , arts, mathematics, science, social studies, physical education, health and life skills, and the fine arts. They provide a transition to the subject area expectations of elementary schooling. Early learning in information and communication technology is included in instructional activities (LRC, 2010). Each Kindergarten program features a variety of spaces for independent and small

or large group activities. As most children need to be active, there will be a variety of work spaces. According to (Hobert, and Frankel,2005) the Kindergarten classroom may have learning centres of many types, such as:

- art – with painting and drawing materials for children to explore and express their feelings.
- construction – with blocks, manipulative toys and woodworking tools for children to design, create and build.
- cooking – with snacks and special foods for children to prepare and share
- dramatic play – with props for a house or store, puppets and dress-up clothes for children to enjoy imaginative play.
- games – with puzzles and table games for children to share, think and problem solve.
- library and – with a variety of books and tapes for children to read and listening listen to.
- numeracy – with manipulative materials and tasks for children to sort, count, classify, measure and learn number sense.
- music – with instruments and materials for children to express their feelings and listen to a variety of music.
- sand and water – with cups, spoons and funnels for children to measure and solve problems.
- science and – with such materials as seeds, plants and rocks for children to exploration observe and investigate.
- writing – with paper, pencils, markers, crayons and possibly a computer for children to express their thoughts and ideas.
- large motor – with an indoor or outdoor area for children to play games and skills develop physical skills (Hobert, and Frankel,2005).

3.6 Kindergartens Situation in Gaza Strip

3.6.1 Evolution of Kindergartens in Gaza Strip.

Gaza Strip has been substantially affected by the natural growth in the domain of establishing new kindergartens which emerged in the forties of twentieth century after Aref Alaref established the first preschool in Gaza in 1942. This was followed by the establishment of other schools with kindergartens mixed to them. So the idea become more and more common, it continued to be limited until the the past decade which witnessed the opening of many kindergartens every year. In 1981 there were 51 kindergartens in all

Gaza strip hosting 4790 children , but the number rose to 87 kindergartens in 1990 hosting 7137 children (ANERA, 2006).

During the Israeli occupation kindergartens were supervised by the ministry of Social Affairs. This continued to be the case until the Palestinian National Authority take over upon which there were 80 licensed kindergartens, including both public and private, along with about 100 unlicensed kindergartens. Afterwards, the supervision over preschools transferred from the Ministry of Social Affairs to the ministry of education (Suleiman, 2005).

Kindergartens in Gaza strip are distributed on different directorates. It is noticed that there is an approximate percentage of distribution between these regions. It is also satisfied by the ownership as in table (3-2)

Table (3-2) Distribution of kindergartens by directorate and ownership in Gaza strip by the year 2008 – source (Ministry of Education and Higher Education – 2008)

Directorate	Number of kindergartens	percentage	Owned	rented
North Gaza	46	17.5 %	23	17
Khan Younis	44	17 %	32	11
Rafah	39	15 %	22	16
Middle Area	37	14.5 %	16	14
East Gaza	38	14.5 %	27	7
West Gaza	56	21.5 %	27	24
total	260		174	89

According to the report on needs assessment for kindergartens in the Gaza strip by the year 2011, the total number of kindergartens are 346 kindergartens. The following table figure displays the distribution of kindergartens by governorate during the year 2011.

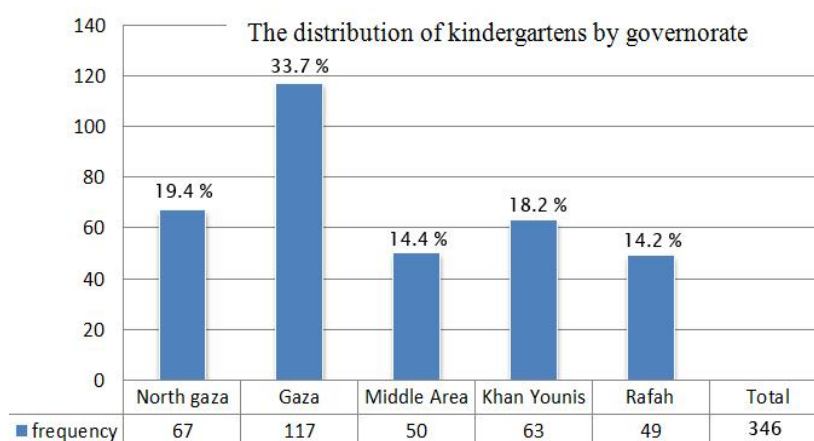


Figure (3.1) The distribution of kindergartens by governorate during the year 2011

Source - The report on needs assessment for kindergartens in the Gaza strip – (UNICEF, 2011)

3.6.2 Physical Situation

In general, kindergartens in Gaza strip suffer from the shortage of facilities and services provided. There is a lack care in the physical environment of the kindergartens. According to (Alamaira, 2000) studies there are many general problems in kindergartens of Gaza strip and are mentioned as:

- The increase of children number per class for the allowable limits.
- Lack of rooms, extra-curricular activities and which is not processed as required.
- The establishment of kindergartens in places with different performance of its function, such as re-use of residential houses or stores or any other similar spaces in use.
- There is an obvious Lack of adequate spaces for play and exercises activities, including the lack of green spaces, units of playground, other facilities and services.
- The Increase of children number per class for the allowable limits (Alamaira, 2000).

During the year of 2006 the American Near East Refugee Aid (ANERA) published an evaluation study of the quality of education of kindergartens in Gaza Strip, the results were nearly similar with the related physical environment, but it was noticed that the study had more focus on other sides of the problem such as books of students, teachers and their qualifications, and other educational issues.

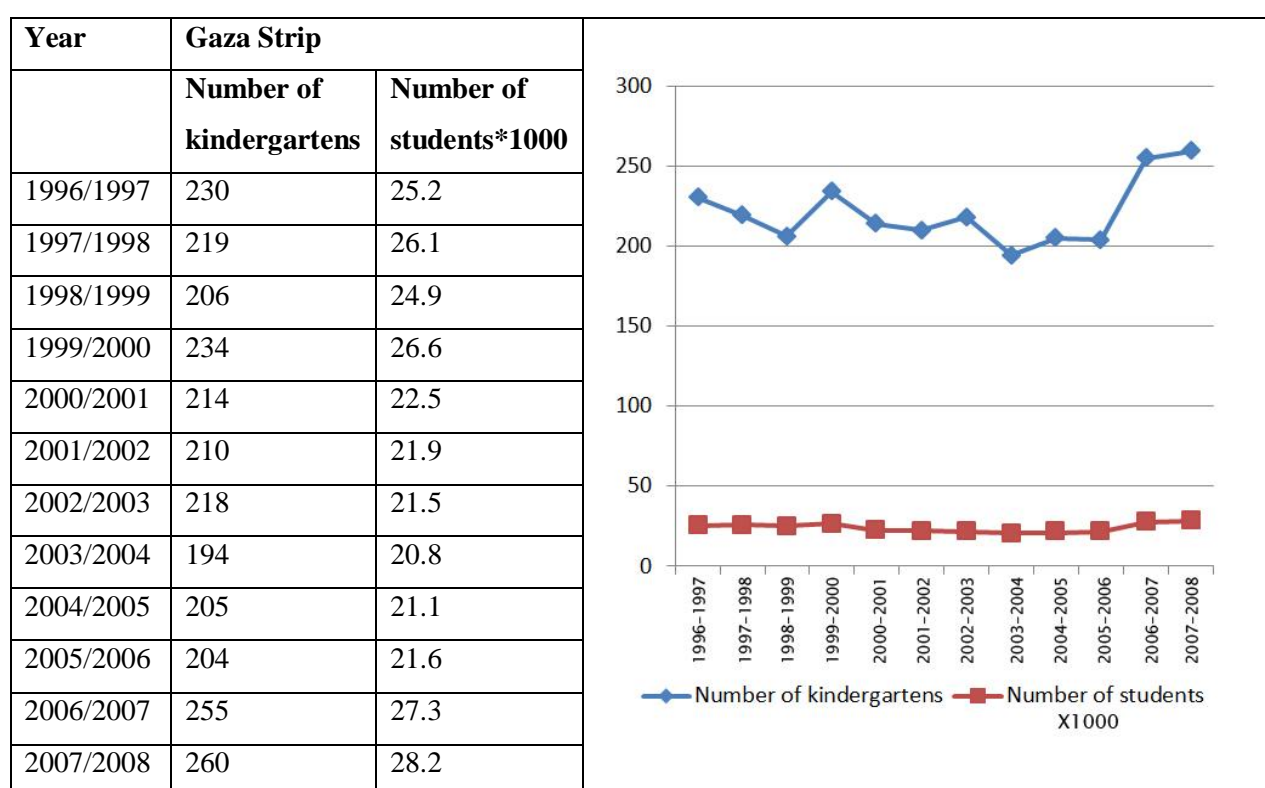
3.6.3 Kindergartens Indicators in Gaza Strip

Kindergartens are run by the private sector with the exception of two kindergartens, which are operated by the Ministry of Education. However, according to effective rules and regulations, kindergartens must be licensed by the Ministry of Education.

The increase and decrease of number of kindergarten in the Palestinian Territory is affected by the political situation. The number of kindergarten in the West Bank was 731 in scholastic year 2009/2010; 729 private and 2 are governmental.

According to the Annual Report of the Palestinian Central Bureau of Statistics for the year 2008 (PCBS,2008), the number of kindergarten in the Gaza strip was 260 kindergarten. Table (3-2) displays kindergartens and students numbers from the year 1997 to 2008.

Table (3-3) displays the distribution of kindergartens and number of students in Gaza strip from 1997 to 2008. Source (PCBS,2009).



According to the 2007/2008 PCBS Educational Institutions Census, there were approximately 898 private kindergartens, and only 3 operated by the Palestinian Authority. (west bank and Gaza strip) Although most kindergartens are private, the ministry of education provides technical and educational supervision, teacher training and licensing, and some funding. The number of male and female children was roughly equal, and most kindergartens have co-educational system. Gross enrollment ratios for pre-primary education are 29.9% for total, 30.3% for boys, and 29.5% for girls. The number of teachers in the kindergartens was 3,064; 99.5% females and 0.5% are males in scholastic year 2009/2010, while a number of students was 28 219 distributed in several

directorates of Gaza strip. The classroom density was 23.9 child per classroom in scholastic year 2009/2010, while the care taker ratio was 18.5 child per care taker. Table (3-4) presents an indicator of student distribution by the directorate of Gaza strip by the year 2008.


Table (3-4) Distribution of Students by Directorate and Gender in Kindergartens of Gaza strip - (Ministry of Education and Higher Education – 2008)

Directorate	male	female	Total	percentage
North Gaza	3 227	3 048	6 275	22.2%
Khan Younis	2 503	2 165	4 668	16.6%
Rafah	2 386	2 183	4 569	16.2%
Middle Area	1 955	1 665	3 620	12.8%
East Gaza	2 291	2 042	4 333	15.4%
West Gaza	2 494	2 260	4 754	16.8%
Total	14 856	13 363	28 219	100%

3.1 Conclusion

The previous chapter concluded many understood related with kindergarten, such as the definitions, the history and the activities. kindergarten is an important place for child development, that it contains different activities which simulate the surrounding life. In kindergarten children can practice many hobbies such as drawing, reading, playground playing, storytelling and other learning skills. Kindergarten is important for child in different directions. It is not a place to learn counting or rereading, but an essential environment to improve the social communications of the child, learn more about the surroundings and to play with other children.

The chapter also summarized the kindergartens situations in Gaza strip that presented the physical status, the adequate of learning and leisure environment with more indicators and classifications . There is an clear shortage of services and facilities provided and in real need to more improvements and renovations. The next chapter provides more information about the architecture of kindergartens and more clarifications about the urban and architectural considerations.



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Chapter 4 - The Role of Architectural Design in Improving the Kindergarten's Environment

4.1 Introduction

There are two main areas that can be available in every kindergarten, interior and exterior environments. These environments can be combined to impact the child behavior in kindergarten. The interior environment is important for learning basic information, while the exterior environment is required for interactive with outdoor activities.

This chapter includes the impact of the interior and exterior environments on the child and the role of architectural design in organizing the interior and the exterior areas through standards and design criteria. Many topics will be covered which is regarded to architectural design and planning considerations for spaces in kindergartens and other technical , finishing and security requirements. This chapter will also conclude the design considerations for landscape and playgrounds design and the requirements of disabled children in kindergartens.

4.2 Elements of Kindergarten Environment

Children want to determine how the space works and what activities can happen in this place. Today's young children are spending many hours in a new environment of kindergartens, that demands the space be carefully designed to create the best place possible for young children.

Specific design techniques, can help the environment become a wonderful place for nurturing the development of young children. It will include spaces for active play as well as spaces for privacy. Opportunities are provided for a child to work quietly and areas are available where small groups can collaborate on a project.

The first step in creating an appropriate environment for preschool children is to examine how young children learn and develop. Each stage of development has unique characteristics that influence how a child will experience his environment(Isbell , 2008).

The quality of the physical space and materials provided affects the level of involvement of the children and the quality of interaction between adults and children. The amount, arrangement, and use of space, both indoors and outdoors, are to be evaluated. The indoor and outdoor physical environment fosters optimal growth and development through opportunities for exploration and learning.

The indoor and outdoor environments should be safe, clean, attractive, and spacious.

Activity areas are defined clearly by spatial arrangement. Space is arranged so that children can work individually, together in small groups, or in a large group. Space is arranged to provide clear pathways for children to move from one area to another and to minimize distractions.

The arrangement of space is as important as the amount. Children should be able to move freely from one activity to another without unduly disturbing others. Activity areas should be divided so that children in one area are not distracted by those in other areas. Well-organized space invites desired behaviors and facilitates positive interaction between people and active involvement with materials. The space preschool children is arranged to facilitate a variety of small group and individual activities, including block building, socio dramatic play, art, music, science, math, manipulative, and quiet book reading.

A variety of equipment is needed as well as appropriate kinds. All age groups need active play equipment, materials that stimulate the senses, construction materials, manipulative toys, dramatic play equipment, art materials, and books and records.... Children are more likely to use materials constructively and creatively if materials are accessible to them, organized to promote independent use, and periodically changed to provide variety (NAEYC, 1991).

4.2.1 Interior Environment

A well-organized interior environment lays a solid foundation for a good Kindergarten program. The ideal Kindergarten room is a safe and comfortable place that is well-lit and well ventilated with ample window space, direct access to a playground and to other facilities. The room needs to be large enough to provide adequate storage space for materials and floor space for activity centers. Within the limits of what is possible in a given room, the space must be organized to meet children's needs. These needs include: space for storing clothing and personal possessions, space where small groups of children can work together, space where children can be quiet and alone, space where messy activities can take place and, if possible, space for gross motor activities such as climbing and jumping(Qandeel, 2007).

A classroom arrangement that supports learning gives attention to the organization and use of space, the arrangement of materials, and the role of both adults and children in the learning environment. How space is organized and used influences how comfortable children feel and how they work, contributing to a challenging and satisfactory learning environment. Because children's activity patterns change as they gain new skills and

mature, and because spatial organization influences other behaviors, the physical facilities must be flexible enough to change to accommodate the children. Similarly, the arrangement of learning materials determines their level and use. How well materials are arranged also affects the ideas and connections children can make with the materials.

The interior environment is social in nature and provides a secure and stimulating climate for children to take appropriate risks and to develop interpersonal skills by working and learning cooperatively together. The Kindergarten classroom is an ever-changing and dynamic learning environment. Children gather together as a whole class to listen to stories, sing songs or share and discuss ideas. A child may choose to do a quiet activity alone, such as watching fish in the aquarium or working on a puzzle. Most of the time, children will be joining others to talk, listen, work and play together. One child may spend an hour doing one task while another child is involved in three or four activities during that hour (Maria , 2009). Children perceive space they can see, reach, and touch. Teachers can support, stimulate, and maintain children's involvement in learning by providing a variety of raw materials for exploration, tools for manipulation, containers for storage and displays, adequate work spaces, inviting displays at eye level, and appropriate sources of information within the children's reach (ACEI,2005). The following figure (4.1) displays the interior space elements of Ridgemont Early Childhood Center in Houston, Texas in USA.



Figure (4.1) Ridgemont Early Childhood Center , Houston,Texas – source (valerius,2004)

4.2.2 Exterior Environment

Outdoor areas will vary depending on geographic location. This criterion emphasizes that a variety of types of surface and equipment be provided. While hills and shade are not always available, the environment can sometimes be supplemented with other materials

such as awnings, inclines, or ramps. The outdoor area must be fenced or protected by natural barriers from streets and other dangerous areas.

Outdoor play requires a lot of gear to make a go of it. Loose parts, sand, grass, manipulative, props and naturally found objects are essential tools for children's play. Loose parts have infinite play possibilities, and their total lack of structure and script allows children to make of them whatever their imaginations desire.

It is also desirable to integrate the outdoors with the indoor classroom with one sense of place and identity, so the transition between the two will be almost seamless. Design that allows children to go freely back and forth between inside and outside encourages children to experiment with autonomy from adults, both physically and symbolically. It also allows the outdoor space to become part of the classroom, rather than just a retreat from it.

Things children of kindergarten like in their outdoor environments include:

- vegetation, including trees, bushes, flowers and long grasses,
- animals, birds, creatures in ponds or cages , and other living things
- sand, best if it can be included in play areas.
- natural color, diversity and change
- places and features to sit in, on, under, lean against, and provide shelter and shade
- different levels and nooks and crannies, places that offer privacy and views
- structures, equipment and materials that can be changed, actually or in their imaginations, including plentiful loose parts.
- Playgrounds such as slides, barrels, cylinders, swings and other similar equipment.

The following figure (4.2) displays the exterior environment of the Daybreak Child Care Center at Mount Pearl, Canada.



Figure (4.2) Daybreak Child Care Center – Mount Pearl, Canada source (Blackburn, 2007)

When children play in nature they are more likely to have positive feelings about each other and their surroundings. Outdoor environments are also important to children's development of independence and autonomy. Exterior space allows children to gradually experiment with increasing distance from their caretaker. While the development of greater independence from early childhood to middle childhood can happen within the confines of indoor spaces, safe space outdoors greatly adds to the ability of children to naturally experiment with independence and separation, and the adult's willingness to trust the child's competence. This is particularly important for children who live in small and crowded homes. Outdoor play spaces are rich learning environments for all age children. They contain a hidden curriculum that speaks to children through their special way of knowing nature. These areas should flow from one area to the next, be as open-ended and simple as possible, encourage children to use their imaginations. They should be designed to stimulate children's senses, allow for interaction with other children, with adults and with the resources in the play space (Thielbar, 2008).

4.3 The Impact of the Kindergarten's Environment on Children Behavior

Good learning environments have a special feeling. The facility and its classrooms are inviting and welcoming, offering warmth and comfort in an away-from-home atmosphere that also offers stimulating learning opportunities. Children and adults in a well-designed classroom interact with each other in respectful ways while children are actively engaged in activities, oftentimes self-selected. Materials and equipment are organized and orderly and there is a sense of community in the room (Fumito, 2007).

The physical environment is important in setting the stage for early learning experiences and should be planned around the developmentally stages of the children and the desired learning outcomes. The classroom is print rich with a library children can access easily and a word wall posted at the children's level. A posted daily schedule provides a consistent structure for children with a balance of active and quiet activities, large and small motors activities, whole group, small group, partner and individual work. Play enables children to construct new learning on past experiences and new information so time is planned for children to play in self-selected centers such as housekeeping, dramatic play, blocks, music, listening, art, etc. Children should be provided with many opportunities to expand their oral language by talking with their teacher and each other (LRC, 2010).

The environment in which young children live tells them how to act and respond. A large open space in the center of the classroom clearly invites young children to run across the area. If few materials are available to use, children will create interesting happenings, including conflict. If the procedures for using learning centers are not predictable and easily understood, the children will wander in and out of the areas with little involvement in play. The arrangement and materials in the environment will determine the areas where children focus their work. It will also influence the number of conflicts that occur or the way the group works together. If the materials are hard plastic, the children are invited to be rough with the objects with little concern for their treatment. If a beautiful flower arrangement is on the table, they will learn to visually examine the flowers and gently handle the delicate blooms. Children learn to be respectful of their environment if they have opportunities to care for beautiful objects and materials (Moor,2001). The following figure (4.3) displays activities of children at Harewood preschool in UK.



Figure (4.3) Activities of children at Harewood preschool , UK – source (Moor,2001)

4.4 Standards and Considerations for Kindergartens

4.4.1 Urban Planning Considerations

4.4.1.1 Site Selection

The selection of a site must be appropriate to the requirements of the Functional Program and comply with the requirements of the regional codes.

Factors for Site Selection:

- Zoning requirements and municipal by-laws. Every municipality has by-laws guiding the type of building that can be built on a site and the type of occupancy.
- Appropriateness of location for kindergarten :
 - Proximity to other service providers.
 - Proximity to required services, parks.

- Adequacy of existing public transportation.
- Environmental impact such as solar exposure to most rooms and playground, wind.
- Placement of the building in relation to existing landscaping.
- Neighbourhood characteristics in areas such as setbacks, scale, massing, materials and colours.
- Economic feasibility, i.e. comparable cost to other properties, affordability for renovation to meet program, municipal and provincial requirements.
- Suitability for construction, i.e. soil conditions, access and drainage, environmental issues. Ensure confirmation that any existing buildings to be renovated are structurally sound and that no hazardous substances are present or that removal of any identified hazardous substances is feasible.
- Existing services, i.e. hydro, water, sewers, gas, telephone, etc. Municipal services such as, fire, garbage collection are investigated.
- Size is adequate to meet program requirements, including outdoor space, parking, and drop-off zone.
- Suitability for playground i.e. grade considerations that may affect play value of site.
- Compliance with accessibility requirements (MCYS , 2006).

4.4.1.2 Site Planning Considerations:

Every planning project needs a site location plan showing the location and boundaries of the building. In kindergarten projects there are special considerations that must be taken and are related with the following figure (4.4):

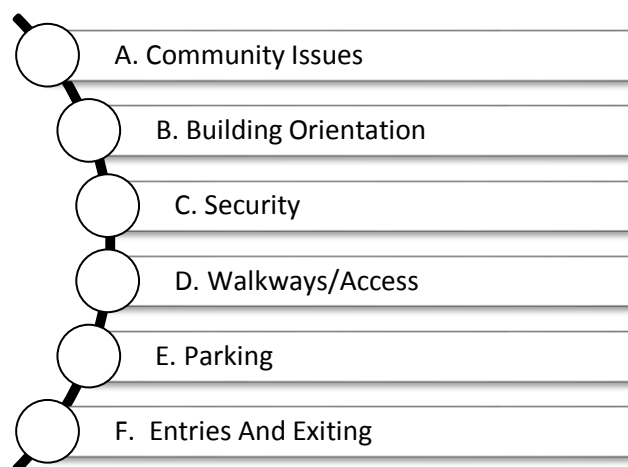


Figure (4.4) Site Planning Considerations

A. Community Issues

- Consider impact of playground noise on the neighbourhood.
- Consider impact of vehicles and increased traffic especially with respect to drop off and pickup of children.
- Construction of fences may require consent of neighbours.
- Site lighting is designed not to “flood or spill” into adjacent property.

B. Building Orientation

- Locate and mass building in a manner that minimize solar gain and takes into account environmental factors such as wind, snow drifting, rain and water run-off etc.
- Consider shape of building and selection of materials to create exterior “micro climates”.

C. Security

- The front entrance should be equipped with a security system .
- Access to the building are preferred be through a single point of entry preferably near an administrative office; this would help in supervision of all visitors.
- During normal hours of operation, additional required entry/exit doors should remain locked to the exterior, permitting exiting only.
- Maintain sight lines from the interior to exterior as well as from vehicle to site, especially where cars or trucks may be reversing. Consider the height of children when plantings and furnishings are planned for these areas.
- A fence surrounding the entire property can be provided in order to limit access to the building.

D. Walkways/Access

- Colour cues and tactile warnings are provided where there are hazardous areas near walkways and other pedestrian areas.
- Use only smooth, firm, uniform and non-slip paving materials on pathways.
- Provide adequate drainage to prevent standing water. Ensure down spouts spill away from walkways and ramps.
- Ensure sloped areas accessible to children do not lead to roadways.
- Design landscaping to direct children away from roadways.

- Install guards where there are potential hazards.
- Provide a means for snow and ice removal at the entrance, walkways, and on roof top playgrounds.
- Provide hand rails for all exterior stairs. Design will be appropriate for both adults and children.
- In designing the ramps keep in mind that they might be used for disabled.

E. Parking

- Parking for parents preferred to be convenient to the main entrance.
- Avoid crossing of traffic areas between parking and entrance to the kindergarten.
- On-site parking should be separated from pedestrian traffic and outdoor areas for children. The parking area can be separated with continuous curb or landscaping. The use of a curb will help control drainage.
- Parking areas do not have to be rigidly laid out. They can be worked around the natural topographical features so as to de-emphasize the presence of the vehicles.

F. Entries And Exiting

According to (Wiely, 2005), these considerations are mentioned for Entries And Exiting of kindergartens buildings.

- The main entrance floor level is located as close as possible to natural grade to help facilitate access for all occupants.
- Ensure service vehicles operate away from the entrance and drop-off points, Depending on scale and number of children, provide approximately 3-6 meters of level space for drop-off point.
- The main entry is designed to both provide a welcoming environment and a necessary level of supervision and security. Ideally the entry leads directly to the kindergarten facility; this reduces the amount of circulation space and improves supervision. In situations where the entrance is remote from the facility by way of a corridor, the designer can employ adequate signage and way-finding elements, such as colour, finishes and lighting to improve the route.
- It is important to ensure that there are not multiple entrances or exits along the corridor route that could pose a security risk. It is also important to consider the above factors when determining the location and access to the playground.

- The entrance is preferred to be large enough to accommodate parents, staff and children during peak hours. The design should take into account that this is a social area where people tend to linger and talk. Consideration can be given to locating the cubby area as close to the entrance as possible. An area for posting notices, seating and display art would contribute positively to the character of the space.

4.4.2 Architectural Design Considerations

The following figure (4.5) displays the architectural design considerations.

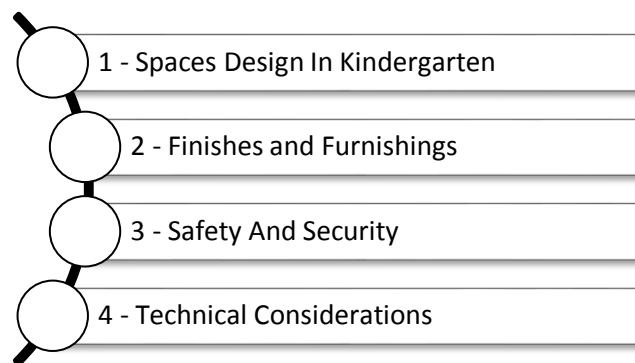


Figure (4.5) The architectural design considerations.

4.4.2.1 Spaces Design In Kindergarten

Interior spaces are important in kindergartens. Areas for normal kindergarten can be calculated as 1.5 – 3 m² floor space/child. 15-30 children / room plus spaces for cupboards , toy racks , child size tables and chairs , etc. With more than two group rooms a multi-purpose room is required for several activities. There is a trend towards two story building with staircase and emergency stairs. Facilities for disabled children are required (NEUFERT, 2000). Spaces in kindergartens are: classroom, activities room, office, staff room, storage, and bathroom.

A. Classroom

A kindergarten classroom can be set up in a way that is inviting and welcoming to students. In addition, the room needs to be a place where learning can occur. The arrangement of desks, colorful bulletin boards, storage, materials and supplies is important.

- Some common classroom arrangements include small groups, rows, U-shape, tables and desks set up in pairs.

- Arrange a desk and other instructional materials in a place that will be easily accessible.
- Design and create bulletin boards. Have functional displays that educate as well as provide visual stimulation. Birthdays, months of the year, numbers, animals, colors, seasons or plants are just a few ideas that can fill a boring space and make a kindergarten classroom more inviting.
- Add learning stations. Kindergarten classrooms need spaces for reading, storage of personal items, free time, listening and resting. Set up each space in a separate place with clearly marked divisions.
- Create excitement by placing colorful decorations around the room. kindergarten students will likely be excited by these decorations.
- Use tables instead of standard desks. In kindergarten and first grade, most of the learning is done cooperatively. This will create pre-established groups and encourage students to work together as they learn.

Create learning centers around the perimeter of the room. Set small tables or desks around the room, and place different learning material on each(Mitchell,2010).



Figure (4.6) Classrooms of Riverside preschool – Britain – source (Michell,2010)

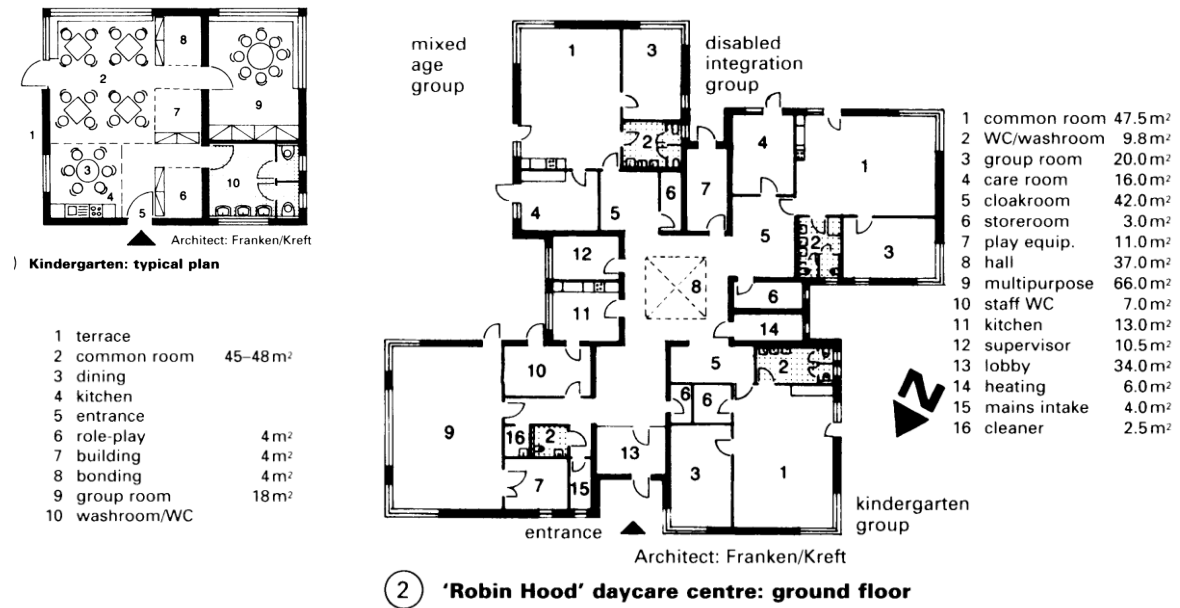


Figure (4.7) – plans of kindergarten with space areas – source (NEUFERT, 2000)

B. Activities Room

Kindergarten Room can be composed of several activities in overlapping and clear areas containing general collective activities such as corners for reading, another area for dolls , household chores, hand games corner, and other customized corner for special education. This room contains a middle wide space and is divided into several zones specific to each type of activities. It also contains a public space which contains an average display shelves and cabinets to store things on every corner.



Figure (4.8) different samples of activities room – source (Wikipedia, 2010)

Considerations:

- A preschool room can be designed for children to engage in large and small group activities.
- while further enhancing ever-growing independent and self-help skills. A preschool room should have a large carpeted area for group socialization. Distinct and well-defined areas (e.g. science and discovery area, literacy area), as defined by placement of furniture and equipment, will allow for self-directed guidance and facilitate the flow of activity within the room. Room size, wall colour, natural lighting, and providing a variety of textures, within an inclusive setting, continue to be paramount (Dudek, 2000).

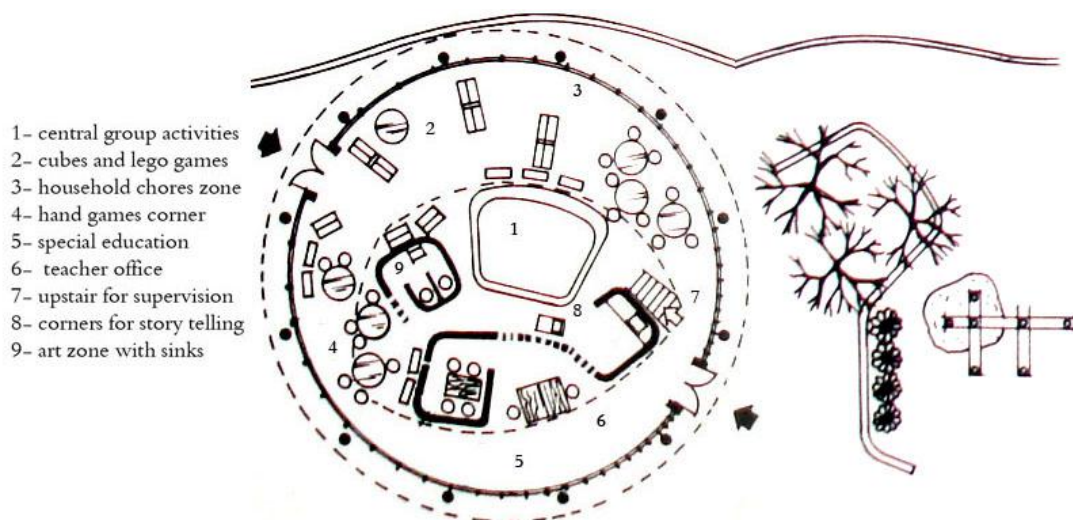


Figure (4.9) activities room plan – main source (Kolusi, 2001) – adapted by the author

C. Office

The office in a kindergarten can serve more than one function. It can be designed to accommodate administration, staff and parent meetings, and it can provide a quiet isolation area for a sick child, with adult supervision.

The office should be located in an area of the kindergarten that is strategically located to greet parents and visitors and to allow the Supervisor to have a good view of the activities. The office should also be within “hearing range” of the main activity areas.

Considerations:

- Space should provide privacy when needed.
- Large enough to accommodate a meeting table and chairs.
- Room for desk, chair, record storage and resource material.
- Place for a cot for a child who is ill.

- Windows to observe interior and exterior entry to the kindergarten and to provide natural light.
- Data wiring to support high speed internet, telephone, intercom, fax machine and security equipment.

D. Staff Room

A staff room is a place where kindergarten staff can have their lunch, short breaks and rest from their daily duties. It is important therefore, that an area be set aside just for them, in an atmosphere that is calm and soothing so that they can return to their work refreshed and relaxed. Staff rooms can be shared in multi-purpose facilities.

Considerations:

- Situated so that staff are readily available in the event of an emergency.
- Built-in storage or lockers for personal belongings.
- Shelving for library and resource material.
- Data wiring for internet access, telephone.
- Convenient to office and adult washroom.
- Message board.
- Comfortable furnishings. (Hoffman,2005)

E. Children's Washroom

Considerations:

- The public does not have access to children's toilet facilities during the hours of program operations.
- If the washroom contains not less than two toilets the room shall be designed so that toilets and sinks are not visible from the entrance to the room.

Fittings and Fixtures

- Locate mirror, soap dispenser and paper towel holder at height suitable for children.
- Where only regular height toilets are specified, sturdy stepping stools are recommended.
- If a door or gate is installed to the room, hardware should permit easy entry and exit by staff.
- Counter Heights:
 - Appropriate counter height for toddlers 450 mm.
 - Appropriate counter height for preschoolers is 550 mm.

Spatial Consideration

- Washroom should be directly accessible from play activity room to allow:
 - Easy access by children.
 - Privacy and independence for children.
- Should be convenient to outdoor play areas.

F. General Storage

A well-planned closed storage area is a vital component of a kindergarten and yet the amount of space allocated for it is underestimated. This area provides a place for staff to safely store materials and equipment, as well as items used on a rotation basis. If there is not sufficient closed storage, items tend to clutter the hallways and at times, part of the activity rooms. Not only is this dangerous, it adversely impacts upon the most needed program space for children. In addition, it is difficult to maintain control of inventory, equipment and materials unless they are stored in an organized manner.

General Considerations:

According to (Wendel , 2008), there are many considerations for storage room design:

- Unobstructed floor and wall space that is well organized, efficient and convenient for staff accessing and putting equipment away.
- Consider the type of toys, indoor play material, and equipment and design appropriate size with consideration of items to be stored.
- Area of .55 m² per child recommended.
- Program storage located off a corridor, should be convenient to activity rooms and multipurpose space.
- Provide adjustable and fixed shelving as appropriate.
- Storage cupboards should be durable and easy to maintain with laminate finish and solid hardwood or vinyl edges.
- Storage rooms should be ventilated to eliminate odours and dampness.
- General storage should be accessible from a barrier-free path of travel .

The previous considerations are important for kindergartens as they organize the interior and exterior spaces. The following figure (4.8) produces the plans of multi-story kindergarten .

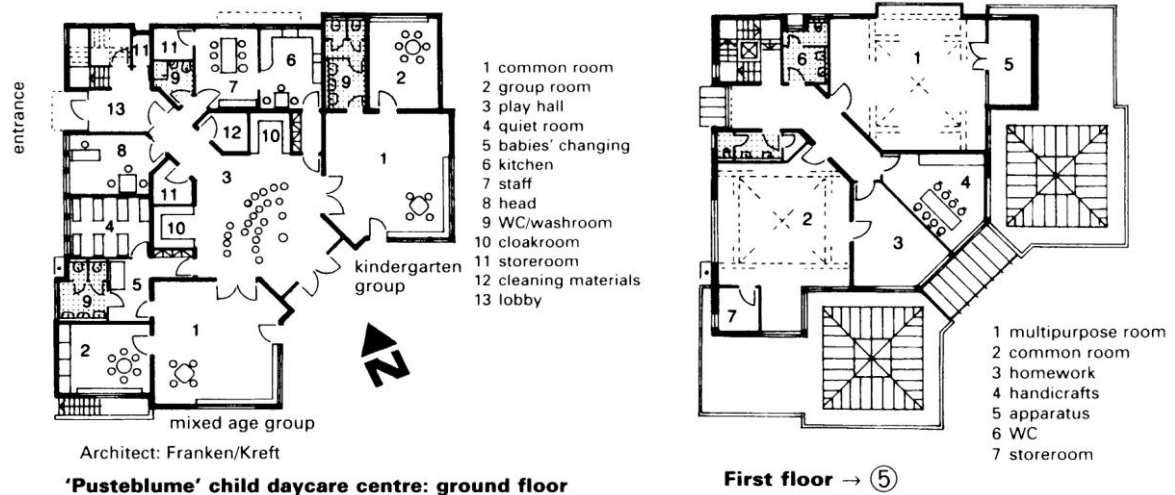


Figure (4.10) Multi- story kindergarten displays the interior spaces - source - (NEUFERT, 2000)

4.4.2.2 Finishes and Furnishings

The next paragraph displays considerations of interior elements such as floors, walls, doors, windows, cabins... etc.

A. Floor

- Select floors that are durable, easy to clean, and maintain.
- Consider installing sheet flooring material and vinyl tile in various colours and patterns.
- The surfaces of ramps, landings and stair treads shall have a finish that is slip resistant and have either a colour contrast or a distinctive pattern to demarcate the leading edge of the stair tread, landing, as well as, the beginning and end of ramp.
- The entry vestibule floors is non-slip with coved base.
- All sheet flooring can have welded seams.
- Carpets are not preferred throughout a kindergarten.
- If carpet is desirable, consider carpet tiles.
- Choose non-abrasive materials with a non-slip backing.
- Carpet edges are bound and flat to avoid tripping. Secure area rugs to prevent tripping hazards.
- Conducive to high frequency of clean/washing.

B. Walls

- Install abuse-resistant gypsum board.
- Install cement board in all wet areas.
- Install wall protectors and corner guards on the lower half of the wall in high use areas.

- Consider materials such as vinyl wall covering for durability and ease of maintenance, Vinyl provides a tackable surface from floor to ceiling.



Figure (4.11) more ideas for finishing and furnishing for walls and floors produces creative environments for interior design in kindergartens – source (Moor, 2001)

C. Doors and Windows

- Consider making the upper portion of the window a minimum 1000 mm above the floor.
- Select high performance windows and screens to reduce operating costs and to reduce drafts.
- Easily cleaned or vacuumed window treatments, such as shades should be used.
- Cords should be eliminated or secured in a manner that it they are kept out of reach of children.
- Install lever door hardware throughout.
- Consider accessibility.
- All doors can be operable from the interior without the use of a key.
- Building code requirements can conflict with program and security requirements; therefore consider security and exiting issues early in the design process.
- Check with local fire and building departments regarding use of magnetic locks and electronic hold open devices for doors.
- Door closures can be slow-release as they close.
- Install locks on all storage, closet, and cabinet doors.

D. Colors

- color in the classroom can be used to create a differentiated space , to emphasize physical features of a room, to create an illusion of more or less space, and to make a room more attractive.
- Color affects the luminosity in the room by reflecting or absorbing light.
- In determining the best color to paint an environment, consider if the space look larger or smaller.
- Dark colors will make a space look smaller. If ceilings are high, it is preferred to paint them darker to make them appear lower. If the room is long and narrow, the distant wall appear nearer by painting it a darker color.
- Use varieties and ranges of colors in materials to add needed complexity, variety, and richness to the environment. The following figure (4,10) displays the finishing and furnishing of Reverside preschool in Britain.



Figure (4.12) finishing and furnishings of Riverside preschool, Britain, (Hofmab,2005)

As shown in the photos, the furniture is arranged in pretty way and the colors of walls are coordinated with other elements.

E. Furnishings

- Indicate furniture layout on concept drawings. Selected equipment and furnishings to be co-coordinated with respect to electrical locations requirements, phone outlets and data wiring. Furnishings and equipment should fit into proposed space.
- When designing or purchasing moveable furnishings, ensure they are sturdy and not prone to toppling.
- Consider floor space and storage requirements for furnishings that are to be stored or folded away.

F. Millwork and Cabinets

According to (Lawrence and nie sewand , 1991) ,these points can be generally considered for Millwork and Cabinets in kindergartens.

- Counters to have post-formed, coved back-splash. Counters to be surfaced with impervious material that is easy to maintain.
- Provide solid edging in either vinyl or wood on all cabinet doors and shelves.
- All millwork are constructed with durable and easily cleanable surface such as plastic laminate or melamine (including the interior of the cabinets).
- Provide locks on door and drawers where required.
- Use heavy duty hinges and full extension drawer slides.
- Cabinets designed to store equipment or personal belongings intended to be accessible to children should be low to promote children's independence.

The design of moveable storage units contributes to program flexibility (Lawrence and nie sewand,1991).

4.4.2.3 Safety and Security

The children safety network (CSN , 2010) has published a hand book with general consideration for safety of children in many types of buildings. These considerations are outlined and summarized as glazing, electrical, fire and furniture placement.

A. Glazing

- Interior and exterior glazing: provide protective firm, laminated and or tempered glass in areas that glass could be broken. Laminated glass and safety film provides a higher level of security than tempered glass.
- Interior doors have a view window 100mm x 610 mm so that all spaces in the building can be supervised. Provide interior windows to improve sight lines.

B. Electrical

- Locate electrical outlets in sufficient number to prevent unnecessary extension of cords for equipment and fixtures.
- Install safety coverings on all electrical outlets not in use.
- Ensure safety of children when specifying electric baseboard heaters.
- Consider location of lighting in relation to security cameras.

- Establish location for security monitor and recording device. Remote latches, auto door openers, and intercom must also be coordinated with each other as part of the entire system.

- Consider use of sound monitoring devices in areas such as the sleep room/area.

C. Fire

- Ensure heat detectors, smoke alarms, and carbon monoxide detectors are installed in locations as required.

- Supply and install fire extinguishers.

- Prepare and post a fire safety and emergency plan.

- Safety plan to be submitted to Local Fire Department for approval.

- The approved Fire Safety Plan must be used to prepare and post a fire safety and emergency plan.

- Ensure areas for posters, artwork, etc. do not exceed permitted wall area for combustible materials. Consult with local Fire Department.

D. Projections and Furniture Placement

- Controls of casement type windows tend to be at children's eye level and may cause injury.

- Avoid window projections into room and outer playground.

- Avoid protruding window sills with square edges.

- All fire exits must remain accessible in the case of an emergency, this is a Fire Code Requirement. Design entrance ways, corridors and all required exits large enough to ensure furnishings, equipment, strollers etc. that are used in the day-to-day activities of the centre have adequate space.

- Ensure furnishings do not obstruct disabled path of travel.

- Secure furniture such as book cases or other items that could topple directly off the wall.

4.4.2.4 Technical Considerations

It is necessary to consider mechanical systems when in kindergarten design. There are many topics related the good design technical considerations in kindergartens. These considerations are outlined in (Torjman, 2008) study and summarized by author as Noise And Sound Transmission, Natural And Artificial Light and Mechanical Systems.

A. Noise and Sound Transmission

- Wall types with increased sound transmission class ratings should be considered when sound control is important.
- Full height walls are recommended where it is important to isolate noise.
- Design mechanical ductwork to limit transfer of sound between areas.
- Sound-moderating acoustic tile ceilings and absorbent wall finishes can reduce noise impact.
- In existing buildings, suspended ceiling grids and/or sound attenuation panels can be installed.
- Quiet and intimate areas can be created within rooms by varying ceiling heights.

B. Natural and Artificial Light

Natural

- Natural light and views are a high priority. Operable windows are preferred even when building is air conditioned. Window openings are located at a higher level, out of children's reach.
- Exterior windows promote engagement with the outside world.
- Windows that open into corridors or between rooms help children to see themselves as part of a larger community. They also permit visual surveillance by staff from adjoining rooms.
- Each room have clear window glass that is the equivalent of 10% of the floor space to ensure natural light.

Artificial

- Florescent lighting is the most efficient and cost effective form of artificial lighting.
- A range of lighting will provide program areas with the light needed for specific tasks or atmosphere.
- Minimum lighting level 55 Dekalux.
- Each room have its own light switch.

C . Mechanical Systems

- Ensure hot radiation operates at a safe temperature or design radiators to be inaccessible to children.
- Ensure all valves and controls are inaccessible to children and access panels are either lockable or tamper proof.

- Provide adequate exhaust ventilation in all laundry rooms, washrooms, change areas, and storage rooms.
- Use quality equipment to minimize noise and vibrations.

4.4.3 Landscape Considerations of Kindergartens

Landscaping is a vital part of an outdoor play environment and is complementary to all types of play activities. Landscape design should consider the:

- Topography.
- A variety of colours, textures, and surfaces.
- Protection from the sun, wind, and noise.

4.4.3.1 Landscape Elements

There are basic elements for landscaping which are mentioned in (Harris and dines, 1988) handbook. These elements standard and considerations can be listed as shade, trees and shrubs and pathways.

A. Shade

- Provide awnings for shade.
- Include small trees and deciduous trees in landscape design to provide shade from the sun.
- Ensure there is sufficient shade for metal surfaces (e.g. slide) that will otherwise become too hot for children to use if constantly exposed to the sun.
- Provide a well-shaded Social Play Area.
- The Quiet Play Area also requires a balance between some shade for lengthy play in the sandbox and some exposure to the sun that will allow the sand to dry quickly after rain.

B. Trees and Shrubs

- Vegetation provides shade and wind breaks and cools the air. It attracts wildlife, provides loose parts (leaves, cones and twigs), provides landmarks and builds in seasonal change and beauty.
- Provide a balance of coniferous and deciduous trees. Coniferous trees allow greenness in the winter and deciduous trees provide shade in the summer. However, it is recommended that the coniferous trees be placed outside the fenced playground as their low branches and needles may be hazardous to the children.
- Avoid plants with prickly foliage, nettles, thorns, barbs etc.

C. Pathways

- Provide hard-paved paths for tricycles, wheelchairs, and wheeled equipment with a recommended passing width of 1500 mm .
- Avoid using grass in high traffic areas or areas that are not large enough to sustain pathways.
- Pathways can link activity areas.
- Looped pathways are beneficial and can enclose play areas, contain sand play and wood chips.
- There are no projections into pathways.
- Check with local Health Department to see if a cover is required on sand boxes.

The previous elements of landscaping in kindergartens is very important , these elements should be complicated to provide a good site. The next figure (4.11) displays the landscaping which consists different site plan coordination elements.

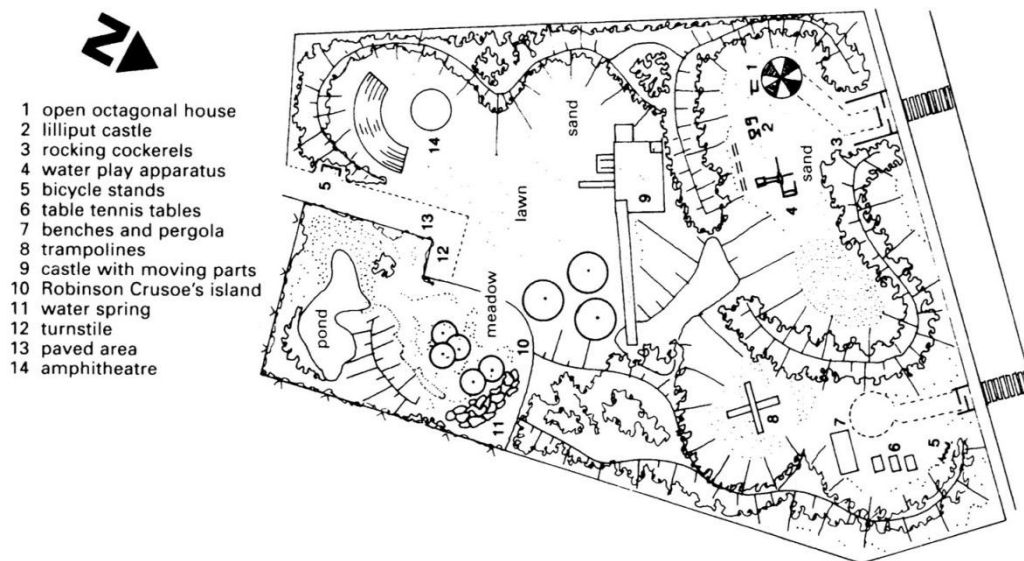


Figure (4.13) landscape with playground elements - Source - (NEUFERT, 2000)

4.4.3.2 Playgrounds for Kindergartens

A playground or play area is a place with a specific design for children be able to play there. Modern playgrounds often have recreational equipment such as the see-saw, merry-go-round, swingset, slide, jungle gym, chin-up bars, sandbox, spring rider, overhead

ladder, trapeze rings, playhouses, and mazes, many of which help children develop physical coordination, strength, and flexibility, as well as providing recreation and enjoyment.

Common in modern playgrounds are play structures that link many different pieces of equipment. Playgrounds are important for kindergarten children that can influence and enable children's creative play. There are many considerations for playgrounds design which are mentioned according to (WBDG, 2010), the Whole Building Design Guide encyclopedia and can be mentioned as:

General Design Considerations

A. Fencing

- Fencing can be selected that will allow privacy, noise reduction and safety, with some vision for children's interest.
- Fencing can be of a material and strength to prevent children from getting out of the yard.
- Fences to be designed to be non-climbable.
- Ensure there are no sharp edges or points protruding through the top of the fence.
- Fences can be designed to be aesthetically pleasing.
- When pickets are being used, ensure spacing between pickets prevent the passage of a spherical object no larger than 100 mm in diameter to limit the possibility of a child getting their head stuck between pickets.

B. Emergency Considerations

- Provide easy and secure access from the building to the playground.
- Provide primary and secondary exits from the playground.
- Provide a telephone or intercom system that can be easily accessed from the playground in case of an emergency.

C. Place

- Provisions for wind, sun, shade, air quality and winter conditions are preferred.
- The placement of stationary equipment can be made in consideration of direct exposure to the sun.
- Layout of equipment ensures staff supervision at all times.
- Avoid the use of chemically-treated wood.
- Washrooms location can be easily accessed and adjacent to the playground.

The previous considerations are necessary for playground design .There are also different ways to produce variable kinds of playgrounds . For example, there slides, swings, climbs and other concepts to merge many elements in multi-use playground .

The following figure (4.14) displays different kinds of playgrounds.



Figure (4.14) different types of playgrounds – source <http://www.furnicom.net/playground.htm>

D. Playground Safety

Outdoor play provides children with an opportunity for physical exercise, fresh air, and socialization and is an integral part of daily activities in most early and school-age care and education programs. However, playgrounds that are not properly designed, inspected, or maintained can be dangerous. The main issue in designing playgrounds is to provide challenging and fun activities while also providing for the safety of the children using the playground. Techniques for designing and constructing safe play environments that provide age-appropriate challenges and play experiences for children are outlined in the (PPSH, 2010) Public Playground Safety Handbook and are summarized as the following:

Playground equipment are checked according to the manufacturer's instructions for:

- Visible cracks, bending or warping, rusting, or breakage of any equipment
- Deformation of open hooks, shackles, rings, links, and so forth
- Worn swing hangers and chains
- Missing, damaged, or loose swing seats
- Broken supports or anchors
- Cement support footings that are exposed, cracked, or loose in the ground
- Accessible sharp edges or points
- Exposed ends of tubing that require covering with plugs or caps
- Protruding bolt ends that have lost caps or covers
- Loose bolts, nuts, and so forth that require tightening
- Splintered, cracked, or otherwise deteriorating wood
- Lack of lubrication on moving parts
- Worn bearings or other mechanical parts or missing rails, steps, rungs, or seats
- Worn or scattered surfacing material
- Hard surfaces, especially under swings, slides, and so forth (such as places where resilient material has been shifted away from any surface underneath play equipment)
- Chipped or peeling paint
- Pinch or crush points, exposed mechanisms, juncture, and moving components.

E. Play Equipment Materials

The majority of manufactured play structures use one or more of the following as the main construction material: pressure-treated wood, steel, galvanized steel, aluminum, and various recycled materials. Environmental conditions, use, and desired aesthetics should be considered when selecting the materials to be used in the construction of the playground equipment (WBDG,2010).

4.4.4 Considerations for Disabled Children in Kindergartens

Accessibility means that in general, all normally occupied spaces are to be accessible. The concept of wheelchair accessibility does not extend to building service facilities or to all floor levels other than the level in which the main entrance is located unless the other floors are served by an elevator. Access, in addition to rooms, includes such facilities as, service/reception counters, drinking fountains, balcony, washrooms, general work areas, laundry areas etc. As it mentioned in (Allen, 2001) studies , there are many considerations

for disabled students in educational building which include many architectural elements such as entrances, exterior walks, ramps, outdoor play, and access

A. Entrances

- Provide an accessible route from parking area to accessible principal entrance.
- All disabled entrances lead to outdoor sidewalks or ramps that conform path of travel.
- Entrance doors are equipped with power door operators and when the barrier-free entrance.
- Enters into a vestibule, the door leading from the vestibule to the main floor are also equipped with a power operator.

B. Exterior Walks

Exterior walks as part of a barrier-free path of travel:

- Not interrupted by steps or abrupt changes in level.
- Have a permanent, firm, slip-resistant surface.
- Have a width not less than 1100 mm and a gradient not exceeding 1:20.
- Are designed as a ramp when exceeding a gradient of 1:20.
- Are free from obstructions except for handrails projecting .
- A disabled child path of travel requires an unobstructed passage width of not less than 1060mm and may have a maximum beveled level change of no more the 13mm.

C. Ramps

Ramps located within a barrier-free path of travel include:

- Minimum width between handrails of 870mm.
- Maximum gradient of 1:12.
- Level area of at least 1500mm at the top and bottom of the ramp where doors are located.
- Level area of at least 1500mm at intervals of not less than 9m along the length of the ramp.
- Continuous handrails on both sides of the ramp.
- Wall or guard on both side of the ramp.
- Floors or walks within a barrier-free path of travel having a gradient of 1:20 or more shall be designed as ramps.

D. Outdoor Play

- Need for play and fun is the same for all children regardless of their level of ability or disability.
- Design professionals can contribute a great deal through their creative approach in planning and design of universal outdoor play that will respond to the needs of all children.
- Consideration are taken in mind to afford children or adults with special needs access to the playground via transfer stations or ramps.

E. Access

According to (Allen, 2001), these considerations are mentioned:

- Children with special needs are able to access the outdoor play as well as all transportation points easily.
- Provide hard-paved paths which connect to all activity areas.
- Steps and abrupt changes in the surface and levels of circulation paths are avoided.
- When providing washrooms that are accessible from the playground, ensure that the washroom is adequate for disabled children in kindergarten.
- If play structures are provided, they are accessible to all children regardless of their abilities.

4.5 Case Study - Valeska Hinton Kindergarten In Peoria, Illinois - USA.

A. The Kindergarten Spaces Design

At the Valeska Hinton kindergarten in Peoria, Illinois, each classroom is approximately 8 * 11 meters (88 square meter). A feeling of openness and light is maintained by large windows, 1.8 * 1.2 meters, with mini blinds. The windows are placed low so that children can see outside. Windows on the interior walls provide views into hallways and other classrooms within the village. Visitors can observe from hallways without disturbing classrooms. One door opens into the hallway of the village, and another provides direct access to the covered patio and outdoor environment.

While this chapter displays the architectural considerations of kindergartens, it is necessary to produce a real example for an exist kindergarten to be a case study.

The next headlines describes the architecture of Valeslea Hintion kindergarten in Peoria.



Figure (4.15) Valeska Hinton kindergarten in Peoria , Illinois – general snapshots –
(Hinton,2009)

B. Classrooms Layout

At the Valeska Hinton Kindergarten in Peoria, Illinois, classrooms are arranged into learning areas or centers through the placement of furniture. Furniture is placed perpendicular to the walls, and shelving and storage units are used to break up a large classroom into smaller areas. This layout minimizes distractions and helps children focus on individual tasks and goal setting. It also encourages conversations and collaborative work between children.

A large meeting area provides a gathering place for bringing the group together, working floor puzzles, and sharing books. The centers at the kindergarten level include Language and Literacy, Table Toys, Discovery (Math and Science), Easels, Sensory Table, Art, Blocks, and Family Living. The pre-primary classrooms (three and four year-olds) have a smaller Language and Literacy Area and an additional Table Toys area.



Figure (4.16) the environment of kindergartens rooms- (Hinton,2009)

The classroom is zoned for placement of centers. Noisy activities are separated from quiet activities. Proximity to needed resources--such as water, sunlight, computer hookups, or replacement supplies also determines the placement of centers. Materials and manipulates are stored close to the area of use and are easily accessible by the children. The classroom layout is designed to assist children in becoming as independent as possible.

Centers are designated by signs hanging from the ceiling. These signs identify the area with a name and explain its purpose to visitors. Pictures on the signs communicate to the children. Using the signs provides a common vocabulary for use in the classroom. On each sign, there is an explanation of how the activities in that area assist in a child's development.

The room is perceived differently by children and adults. Children perceive the classroom as a series of small classrooms of which they can see only a few at a time. Adults perceive the classroom as a large open space with dividers.

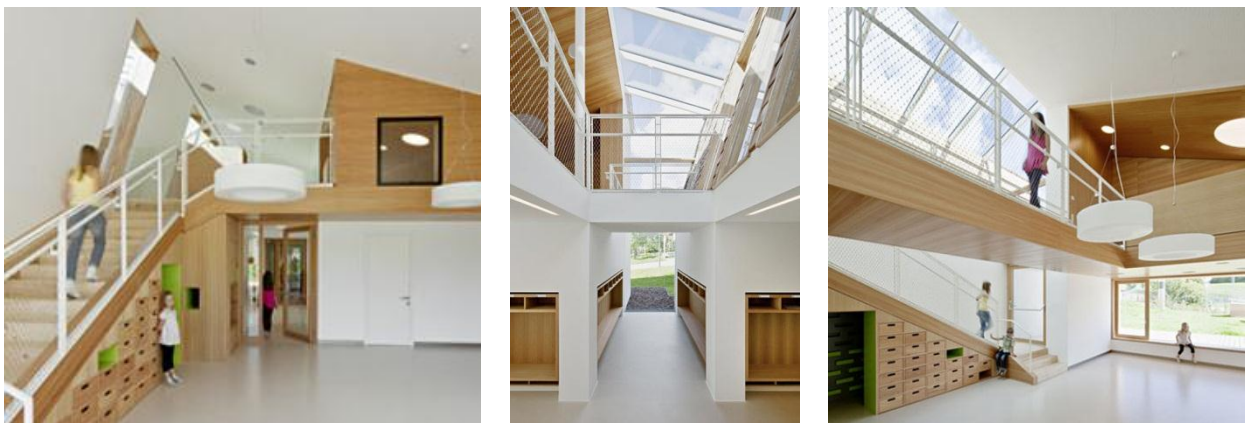


Figure (4.17) Valeska Hinton kindergarten in Peoria – interior spaces - (Hinton,2009)

C. Finishing and Furnishing

The classrooms are equipped with an 2.5 * 1.5 meters built-in storage cupboard; a 3 meters counter with two sinks (one adult height and one child height); a child-height drinking fountain; a bathroom with child-height toilet, lavatory, and mirror; and a 3 * 2.5 storage closet. A 1.2 meters hanging cupboard with three compartments and coat hooks provides space for teachers' personal supplies. Adult-height coat hooks provide quick access to coats for teachers and volunteers to go outdoors with children.

The primary material for the furniture is wood because of its warmth, durability, and superior aging qualities. The classroom has neutral colors so the environment is not too stimulating. Floors and walls are a warm ivory.

Casework (storage cabinets and sink) are a color accent. Doors are trimmed in the color of each village. Extensive artwork and brightly colored manipulative add interest to the room.



Figure (4.18) outdoor and indoor finishing - (Hinton,2009)

D. Set Up Plan

At the Valeska Hinton Kindergarten in Peoria, Illinois, the selection of basic equipment and the planning of room layouts were done by the Professional Development Coordinator. Although it would have been desirable for teachers to design their own room layouts, the ordering process and time limitations prohibited this approach. Teachers were permitted and encouraged to make changes in the basic room arrangement as they lived in the classrooms.

A basic layout for each classroom was provided to Beckley-Cardy Company, which provided the classroom furniture and equipment. As part of the contractual services, Beckley-Cardy unloaded and unpacked equipment, placed furniture in each classroom according to the room layouts, and removed all packing materials from the center.

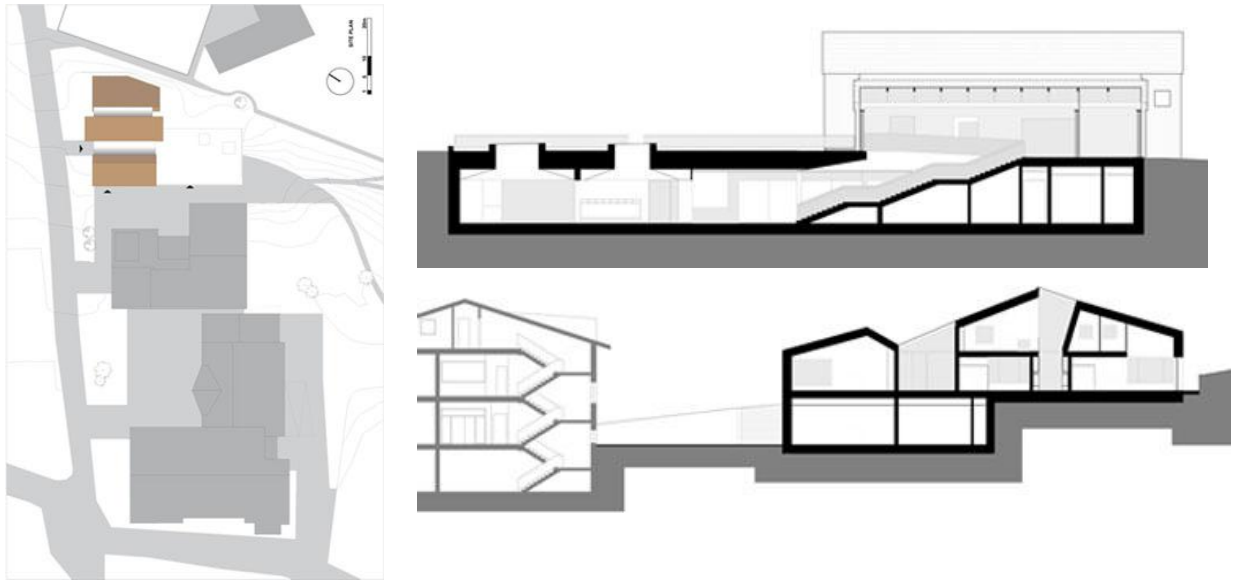


Figure (4.19) kindergarten's layout and sections - (Hinton,2009)



Figure (4.20) kindergarten's main elevations - (Hinton,2009)

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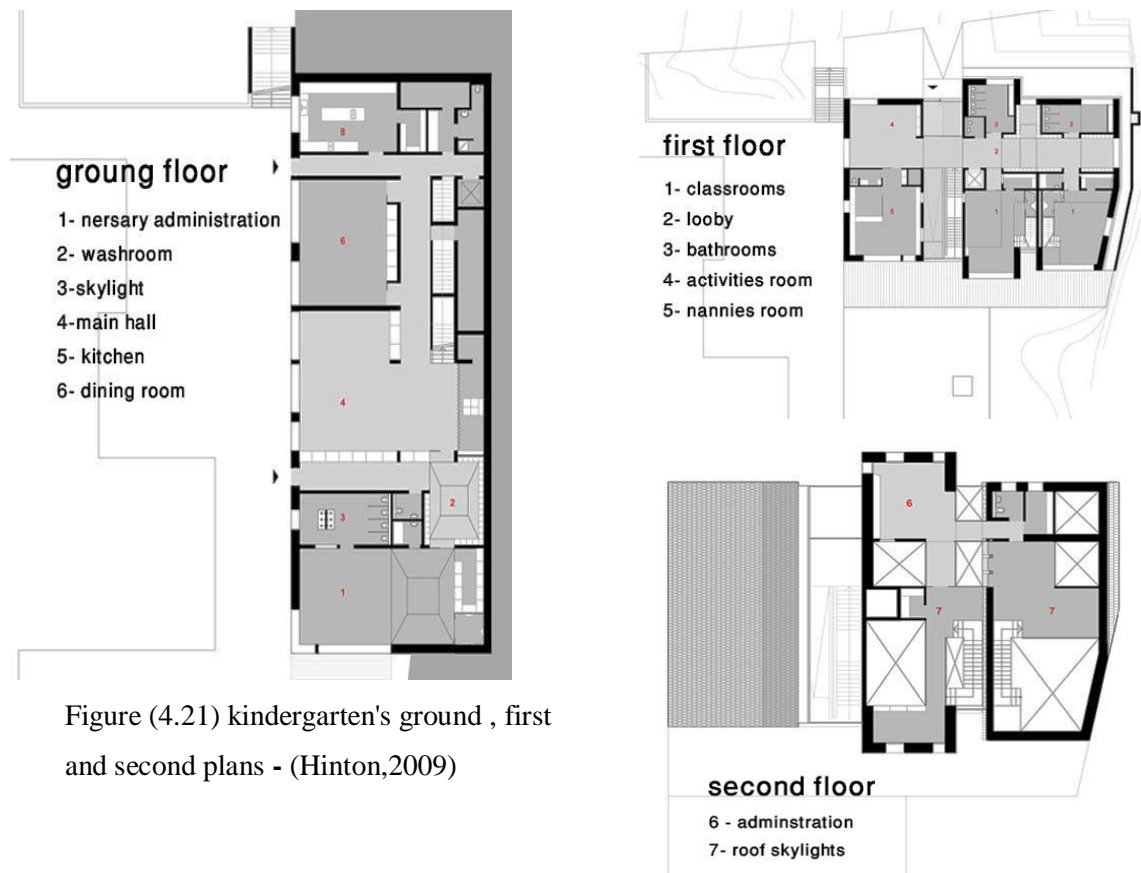



Figure (4.21) kindergarten's ground , first and second plans - (Hinton,2009)

4.6 Conclusion

Young children respond differently, based on the design of the environment in which they live. An effectively designed kindergarten has the potential for positively influencing all areas of children's development: physical, social ,emotional, and cognitive. The interior and the exterior environment can support the development of behaviors that are valued in our society, such as cooperation and persistence. A good design space can develop a child's appreciation. The architecture design with standards and certain criteria can produce most importantly, quality environment can provide a well setting that feels like a good place to be. According to this chapter there are many standards and design consideration to be taken in kindergartens. some of these slandered are related to the interior environment. This include the class room , the office , the play room and other facilities. The others are related to the exterior environment in which the child can play with outdoor playgrounds and similar equipment's. This include the garden , the play area and all surroundings of the kindergarten. These considerations are important for planning and design process and are necessary for children who spend many hours in kindergarten environment.



•chapter 1 • General introduction
•chapter 2 • childhood and children situation in Gaza strip
•chapter 3 • kindergartens and their situations in Gaza strip
•chapter 4 • The role of architectural design in improving the kindergarten's environment
•chapter 5 • Assessment of the architectural situations for kindergartens in Gaza strip
•chapter 6 • kindergartens Analytical study
•chapter 7 • proposals and recommendations

Chapter 5 / Assessment of the architectural situations for kindergartens in Gaza strip

5.1 Introduction:

It is necessary to evaluate the current environment of kindergartens in Gaza strip to recognize the reality of the problems in this field. This chapter presents the results of many site visits to a selected group of kindergartens all over the Gaza strip. The research required questionnaires that target a wide sample of kindergartens in Gaza strip directorates. It is aimed that these studies make a clear vision about the current situations of the architecture of kindergartens in Gaza strip.

This chapter displays the methodology of the field study which depended on questionnaires distribution , data collection and data analysis . It also discusses the questionnaire which was designed to give specific information about the architectural situation of kindergartens in Gaza strip. Finally, this chapter presents the outputs and the results of the study with comments and analysis for all problems in this field.

5.2 Study Background

Based on previous studies of kindergartens evaluation , there was a focus on educational field which aimed the Palestinian children in first class. This study is different from this point which produce evaluations for the physical conditions of the kindergartens environment through the study of architectural fields, such as architectural design, interior design and site coordination.

5.2.1 The Need of Ideal Kindergartens in Gaza Strip

As mentioned in (Anera, 2005), Gaza strip has become in serious need for exemplary kindergartens, especially in recent years due to multiple reasons, including the following:

- Lack of ideal kindergartens and the clear neglecting of their architectural requirements.
- The growing need for preschool due to women's leaving home for education and work.
- The social developments which resulted in the extended family in Gaza strip.
- The growth demand for education in Gaza strip which requires more attention for preschool period.

5.2.2 Justifications of the Assessment Study

According to the third chapter which produced the importance of the architectural environment for children in kindergartens, this chapter will produce detailed studies about the architectural situations in Gaza strip kindergartens.

This required a field visit to kindergartens at the provinces of Gaza strip and distribution of questionnaires to specify the problem statement. Other justifications of evaluation study can be listed as:

- Promoting the quality of architectural needs of kindergartens in Gaza strip.
- The need of improving the early childhood education sector.
- The necessary of raising awareness about the importance of kindergarten architectural environment in forming a child character.

5.3 The Objectives of the Assessment Study

This study principally aimed to identify the architectural needs to improve the quality of early childhood education in terms of different related field such as the site plan considerations , the building design , the architectural indoor and outdoor spaces and the finishing and furnishing of kindergartens, that can produce clear vision about the building situations in this field.

5.4 Study Procedure and Methodology

The mythology of this research depends on questionnaires distribution to a selected sample of kindergartens in Gaza strip. This required many procedures such as kindergartens selection, data collection, data analysis, questionnaires arrangement and outputs discussion.

5.4.1 Sample Selection and Data Collection

The research sample was selected from 6 districts in the Gaza Strip, according to the adopted distribution of provinces in the Ministry of Education, where the districts are - East of Gaza - West of Gaza - North of Gaza strip - the middle region and the southern region which include Rafah and Kanunis. The study sample covered a number of 64 licensed kindergartens distributed in Gaza strip provinces. The following figure (5.1) displays a map for Gaza strip including the distribution of the selected kindergartens. See table (7.1) - in Annex- page 163 for more details.

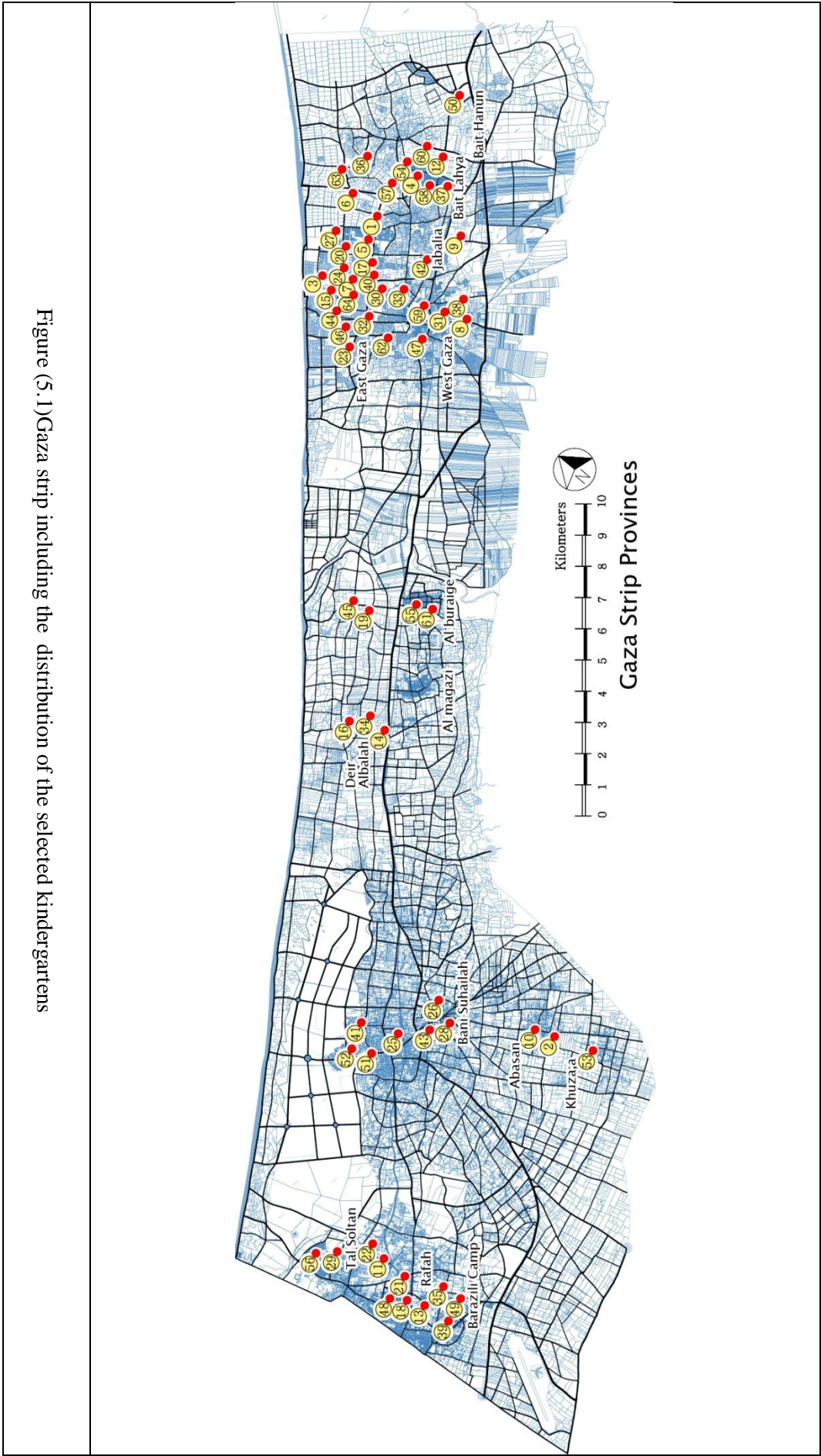


Figure (5.1)Gaza strip including the distribution of the selected kindergartens

5.4.2 Data Analysis

After the gathering of the questionnaires which were distributed on the provinces of Gaza strip , they were sorted out and classified according to each region. Some questionnaires were partly filled, the others were answered with detailed information in the margin. It is noticed that there are common observations that can be easily generalized. There are also different information that required to be analyzed. The study analysis tool was the SPSS program for data analysis. All information mentioned in the questionnaires were separated in the program tools and analyzed and presented as statistics and percentages. The following figure displays the plan of data analysis.



Figure (5.1) method of data collection and analysis

5.4.3 Obstacles and Difficulties

- The questionnaires distribution took a long time while the principals of kindergartens filled them.
- the author had to wait the beginning of the next semester in order to distribute the complement of the questionnaire sample.
- Some headmasters of kindergartens refused to fill in the questioners and there were some difficulties to satisfy them with more explanations and official letters.
- Some questionnaires were not filled completely which resulted in a shortage of some information, so it is required more time to arrange and separate them.

5.4.4 Questionnaires Description and Outputs Analysis

The questionnaire was divided into 6 main parts that cover different subjects of the planning and architectural design of the kindergarten buildings. The questionnaire targeted the headmaster of each kindergarten of the selected sample,(see Annex page 165), and informed about:

First / general information about the kindergarten which includes the address , the year of establishment , the total number of students and the average number of students per class.

Second / specific information about the site plan and the location of the kindergarten such as the direction , the nearby buildings , the distance from the residential regions of the children and the situation of the surroundings including the traffic , the noise and other considerations.

Third / Information about the general design of the kindergarten that produces more information about the building function , aesthetic appearance, the adequate for disabilities, the environmental conditions such as the temperatures, lighting and ventilation. Inquiring Also about the number of stories, the site area and building boundaries.

Fourth / Detailed architectural information of the following:

- A- Classrooms number and furnishing.
- B- Activities room area and available corners in each one , the activities produced in the kindergarten programs and the availability of the furniture and instruments such as shelves, tables , tools for handicrafts , toys , technology sets and so on.
- C- Other architectural spaces such as administration room , WCs , stores and detailed inquiry of each space.

Fifth / outdoor spaces information such as green area , aesthetic site elements, pergolas and coverage and playground units. It also inquires about the playgrounds area, types and the quality and the availability of them.

Sixth/ information about the interior design of the kindergartens , spatially what is related with the finishing of the floor , the ceiling , the walls and the furnishing of the interior spaces. The following diagram presents the questionnaire contents and the plan of its design.

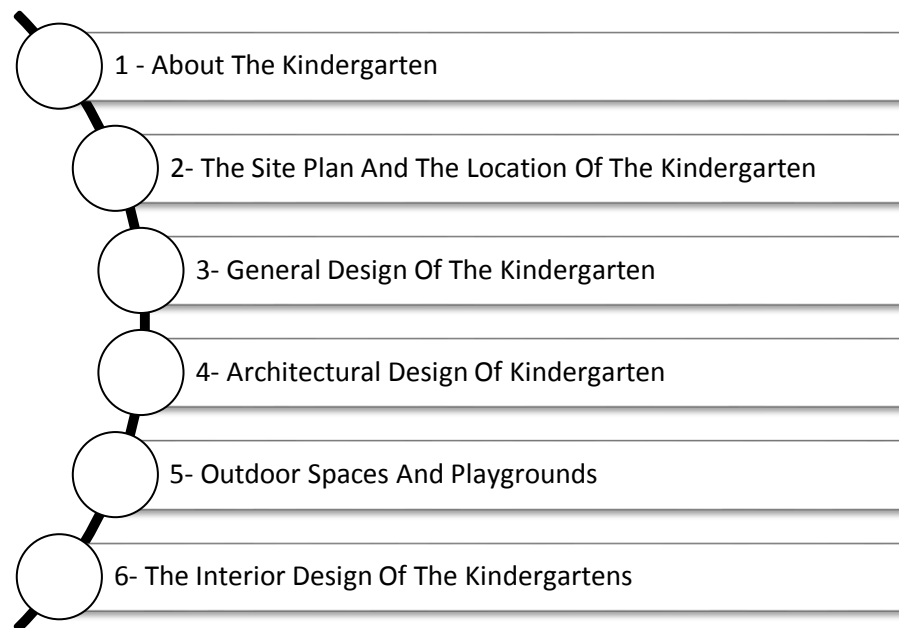


Figure (5.2) the plan of questionnaire design

5.5 Findings and Outputs

According to SPSS program (Statistical Package For Social Science) analysis and with the reference of questionnaire contents, these findings and outputs were presented.

5.5.1 General information about Kindergartens

The first part of the questionnaire inquires about the location , the address , the location , the year of establishment and the stages of kindergartens. The table at the appendix of chapter 7 presents the distribution of study sample on provinces of Gaza strip. According to that table findings can be presented as:

The total number of kindergartens sample were 64 kindergarten which presents 24.5% of total licensed kindergartens in Gaza strip – for more details see chapter 3 (kindergartens situation in Gaza strip). The following figure presents the kindergarten sample distributed according the provinces of Gaza strip.

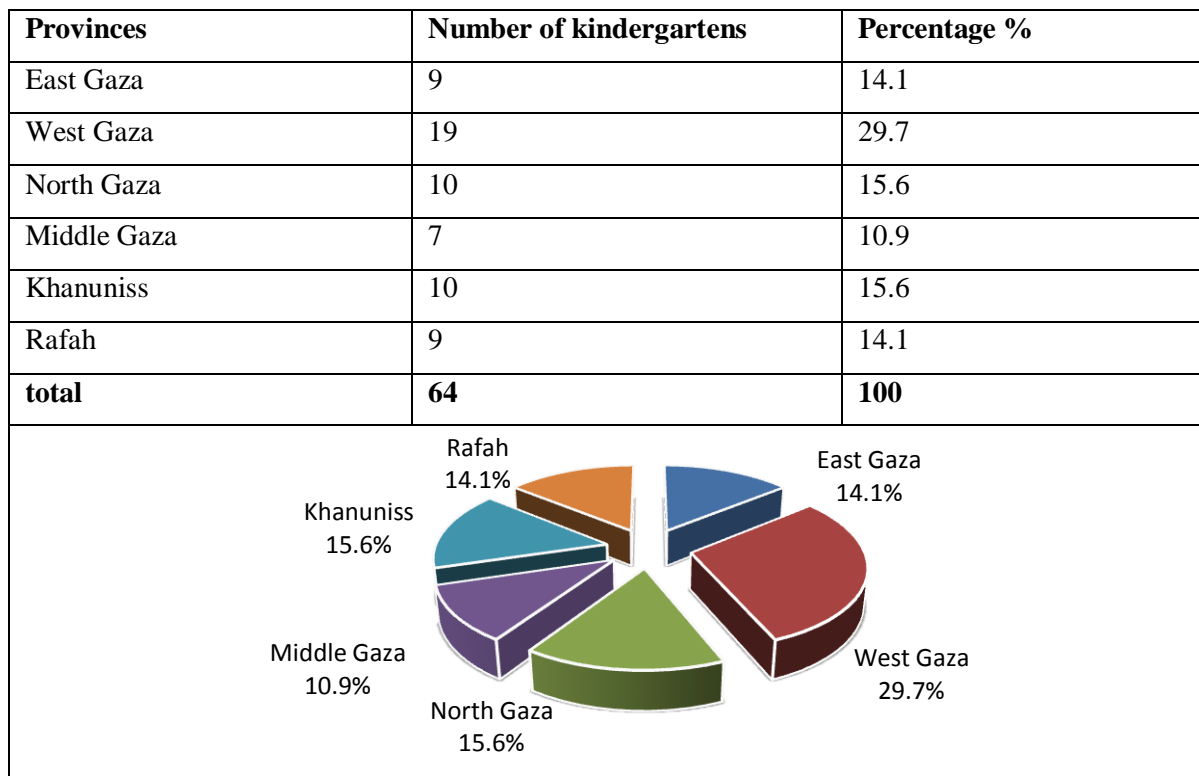


Figure (5.3) percentage of kindergartens sample distribution according to provinces

A - Year of Establishment

The year of establishment is important to produce indicators about the periods of kindergartens evolutions and the number of them for each period. These indicators are related with the political , social and economic situations of Gaza strip. The figure (5.4) below classifies the years of establishment from the year 1990 until now which can monitor changes for each period.

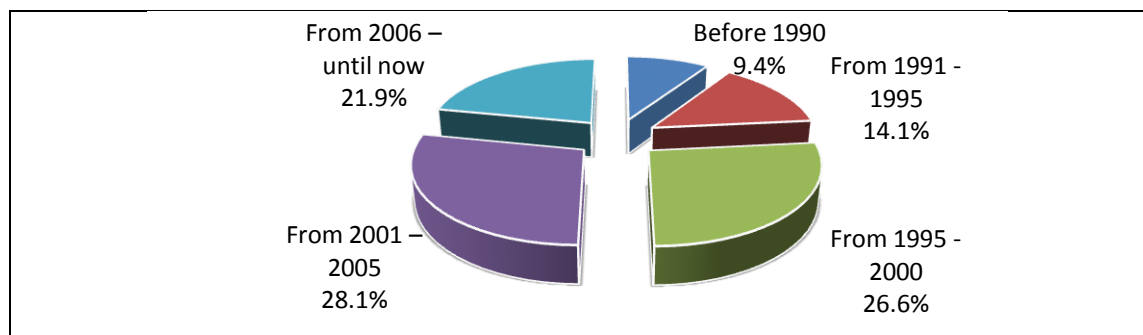


Figure (5.4) percentage of establishment periods for kindergartens sample

With reference to questionnaire contents , the years of establishment were classified as five periods. Each period represents five years which are enough for monitoring kindergartens changes. The data analysis presented that the lower percentage of 9.4%

happened before the year 1990. This ratio can be explained by the lack of kindergarten buildings at the Israeli occupation period (Alamaira ,2000).

While the higher percentage of 26.6 % from 1995 - 2000 . This can be explained as the cultural changes after the arrival of the Palestinian National Authority. The number of kindergartens began to increase from 1995 until now. The percentage of 28.1 % from 2001 – 2005 can be explained according to the economic and social situation of Gaza strip at the period of Al-Aqsa Intifada. At this period many kindergartens were established at houses as an economic source and great number of kindergartens were supervised by Institutions of civil society. (the previous reference)

B - Stage in Kindergarten

Kindergartens can provide services for different ages of children. This clause of questionnaire classify the percentage of children presence in kindergarten according to the age. The following table classify children as three periods. Kindergarten stage represents the children from 3-5 years while preschool represents the class preparing to enter the first semester at primary school. The nursery is for infants or before 3 years children.

Table (5.1) stages in kindergartens sample

Stage in kindergarten	Number of stage	Percentage%
Kindergarten(4-6) years	64	100.0
pre-school (3-4) years	61	95.3
Nursery (before 3 years)	7	10.9

According to table (5.1) the upper percentage for kindergartens stages were preschool and kindergarten which shares the vast majority of kindergartens stages, while the lower percentage of 7% only for nursery which requires special considerations and because of Palestinian women culture.

C- Number of Children in Kindergarten

Determining number of children in kindergarten is impotent to know the rate of density for interior and exterior spaces and the quality of services provided for children. This will be also important to classify kindergartens according to the bearing capacity of children in the kindergarten building.

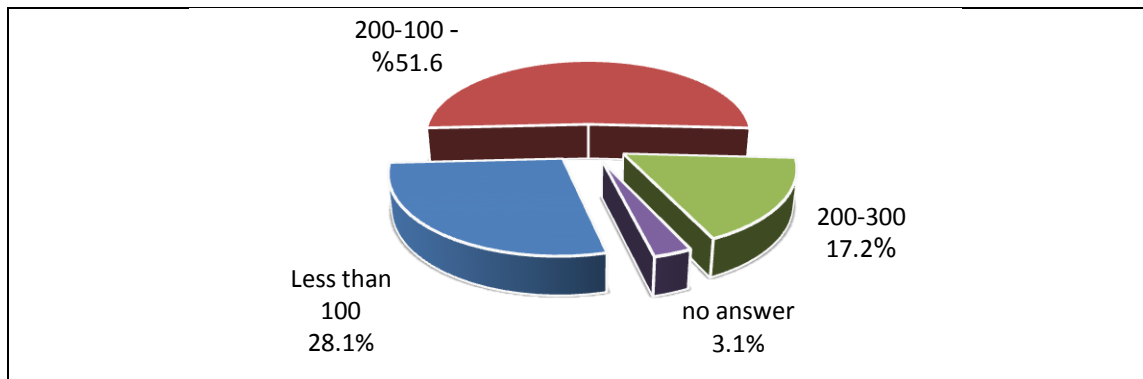


Figure (5.5) percentage of kindergarten sample according to the number of children

Figure (5.5) shows that about 51 % of kindergartens sample have the average of 100 - 200 children and about 28% of kindergartens have the average of less than 100 children. While the lower percentage is about 3% for the average over 300. These results can be explained according to the average number of classrooms in kindergartens and number of children in each class as displayed in the following table.

D- Average of Children Number in Class

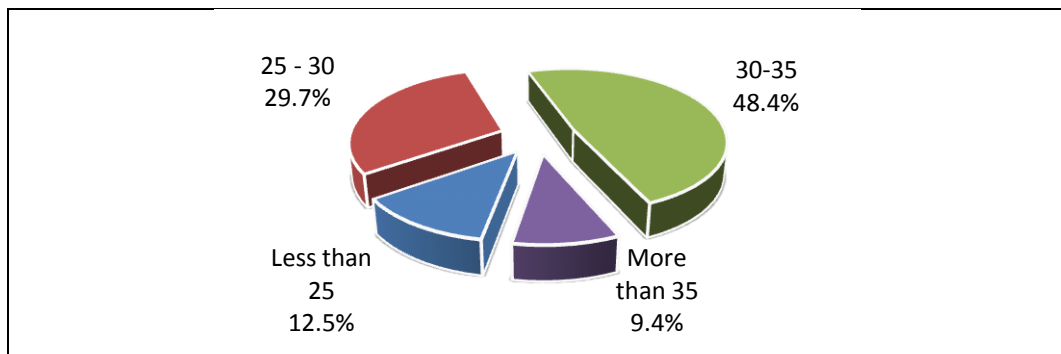


Figure (5.6) average of children number in kindergarten sample

According to the previous figure, the average of children number in kindergarten sample represents the percentage of about 48.5% for 30-35 children in each classroom, and this is a high ratio spatially that most classrooms are residential rooms (ranged from 13 – 18 m²) – for more details see the tables of questionnaires analysis of rooms areas later.

5.5.2 Site Plan of Kindergarten

The choice of kindergarten location is very important and related with specific considerations . The kindergarten site plan is associated with many factors such as the nearby residential area , the kindergarten accessibility, the traffic condition , the noise level and so on. The next provision of the questionnaire discuss the location of kindergarten sample.

A- Site Plan

According to the previous requirements for site plan choice , the next figure present that:

- The vast majority with the percentage of 65% of kindergartens sample are very near from residential areas. This ratio can be analyzed because of the high density of residential buildings at Gaza strip.
- 45.5% of kindergartens sample are very easy accessible , and a nearby percentage of these kindergartens are easy accessible.
- 47.7 of kindergartens sample take place in a very traffic jammed areas.
- 38.6 % of kindergartens samples take place in noisy areas. This can be a logical result because of the traffic jammed and the crowded town.

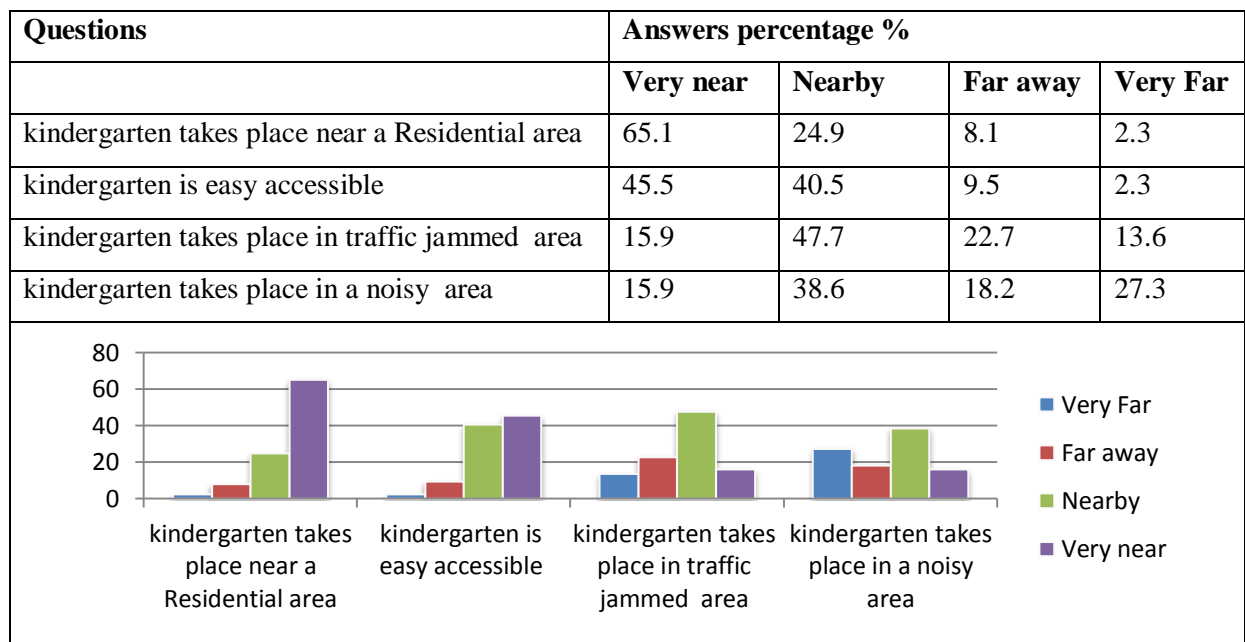


Figure (5.7) percentage of site plan answers

B - Number of Nearby Kindergartens

The answer of this question will give good indicator about the services region of kindergarten in each district. It is noticed throughout the field visit that there are many kindergartens crowded along the same street while others are far away from districts. The following table classified the sample according the number of nearby kindergartens.

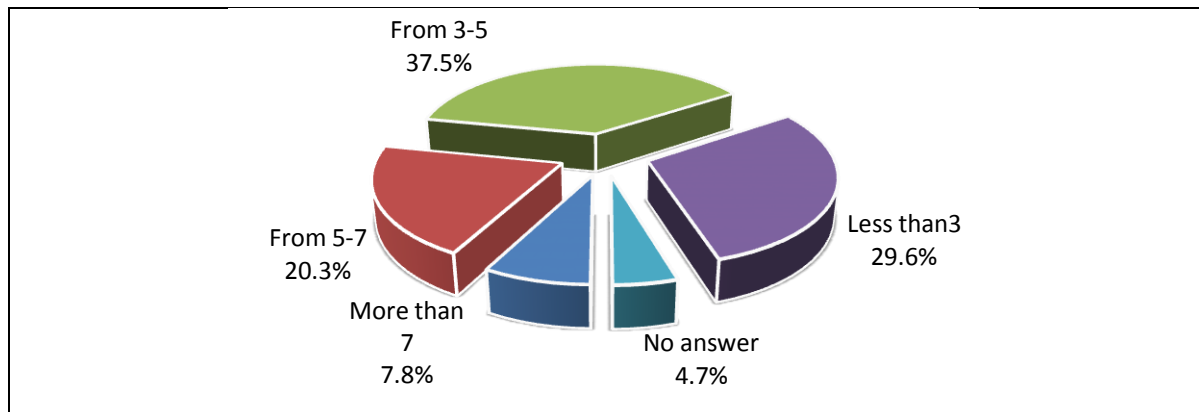


Figure (5.8) average of nearby kindergartens

Figure (5.8) displays that 37.5% of kindergartens sample are nearby to three , four or five kindergartens while 20 % of kindergartens are nearby to five , six or seven kindergartens. These numbers give clear indicators that there are overcrowding of kindergartens in different areas in Gaza strip.

C- Formation of Urban Planning

The following table (5.2) inquires the formation of urban planning and if the entrance can be reached easily. This is related to the civilization of each district and the accessibility level for kindergartens.

Table (5.2) Formation of urban planning of kindergartens

Do the formation of urban planning shows the entrance of kindergarten easily	Number of answers	Percentage%
Yes	40	62.5
No	21	32.8
With no answer	3	4.7
Total	64	100

D- Kindergarten Transportation

The following table inquires about the transportation of kindergartens.

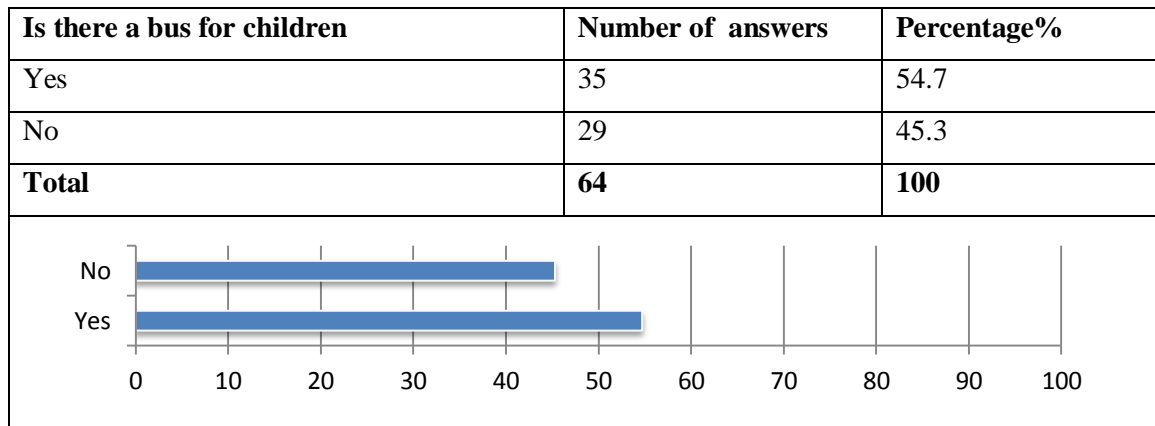


Figure (5.9) Kindergarten transportation

According to figure (5.9) it is noticed that about 55 % of kindergartens depend on a bus for transportation while about 45 % have no bus. The percentage seems to be high comparing with the percentage of kindergartens take place near a residential areas. But this can happens if the kindergarten bus is a multipurpose vehicle for school students and group transfer as a source for income.

E- Kindergarten Building Design

The following table inquires about the building situation of kindergarten and the origin design of the building. This question is important because houses are widely used as kindergartens in Gaza strip.

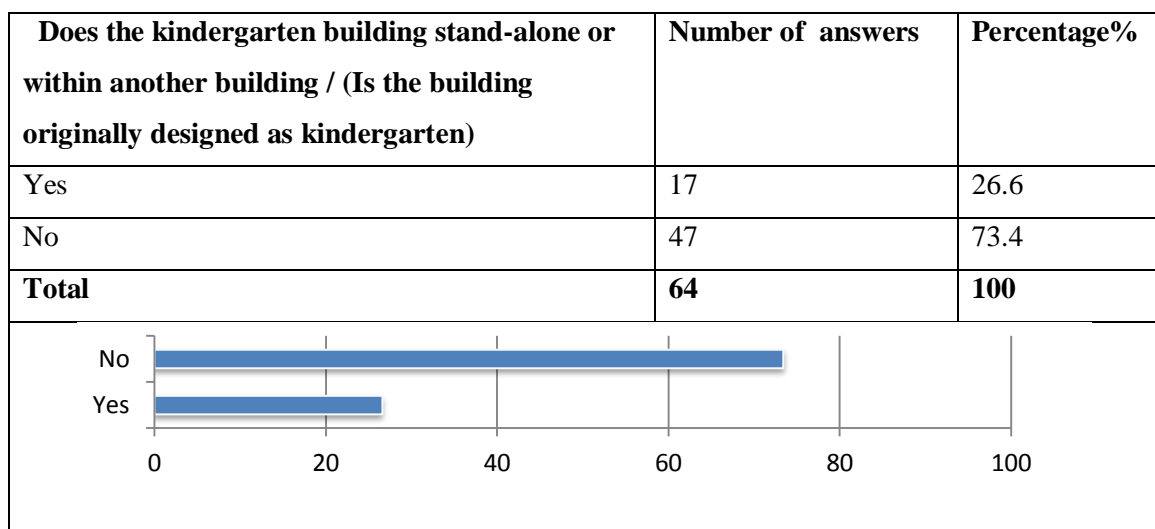


Figure (5.10) Kindergarten building design

As it was expected, figure (5.10) displays that the vast majority of kindergartens building design is not stand alone , but within another building . This means that about 73.5 % of kindergartens are not designed as kindergartens . The figure (5.11) below shows that about 45.5 % of kindergartens are formed in residential buildings, while about 40 % are rented.

5.5.3 General Design of Kindergarten

As a Complement of the previous paragraph, the following figure (5.11) classified the previous functions of kindergarten building.

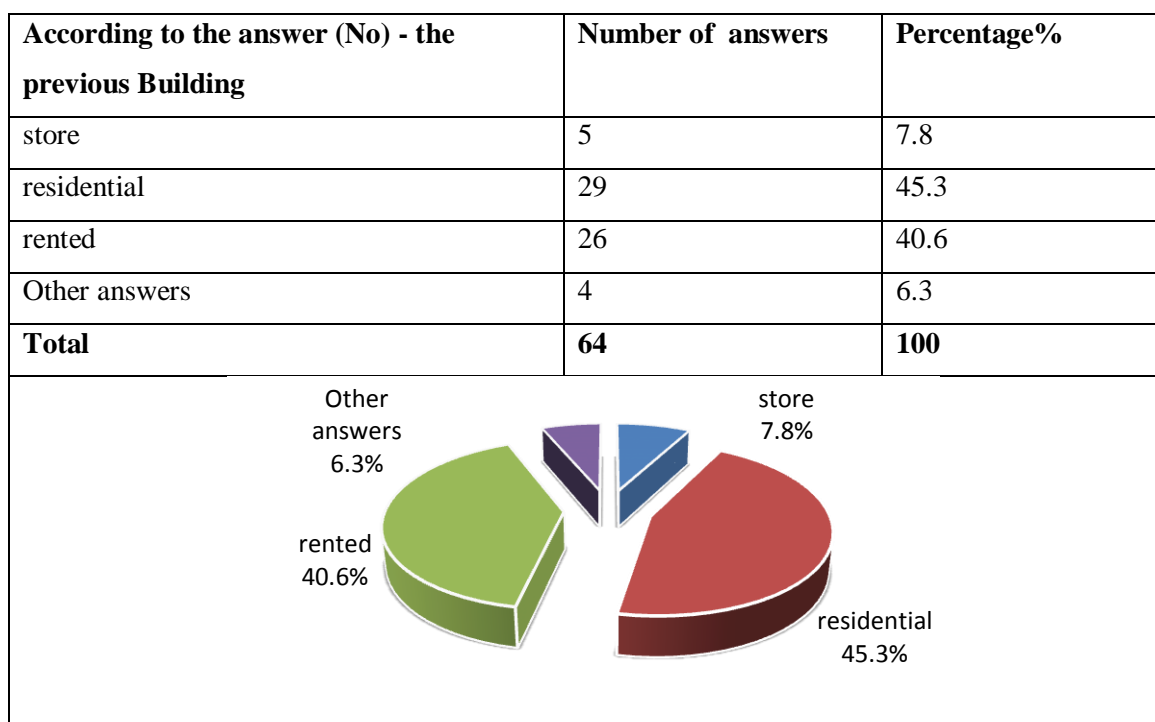


Figure (5.11) the main Building design

While the rented buildings in Gaza strip are usually designed as residential, commercial, or societies buildings. This means that over 3/4 of the kindergartens take place in residential buildings. The other answered was filled as kindergartens take place in mosques, stores or other facilities.

A. General Design of Kindergarten

The following table discusses general design considerations of kindergartens building such as the form, the appearance, natural lighting and ventilation in order to produce general impression about the building.

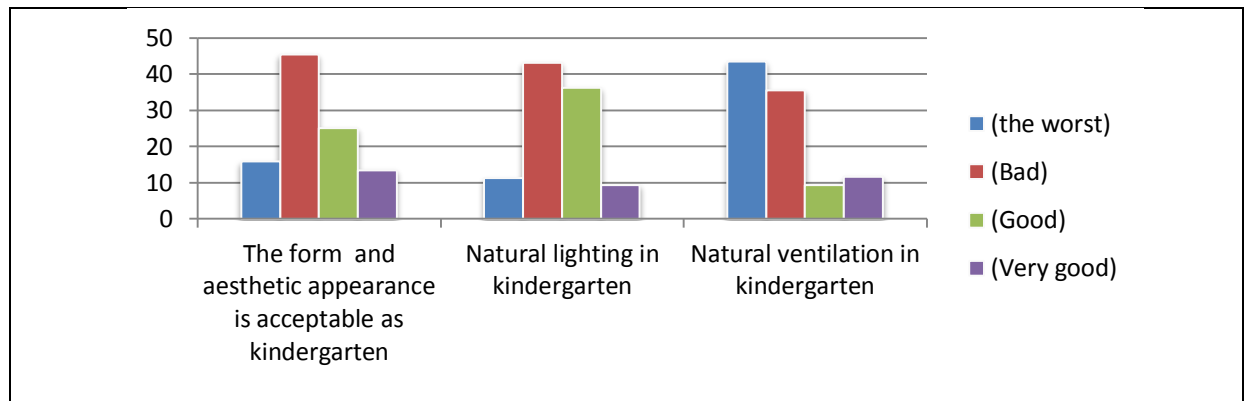


Figure (5.12) chart of general Building design answers

According to figure (5.12) dominate character of the form and aesthetic appearance of kindergartens are bad. The natural lighting and natural ventilation in most kindergartens are either bad or good, while the natural ventilation in others are bad or the worst.

B. Adaptation for Disabilities in Kindergartens

Disabled can't be neglected from the society. Disabled children requirement should be taken in mind while establishing any public building. The questionnaire inquires about the disables equipment in kindergartens and if the building adequate to receive children with special needs.

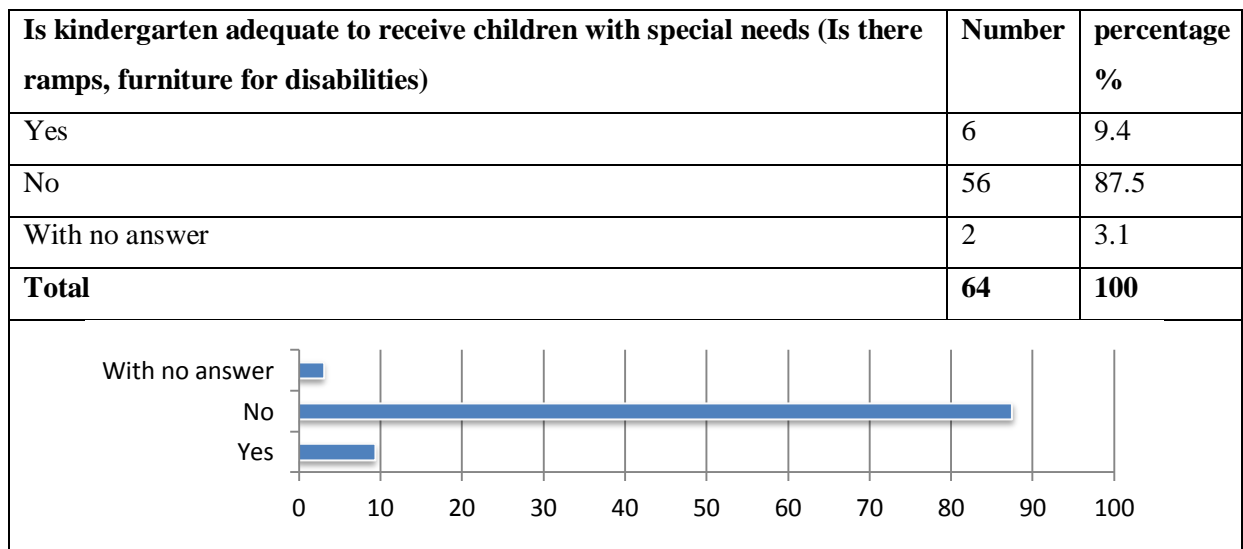


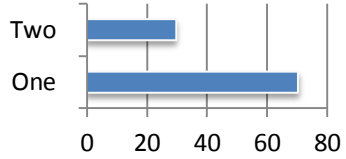
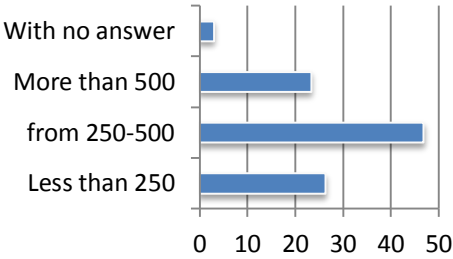
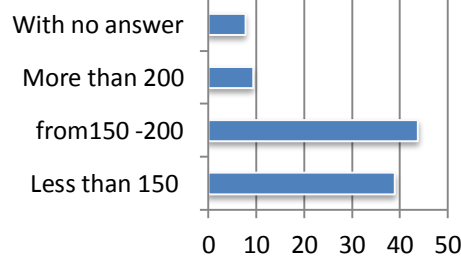
Figure (5.13) percentage of adequate kindergartens for disables

According to figure (5.13) the overwhelming majority of kindergartens are not adequate to receive children with special needs , there are no ramps , furniture for disabilities or any references to other types of disabilities.

C. Other Kindergarten Building Information

The following table (5.3) presents other information about the building of kindergarten such as number of stories , site plan area, building area which is important to monitor situations of architectural design in kindergarten building.

Table (5.3) Other Kindergarten building information

Number of stories	Number of answers	Percentage%	
One	45	70.3	
Two	19	29.7	
Total	64	100	
site plan area / m2	Number of answers	Percentage%	
Less than 250	17	26.4	
250 -500	30	46.9	
More than 500	15	23.4	
With no answer	2	3.1	
Total	64	100	
building area / m2	Number of answers	Percentage%	
Less than 150	25	39	
150 -200	28	43.8	
More than 200	6	9.4	
With no answer	5	7.8	
Total	64	100	

- Table (5.3) displays general information about kindergartens building as following:
- About 3/4 of kindergartens building are built as one story, and 1/4 of them are two stories.
- About 47 % of site plan areas are from 250 – 500 m² while the other ratio are less than 250 m² or more than 500 m².

- About 45 % of building area ranges from 150-200 m² and 39 % are less than 150 m², while little percentage of about 9.5 % are more than 200 m².

5.5.4 Architectural Spaces

This clause of questionnaire inquired about the interior spaces of kindergartens such as classrooms , activities rooms, stores , path rooms and other spaces. It is also verifies the equipment of these spaces and the requirements for every zone.

A- Classroom Type

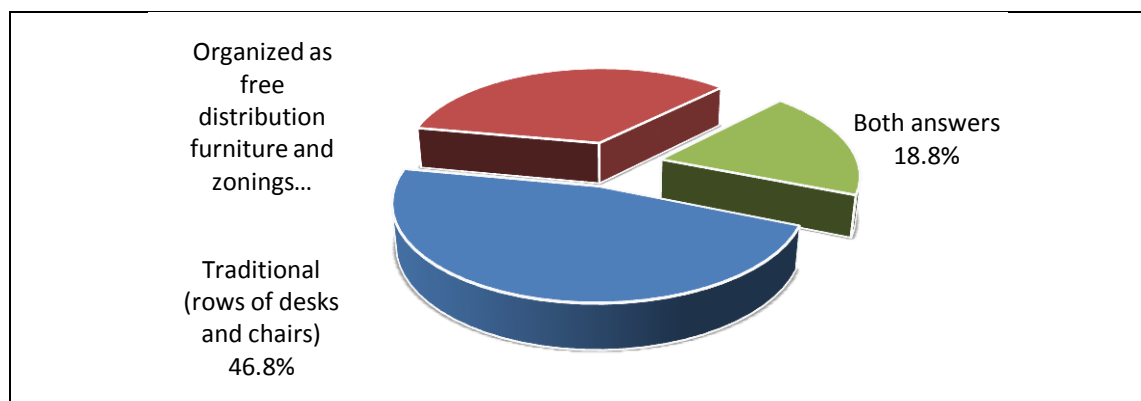


Figure (5.14) chart for of classroom type

Figure (5.14) displays that 35.5 % of kindergartens furniture are organized as free distribution and zonings, while about 47 % of kindergartens furniture are traditional desks and chairs. Some questionnaires' give the both answers with the ratio of about 19% that means that there are variety of classrooms types.

B- Activities Room

Activities room is a very important space in kindergarten as it contains many educational equipment. As it was mentioned in chapter (4), activities room needs some design consideration and requirements.

The next figure (5.15) produces indicators about the activities room area in kindergarten sample.

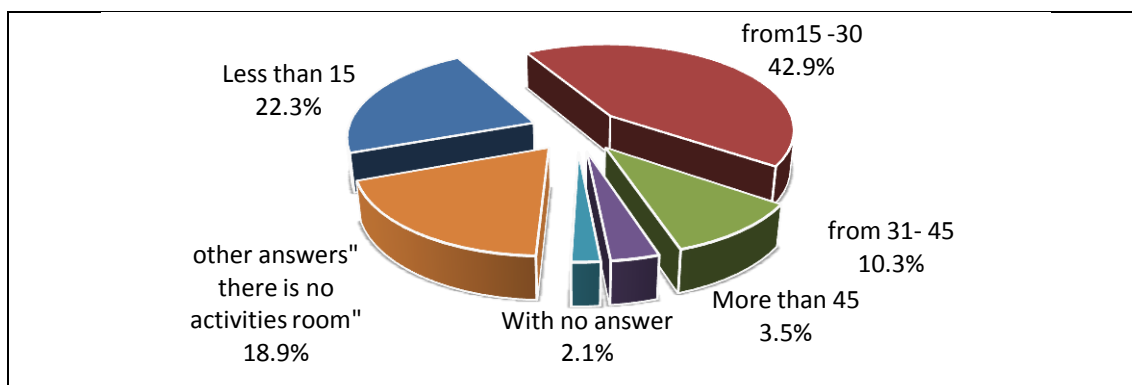


Figure (5.15) indicators for activities room area

- Figure (5.15) displays that:
- About 43 % of activities room area are averaged from 15 -30 m². This is a reasonable proportion as the activities room take place in one room of the kindergarten which designed as residential building.
- About 10 % of activities room area are averaged from 31 - 45 m², and this is a small ratio compared with the activities are held in this room.
- About 22.5 % of activities room area are less than 15 m².
- It is noticed that about 20 % of kindergartens have no activities or play rooms.

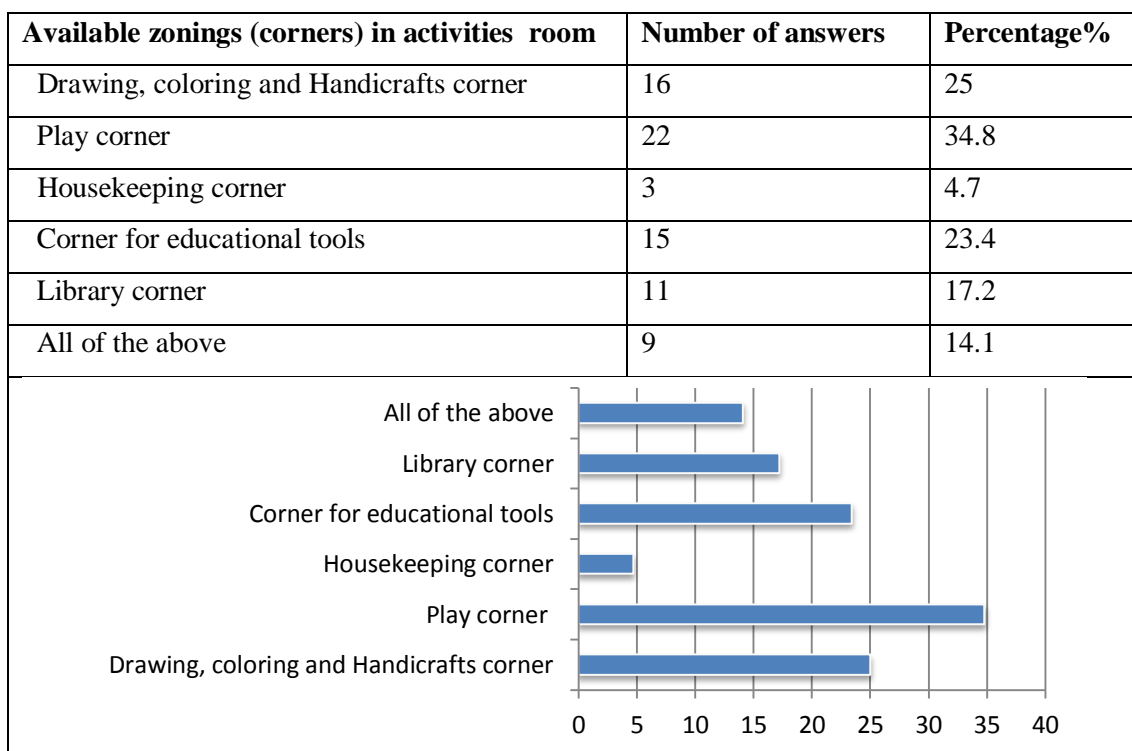


Figure (5.16) zoning and corners indicators in activities room

According to figure (5.16) activities room include many corners with different percentages for each activity. The available corners give an indicator for kindergartens active and nonsystematic methods for learning. It is noticed that the popular corners in kindergartens sample are corners for drawings, coloring, playing, handicrafts and corners for educational tools, while there is neglect for housekeeping and library corners. Also it is noticed that there is a clear lack at additional activities such as theater , representation , music and singing. The table below presents percentages for these activities.

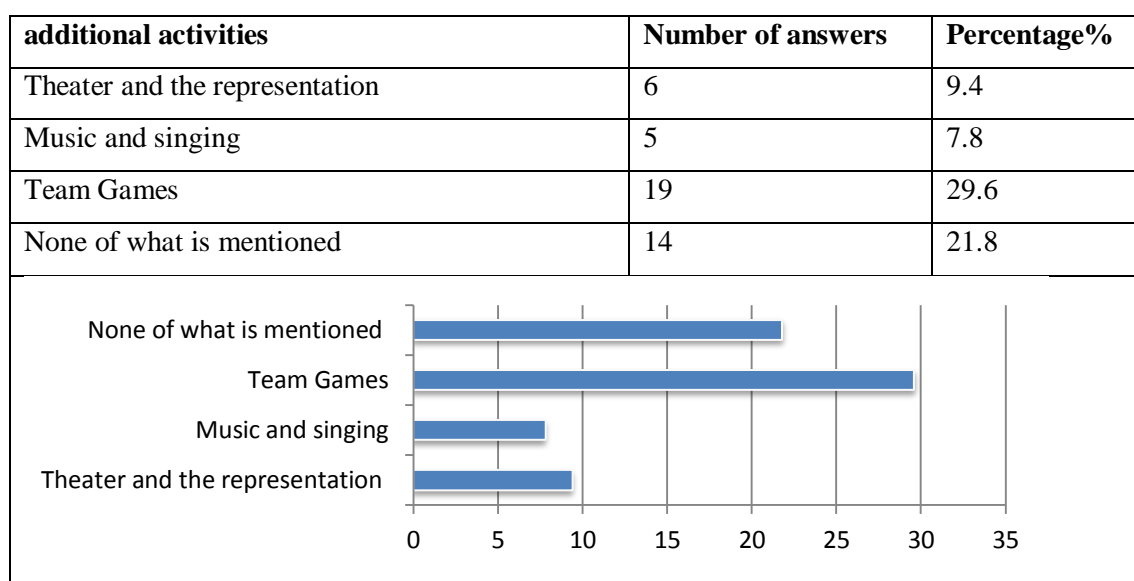


Figure (5.17) chart displays the additional activities in kindergartens

C- Tools And Instruments

As the architectural design of activities room is necessary, there are several tools and instruments must be available to complete its function such as furniture, tools for drawings, musical instruments, technologists and play tools. The next figure (5.18) displays the percentage for availability of these tools.

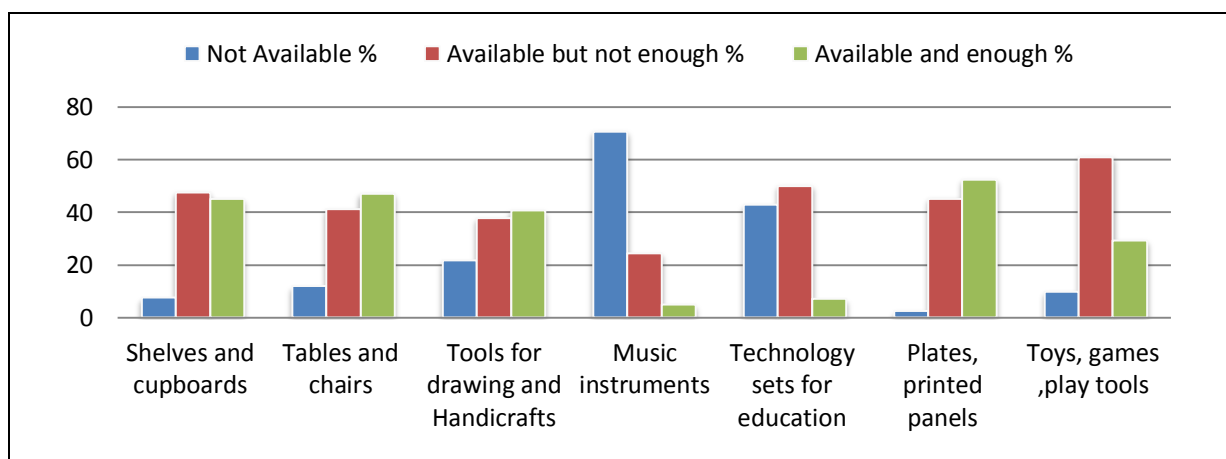


Figure (5.18) indicator for tools and instruments availability in kindergartens

As shown in figure (5.18) most kindergartens suffers from the shortage of tools and instruments. The answer " available but not enough" is the major answer for shelves, cupboards, chairs , sets, and play tools. It is noticed also that music instruments are usually not available.

D - Store

Storeroom is an additional space in kindergarten. its function is to save, store tools and instruments. It also can be used as a multipurpose space.

The following table (5.4) displays the option of kindergartens principals about the importance of the storeroom in their kindergarten .

Table (5.4) indicators for store necessary

Do you think store room is necessary for saving these tools	Number of answers	Percentage%
Yes	45	70.3
No	14	21.9
Without any answer	5	7.8
Total	64	100

It is noticed that about 70% of principals enhance the existence of storeroom in their kindergarten that gives good indicator of its importance.

it is also necessary to inquire about other specific architectural rooms such as children library, play room, media room, and multipurpose room. The following figure (5.19) is about the availability of these spaces.

Specific architectural rooms	Number of answers	Percentage%
Children library (colored stories, prints , books)	5	7.8
Play room	11	17.2
Room of Audio and Video (TV and computer and video - recorder and so on)	7	10.9
Room for drawing, coloring and Handicrafts	6	9.4
Multipurpose room	19	29.7
Nothing of listed above	27	42.2

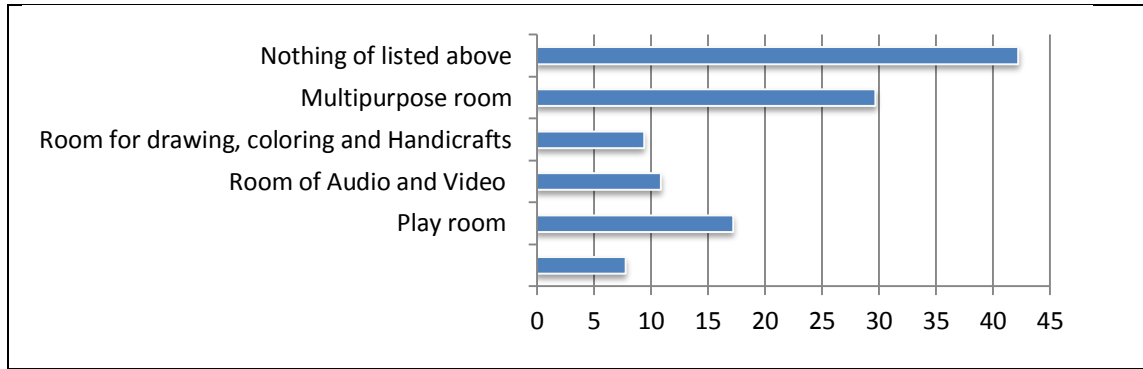


Figure (5.19) charts for the availability of specific architectural rooms

It is also noticed that major number of kindergartens sample have not any specific architectural rooms such as play room , audio - video room , children library, specific room for drawing , coloring and handcrafts. However, other spaces such as stores, administration , WCs and fountains are available with the percentages and proportional weight mentioned in the table below.

E - Other Spaces

These spaces are also necessary for kindergartens design, what about wcs, drinking fountains, administration room , and teachers restrooms.

The following figure (5.20) displays the percentage of existence for these spaces.

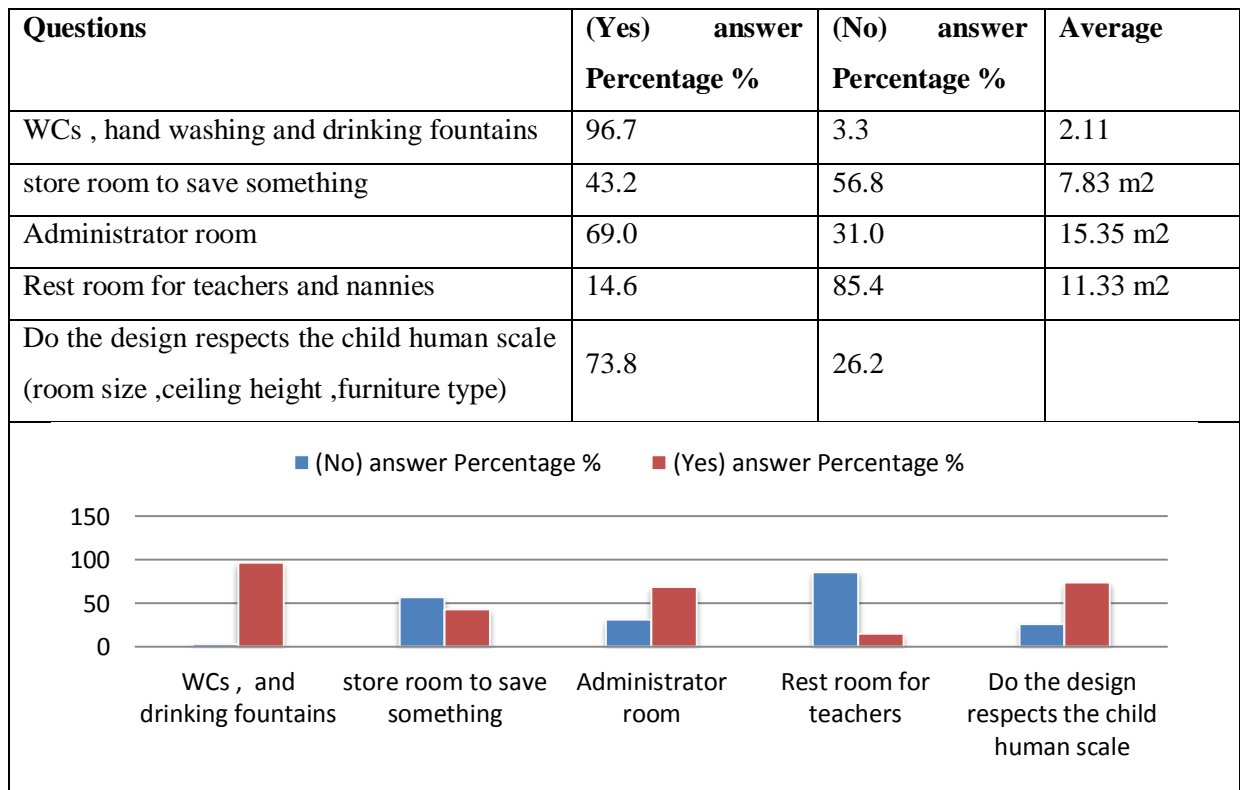


Figure (5.20) the existence of other spaces

According to figure (5.20) it is noticed that the percentage of existence for wcs, administration room and drinking fountains is very good, while there is an obvious shortage in the existence of teachers restroom.

5.5.5 Outdoor Spaces

According to the third chapter, the outdoor spaces is very important for children in kindergartens. Therefore, the questionnaire discussed several points which are related to specific requirements for kindergartens landscaping.

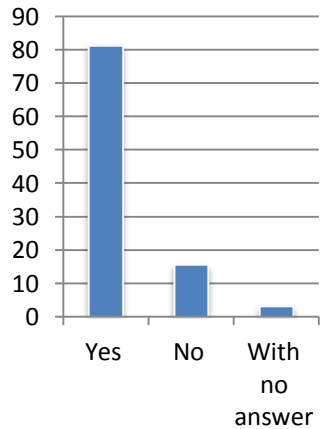
A- Outdoor Garden

The outdoor garden is a vital place for children to participate activities in nature.

The following table (5.5) displays that there is an awareness about this fact.

A percentage of about 80% of kindergartens include a space at the side or behind the building of kindergarten.

Table (5.5) the existence of Outdoor garden

question	Number of answers	Percentage%	
Is there an outdoor space in kindergarten design			
Yes	52	81.3	
No	10	15.6	
With no answer	2	3.1	
Total	64	100	

B- Outdoor Requirements

In spite of the good indicator of the garden existence as shown in table (5.5), the following figure (5.21) displays that these outdoors are still need some requirements such as grass, sandy area, aesthetic site elements, pergolas and playgrounds.

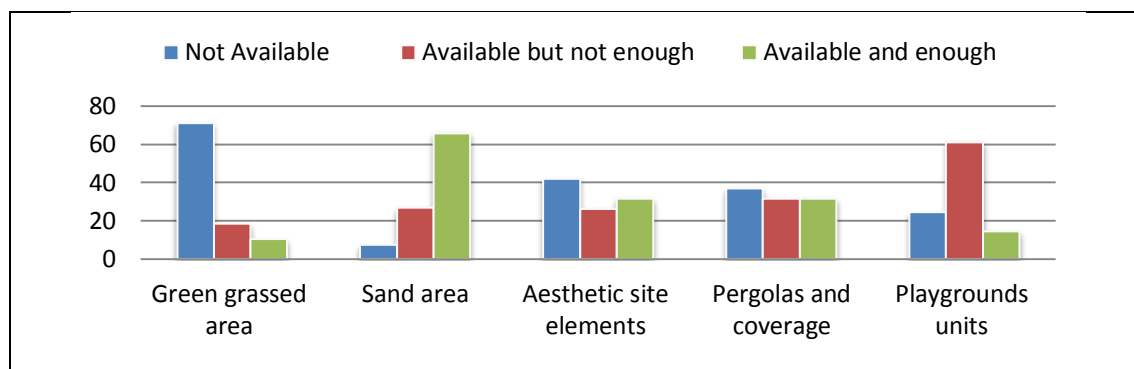


Figure (5.21) indicators for the outdoor spaces requirements

According to the previous tables and figures it is noticed that outdoor areas are available with high percentage of about 81 %, but there is a clear shortage of its requirements that about 70 % of kindergartens have not green grassed area but yellow sand instead. While playgrounds units are available but not enough for most kindergartens. As for the area of playgrounds it is noticed that about 33 % of kindergartens play areas were ranged from 50 – 150 m². While 28 % of kindergartens play areas were less than 50 m² and 20 % were more than 150m². A percentage of about 19 % give no answer that can be justified as the ignorance to calculate areas especially that most play areas take place in the distance between the building and the neighbor- see the tables below.

C - Playgrounds Area

According to the following figure (5.22) which the playgrounds area, it is noticed that there aren't a specific area for playground. The areas are variable from one It is noticed also that a nearby percentage is for no answer that means the headmasters have no information about the areas exactly.

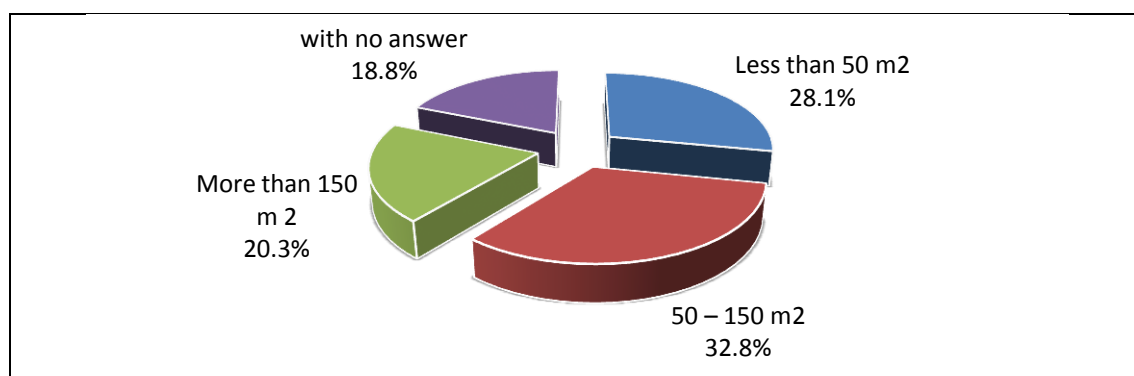


Figure (5.22) chart for playgrounds area

D - Playgrounds Floor

There are special considerations for playgrounds safety. The floor under playgrounds is very important for children safety.

The following figure (5.23) displays indicators for playground floor types .

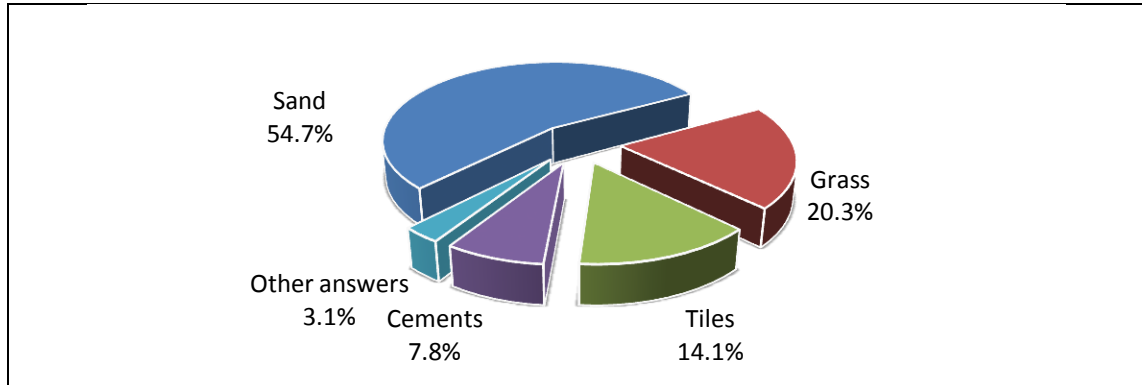


Figure (5.23) indicators for playgrounds floor type

The previous figure (5.23) displays that sand is used widely under playgrounds in the sample of kindergartens. While grass is used randomly with little percentage.

Some answers show that tiles and cements are used under playgrounds are used under playgrounds which isn't safe and may cause hazards.

E -Playground Status

The following table (5.6) displays the status of slides, swings, and other playgrounds.

Table (5.6) playgrounds status

Questions	Average number	(Very good) Answer %	(Good) Answer %	(Worsening) Answer %
Swings	2.65	9.7	30.0	60.3
Slides	1.78	14.7	27.3	58.0
Looping rounded seats	1.34	8.2	46.2	45.6
Detached playgrounds(horses, spirals, balancing and so on)	2.13	16.4	30.4	53.2

According to table (5.6) most playgrounds in kindergartens seems to be worsening, especially slides , swings and detached playgrounds. Therefore it is in real need to have periodic maintenance or to be replaced with new units. However a reasonable percentage of looping rounded seats and some detached unit are seemed to be good.

5.5.6 Finishing and Furnishing

This part of questionnaire inquires the interior and exterior finishing and furnishing. The exterior finishing include the type of outdoor materials, the condition of building, the colors of walls and the roof type. While the interior finishing include the walls colors , the floor tiles , the ceiling coverage and the interior furniture condition.

1-Exterior Finishing

The table below displays the finishing conditions of kindergarten sample.

Table (5.7) exterior finishing condition

condition	Number of answers	Percentage%
Full finishing	22	34.4
Partial finishing	31	48.4
Not finishing	11	17.2
Total	64	100

A - Type Of Exterior Finishing

The urban planning formation is different from one region to another .

As a result there isn't an architecture style for buildings in Gaza strip. The exterior finishing is also different in the same street . So, the following figure (5.24) displays the type of exterior finishing for kindergartens.

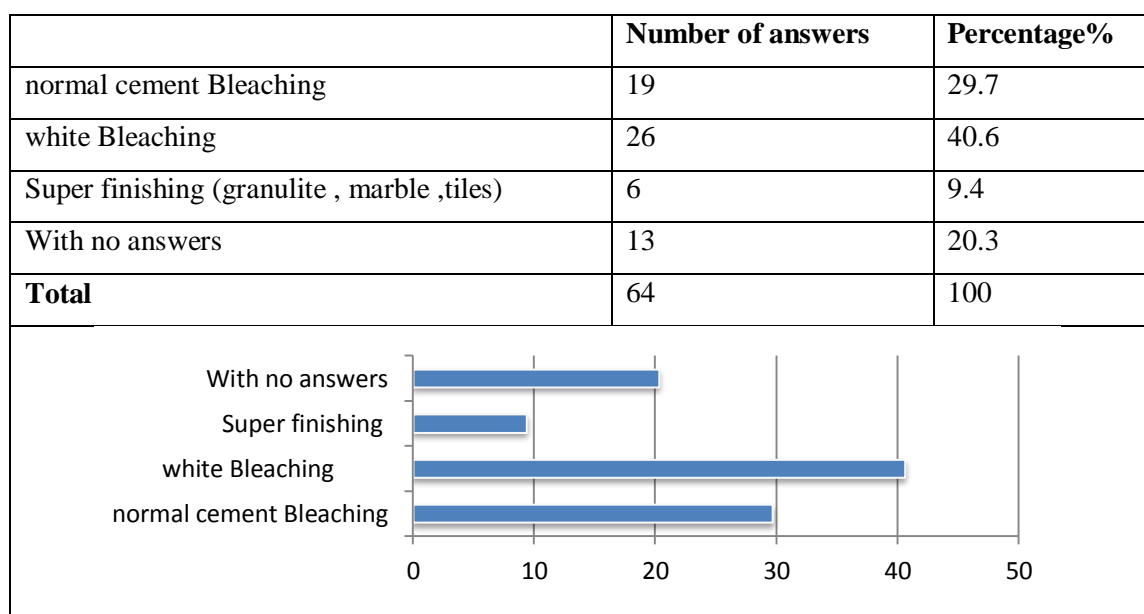


Figure (5.24) indicators for exterior finishing

According to the previous tables , the upper percentage of about 48% of kindergartens are partial exterior finishing, and the percentage of about 34% are full finishing. It is noticed that the major full finishing materials are white bleaching which marks the ratio of about 40 % of kindergartens, normal cement bleaching with about 30 % and super finishing such as granulite , marble and tiles with the lower ratio of about 9.5 % of kindergartens exterior finishing.

The exterior painting colors are variable between different colors but the dominate color is white with some drawings by other colors.

B. Exterior Paintings Colors

As a complement for the exterior finishing . Colors play vital role in the appearance of the urban formation . On the other hand, colors are necessary for the kindergarten elevations which clarifies its characteristic.

The following table (5.8) displays the kindergartens exterior colors.

Table (5.8) Exterior paintings colors

Color	Number of answers	Percentage%
White	8	12.5
White with other colors	10	15.6
green	3	4.7
Cyan	4	6.3
Light yellow	5	7.8
pink	7	10.9
Blue and orange	6	9.4
Violet	3	4.7
gray	2	3.1
With no answers	16	25
Total	64	100

C. Roof Finishing

During the field visits for kindergartens , it is noticed that the roof finishing is different from one to other. Some kindergartens roofs are cement reinforcement, the others are metal tinplate, asbestos or different materials. So, the following figure (5.25) inquires the type of roof finishing in order to improve it.

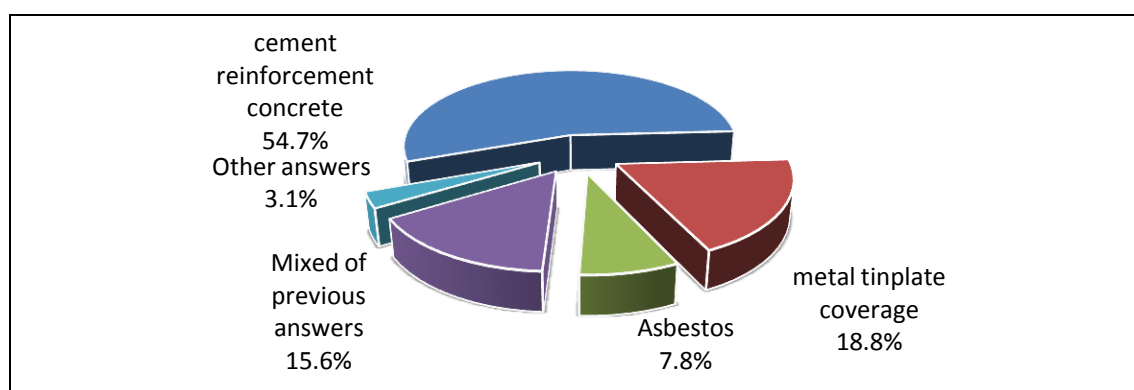


Figure (5.25) indicators for roof finishing

According to figure (5.25) the roof finishing materials were variable between the cement reinforcement which marks the upper ratio of about 55% of kindergartens.

The other answers were distributed to metal tinplate coverage and asbestos with the percentage of 19 % and 8 % respectively, however it is noticed that good ratio of about 16 % were mixed of previous answers that means that some classrooms are added to the original building with different materials in different periods.

But the important question -which inquires the inside coverage for no cement ceilings - marks high ratio of about 60 % for kindergartens without any coverage, while about 40 % of kindergartens ceilings are covered with cork or plaster inside.

D - Ceiling Coverage for Non-Cement Ceilings

It is noticed also that there is a problem in the interior finishing for the non-cement ceilings such as tinplate's or asbestos. There isn't any coverage below the ceiling to prevent the high temperature or solar radiation which cause bad effects on children especially in summer. The following figure (5.26) displays the percentage of interior treatments for ceilings.

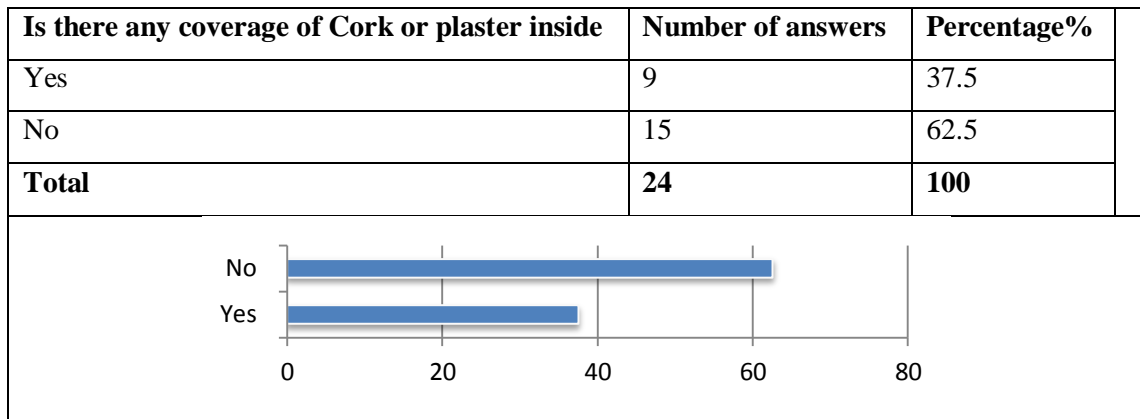


Figure (5.26) Cork or plaster coverage for non-concrete ceiling

2-Interior Finishing

According to the tables below, the prevailing capacity of the interior finishing is traditional. For example, a percentage of about 77 % of floor finishing is normal tiles which is not the ideal floor finishing for children buildings while the percentage of actives room floor coverage with carpets, plaster or similar coverage is 28 % only compared with about 44% without any coverage and about 20 % with mat coverage. Study the tables below.

A-Interior Finishing - Floor Finishing

This part of the questionnaire includes information about the type of floor finishing. The vast majority of answers were normal tiles with the percentage of 76%. The other answers are variables from one kindergarten to other, from super finishing to cement concrete. The following figure (5.27) displays the percentage for each answer.

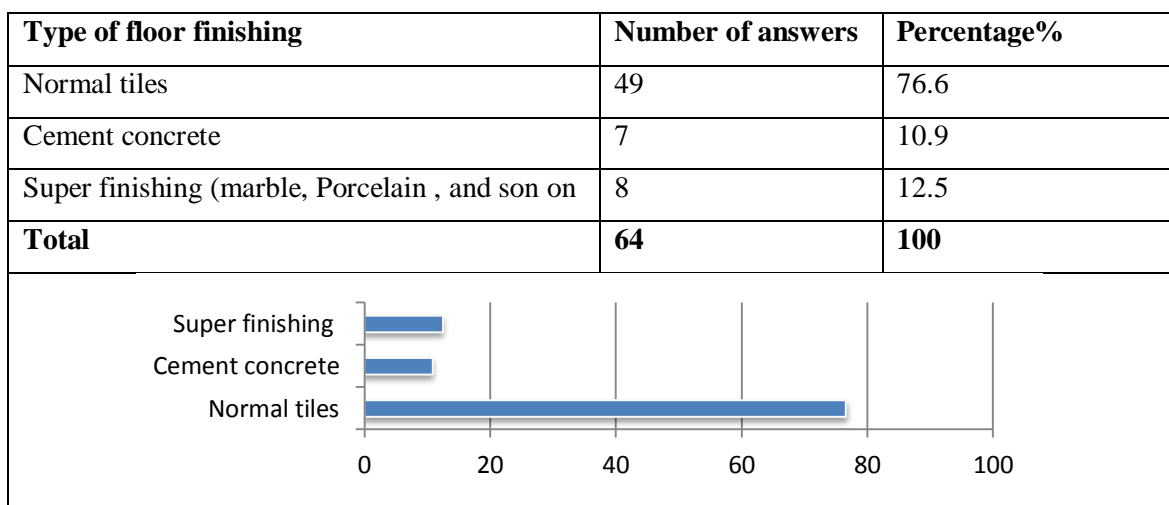


Figure (5.27) indicators for floor finishing

B-Interior Finishing - Activities Room Floor

As it was mentioned in chapter 4, activities room floor need special consideration. carpets, plastic or rubber leather coverage are preferred. But there are different answers with non-suitable materials at kindergartens samples .

The following figure (5.28) displays the percentage of each material.

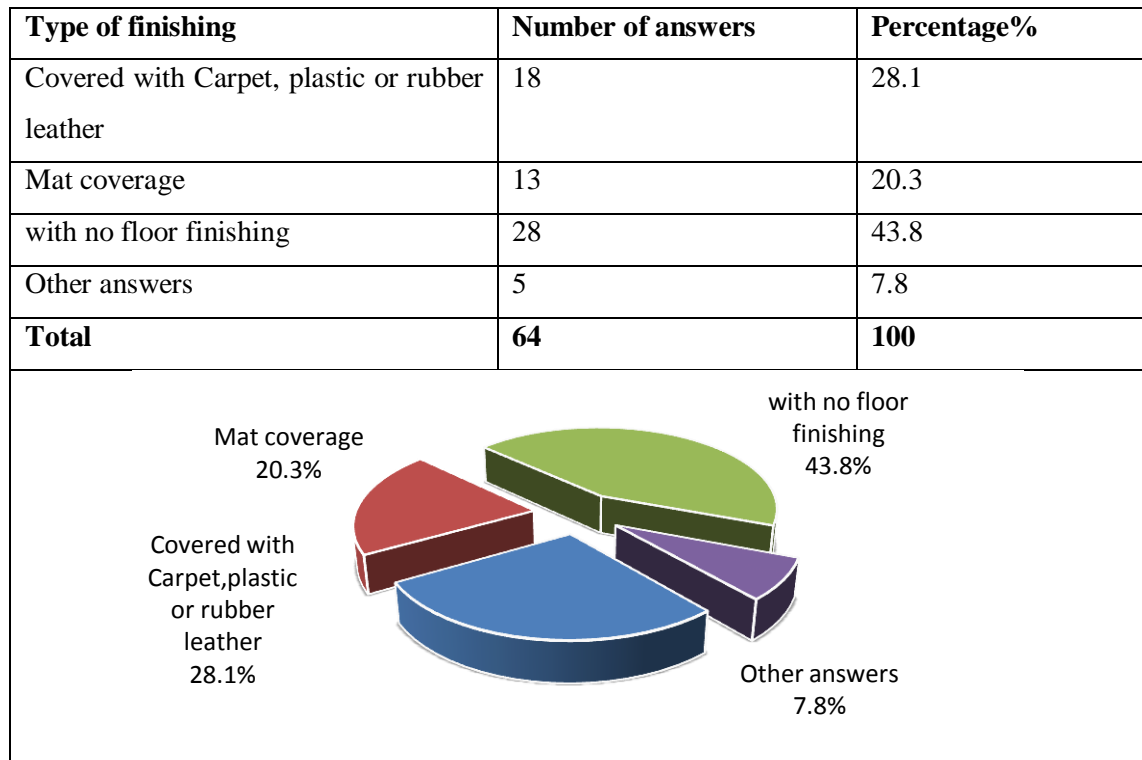


Figure (5.28) type of finishing for activities room

C-Interior Walls

This is not only, the wall finishing seems to be plain also. The percentage of about 51 % of questionnaires answers is " plain paintings". However some kindergartens prefers to improve the interface using super deluxe paintings with the percentage of about 15 % or mixed with plain and super with about 23 % of total kindergartens sample.

Type of interior walls paintings	Number of answers	Percentage%
with no paintings	6	9.4
plain finishing	33	51.6
super deluxe painting (oil, tambertex , ..)	10	15.6
Mixed with plain and super	15	23.4
Total	64	100

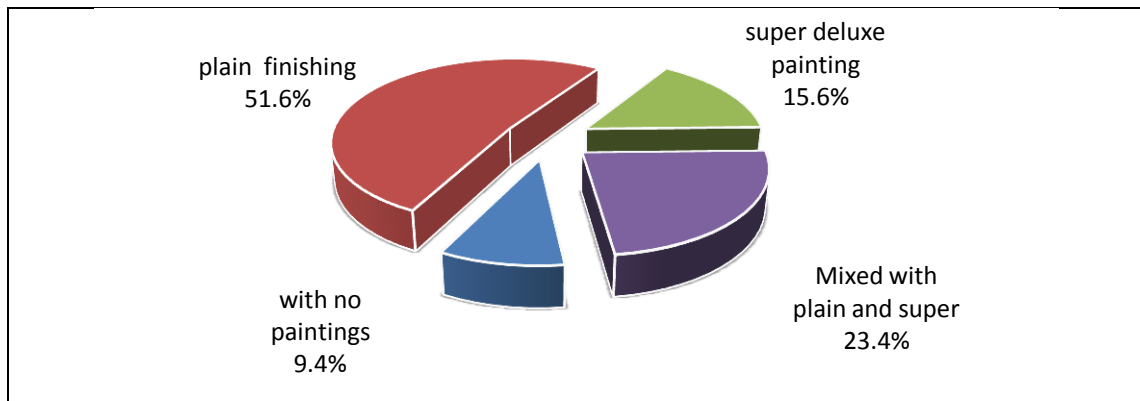


Figure (5.29) indicators for interior walls finishing

D-Interior Paintings Colors

As the exterior finishing colors, the interior paintings look like white mixed with other light colors such as gray , yellow , orange , violet or cyan. It is noticed that the walls contain two or more colors with different paintings that make the General appearance as combination of several patterns without particular format or any arrangement. See table (5.9) below.

Table (5.9) interior paintings colors

Color	Number of answers	Percentage%
White with other light colors	14	21.9
white	11	17.2
cyan	4	6.3
Light orange	5	7.8
Light yellow	7	10.9
Pink	4	6.3
Gray	2	3.1
Bright violet	5	7.8
Mixed light colors	3	4.7
With no answers	9	14.1
Total	64	100

E-Drawings and Wallpapers

The following question is related on drawings and wallpapers as a part of interior finishing . It is noticed that there is more awareness on paintings and wallpapers, Figure (5.30) presents the percentage of 70% for the existence of these drawings.

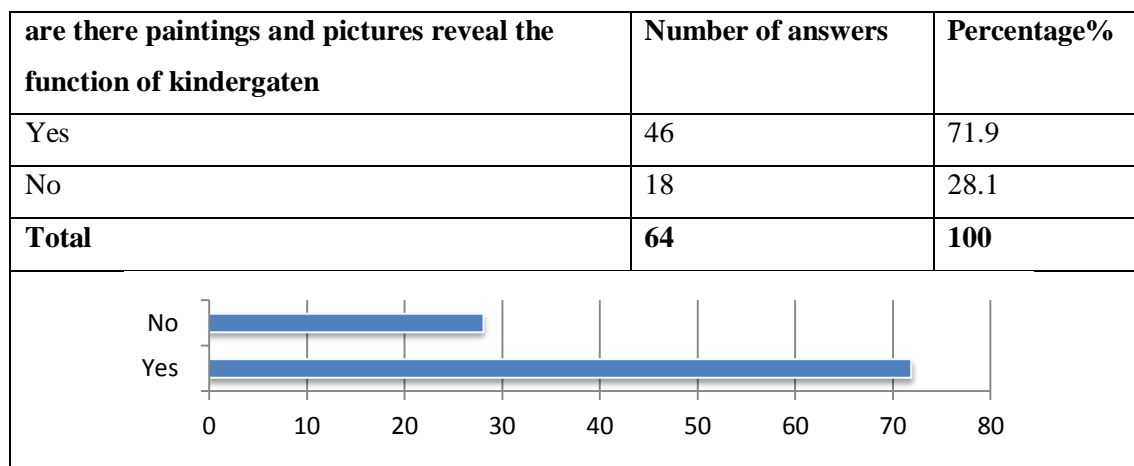


Figure (5.30) Drawings and wallpapers on kindergarten walls

F-Furniture of Kindergarten

The status of furniture in kindergartens is important for the performance of children. Every space in kindergarten need special considerations. The human scale of children is also different from the adult. So the following figure (5.31) is about the status of furniture in kindergarten.

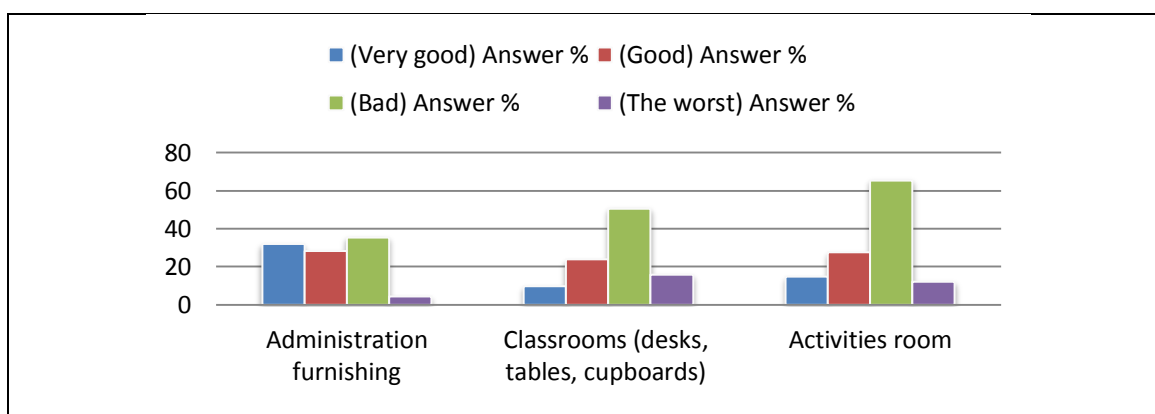


Figure (5.31) indicators for furniture status

According to the questionnaire analyzing, these results can be summarized:


- The total number of kindergartens sample were 64 kindergartens which represent 24.5 % of total licensed kindergartens in Gaza strip.
- The questioners were distributed on 5 provinces which were Gaza, Rafah, Kanunis, North and Middle of Gaza.
- More than 45 % of the selected kindergartens have been established before the year 2001 while 9.5 % only have been established before the year 1990.

- About 50 % of the selected kindergartens have the average of 200-300 children , 17 % have the average of 200-300 children , while 4 % only contain more than 300 children.
- About 48.5 % of the selected kindergartens contain 30 – 35 children per class while 12.5 % only less than 25 children.
- The vast majority with the percentage of 65 % of kindergartens are very near from residential areas and about 47.5 % of these kindergartens take place in a very traffic jammed areas.
- It is noticed that 37.5 % of kindergartens are nearby to three , four or five kindergartens in the same area.
- 55 % of the kindergartens depend on a bus for transportation.
- It is noticed that 73.5 % of kindergartens are not designed originally for educational purpose and 45.5 % of kindergartens are designed as residential buildings.
- The vast majority of kindergartens natural lighting and ventilation are bad. The aesthetic appearance is very bad too.
- About 87.5 % of kindergartens are not adequate to receive children with special needs (disabled children).
- The vast majority of kindergartens building is one story. The site plan area is from 250 – 500 m² while the building area is from 150 – 200 m².
- The class rooms are often arranged traditionally (rows of desks and chairs).
- The activities room area averaged from 15 – 30 m² including many corners for different nonsystematic activities. However, some activities such as music and theater are not available.
- There are shortage of tools and instruments such as technology sets for education, tools for handcrafts, toys cupboards and other educational tools.
- The average area is 7.8 m² for store room, 15.3 m² for administration room and 11.3 m² for teachers room.
- The vast majority of kindergartens with the percentage of 80 % have an outdoor area. But there is an obvious shortage on its requirements such as grassed area, aesthetic site elements, pergolas and playgrounds.
- There is not enough area for playgrounds units. However, sand floor is widely available under the exist playgrounds.

- The playgrounds status is different from one type to other. Swings, slides and detached playgrounds are worsening. While looping rounded seats seem to be good.
- It is noticed that 48.5% of kindergartens are partial finishing and most of exterior finishing are white bleaching.
- Most of roof finishing are reinforcement concrete with the percentage of 54.5%. while 26.5 % of roof finishing are from asbestos and tanks coverage. It is noticed also that 62.5 % of these roofs have not any coverage of cork or plaster under the ceiling.
- About the interior finishing, the vast majority of floor coverage are normal tiles and about 51 % of walls paintings are white mixed with other colors.

5.6 Conclusion

The previous chapter described the current situations of kindergartens throughout the distribution of 64 questionnaire on five provinces in Gaza strip. The questionnaires inquired general information about the kindergartens in terms of location, building area , year of establishment and students conditions in order to produce an overview for there situations. The remain part of the questionnaire produce specific information about the architectural situations of these kindergartens such as the interior design of the spaces , the landscaping and the exterior finishing. The result of the analytical study were displayed as diagrams tables which produce specific information about the kindergartens situations.



•chapter 1 • General introduction
•chapter 2 • childhood and children situation in Gaza strip
•chapter 3 • kindergartens and their situations in Gaza strip
•chapter 4 • The role of architectural design in improving the kindergarten's environment
•chapter 5 • Assessment of the architectural situations for kindergartens in Gaza strip
•chapter 6 • kindergartens Analytical study
•chapter 7 • proposals and recommendations

Chapter 6 - Kindergartens Analytical Study

6.1 Introduction

The previous chapter presented detailed information about the architectural situation of kindergartens in Gaza strip throughout specific questionnaire which was distributed among sample of kindergartens in Gaza provinces. The questionnaire was analyzed to provide the study with percentages, and accurate statistics for the kindergartens building ,the site plan , the interior and exterior space ,the finishing and furnishing and other related subjects of kindergartens architecture.

This chapter highlights more specific sample of kindergartens as case study in suburb of Al-shiekh ridwan neighborhood. It analyzes the urban planning of the selected area, displays the kindergartens at this reigon and related services at the master plan. In addition , there is a focus analytical study for three kindergartens at this region which presents more plans and photographs.

6.2 Local Case Study – Al-Sheik Ridwan neighborhood

6.2.1 Case Study Background

The case study was selected in the region of Al-remal and Al-sheik Ridwan with a covered area of 2.855 square kilometers. The case study was surrounded by:

- Omar Elmokhtar street from the south
- Al-yarmouk street from the east
- Kamal Edwan street from the north
- Ez-edden Alqsam street from the west

According to the master plan of Gaza city, this suburb was classified as a good residential region with the class of A and B and was better than many regions of the Gaza.

As a historical overview, this region had been formed in different periods, Al-sheik Ridwan had been formed by the of Al-Shatei refugee camp (Qeek , 2010).

The urban formation of this suburb was mixed of different residents cultures, economics and social relations.

6.2.2 Study Objectives

The study aims to increase the focus on a specific region with undefined regulatory, planning and architectural considerations . Since the questionnaires target all provinces of the Gaza Strip, this study provides more scope and clear information about small area in the Sheikh Radwan reigon which discusses the architectural and planning aspects of the kindergartens.

In addition to the analysis of questionnaires that have been taken of this region, this study examined thoroughly plans , architectural drawings and the detailed aspects of planning targeting three kindergartens in the scope as a random sample of the Sheikh Radwan and this study will be more accurate and more specialized.

6.2.3 Study Procedures

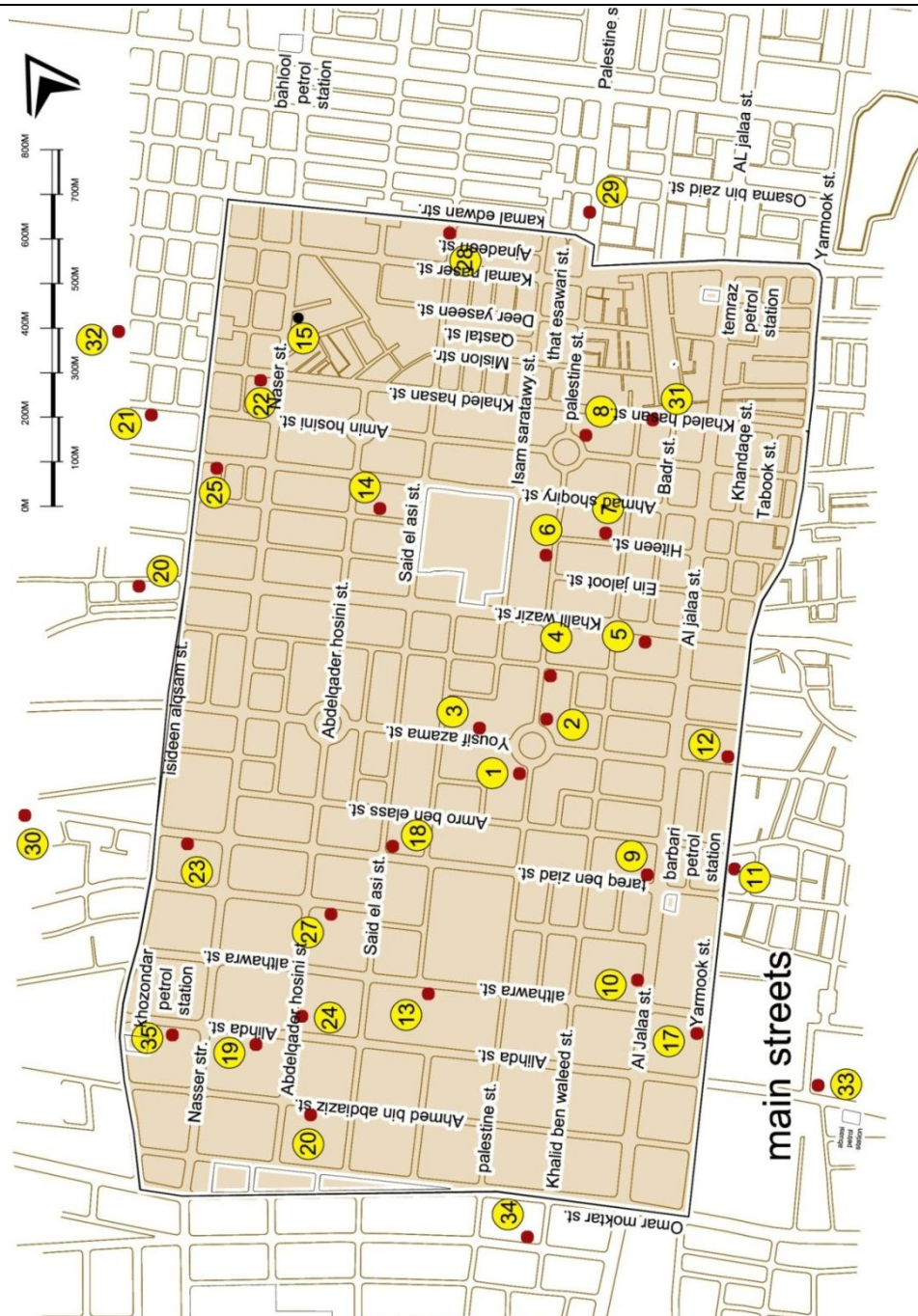
- There was a formal visit to the Municipality of Gaza in order to obtain the detailed plans of Gaza city.
- The case study region had been separated and located with the main four street Al-yarmook , Omar Elmokhtar, Kamal Edwan and Ez-edden Alqsam street and printed as a map sheet.
- All kindergartens at the case study area was signed as a software code as Autocad file, and the scope of service was 400 meters for every kindergarten.
- Every kindergarten of the case study area had to fill in a similar sample of the research questionnaire which was distributed and gathered by the author.
- Note / the scope of service was 400 meters for every kindergarten according to the neighborhood planning theory that determined the distance of child ability to walk from the house to the primary school on foot. This theory has been a global scale in modern urban planning.(AlqEEK, 2011).

After the signing of kindergartens on the case study map , the number of tem was 35. see table (7.2) in page 165 which classified these kindergartens according to the name, location, number of students , and supervision direction.

- In addition, there was a field visit to a concentrated sample including three kindergartens which were selected in different areas at study sample region.
- These Kindergartens are classified among the best kindergartens in the Gaza Strip in terms of area and number of students , services provided to students and, quality of kindergarten education and attention. (an interview with Shereen Almasri - Director of Special Education - Ministry of education) (Masri, 2011).

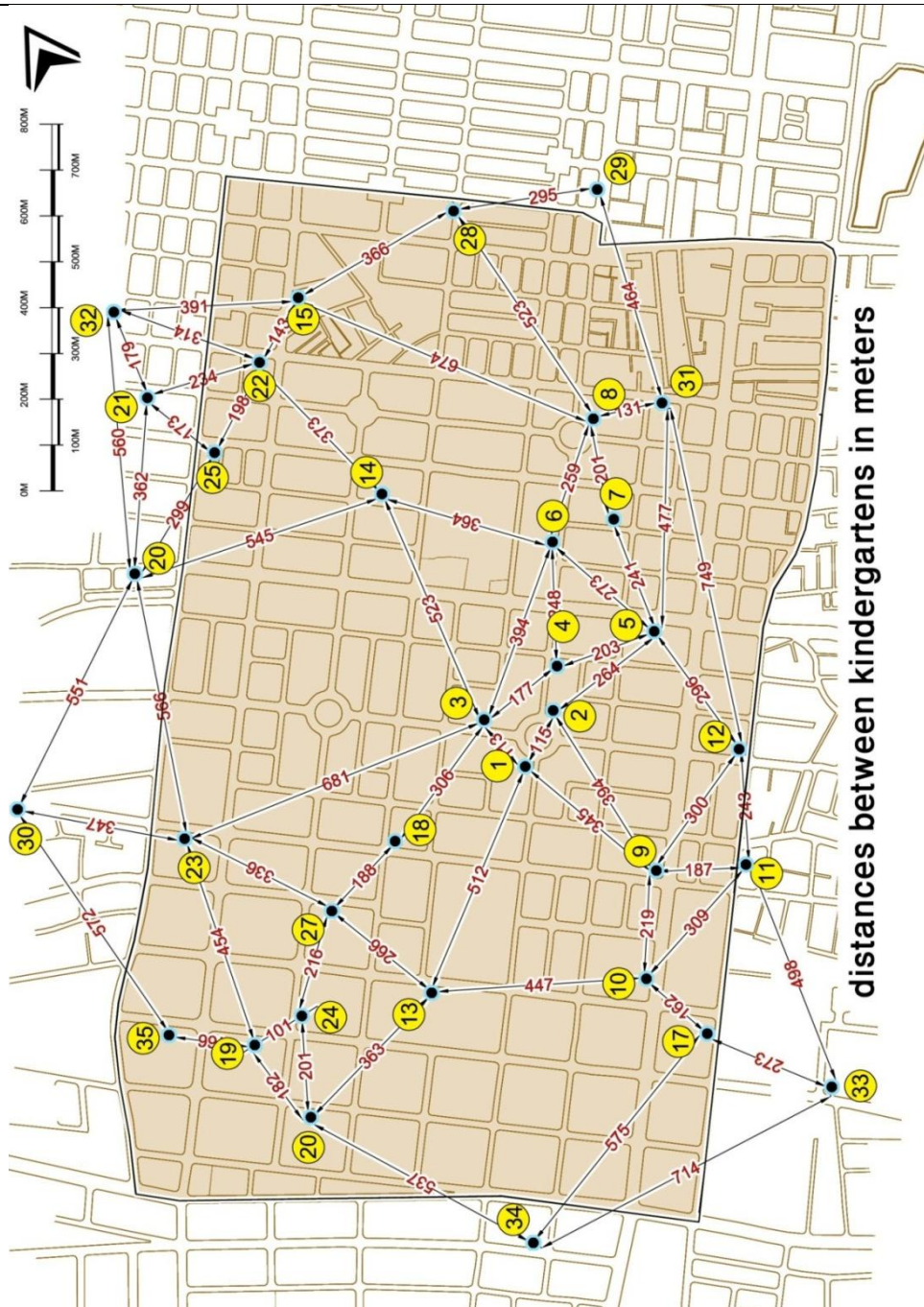
As a result of these procedures, the final map was signed to represent all information about this the case study reigon such as the streets names , services and facilities at this area, the scope of services for each kindergarten, the distances between kindergarten and so on. while the final map was signed as the following

Figure (6.1) the case study map and the scope of service of each kindergarten



According to figure (6.1) which displays the main street of the case study region, it is noticed that there are crowded kindergartens distributed along on of the signed streets. For example, there are about ten kindergartens distributed align the Palestine street with near distances between. Other kindergartens are far away from main streets while the remain signed kindergartens are signed out of the case study boundary. This will help to study the urban planning of case study region and the location of kindergartens according to that. The following map shows the distances between kindergartens.

Figure (6.2) distances between kindergartens of case study sample



According to the figure (6.2), it is noticed that the distances between the kindergartens are nearby. The distances between the kindergartens are ranging from about 100 meters to 700 meters. It is noticed also that and the vast majority with the percentage of 66.5 % achieve the distances under 500 and big number of kindergartens with the percentage of 25.2 % achieve the distances under 200 meters. This will give good indicator that this urban area is crowded with kindergartens. The following figure (6.3) describes the scope of services for each one.

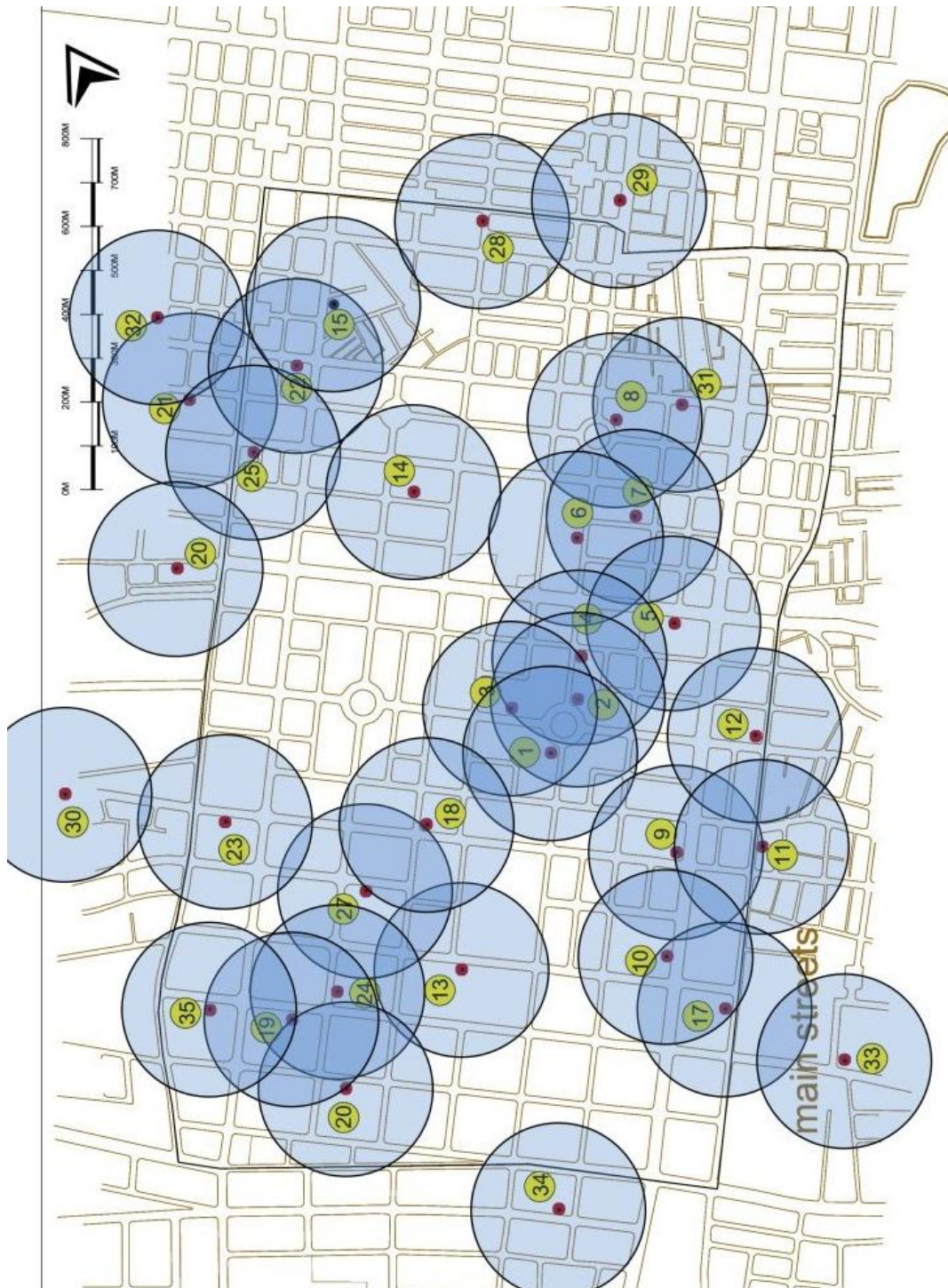


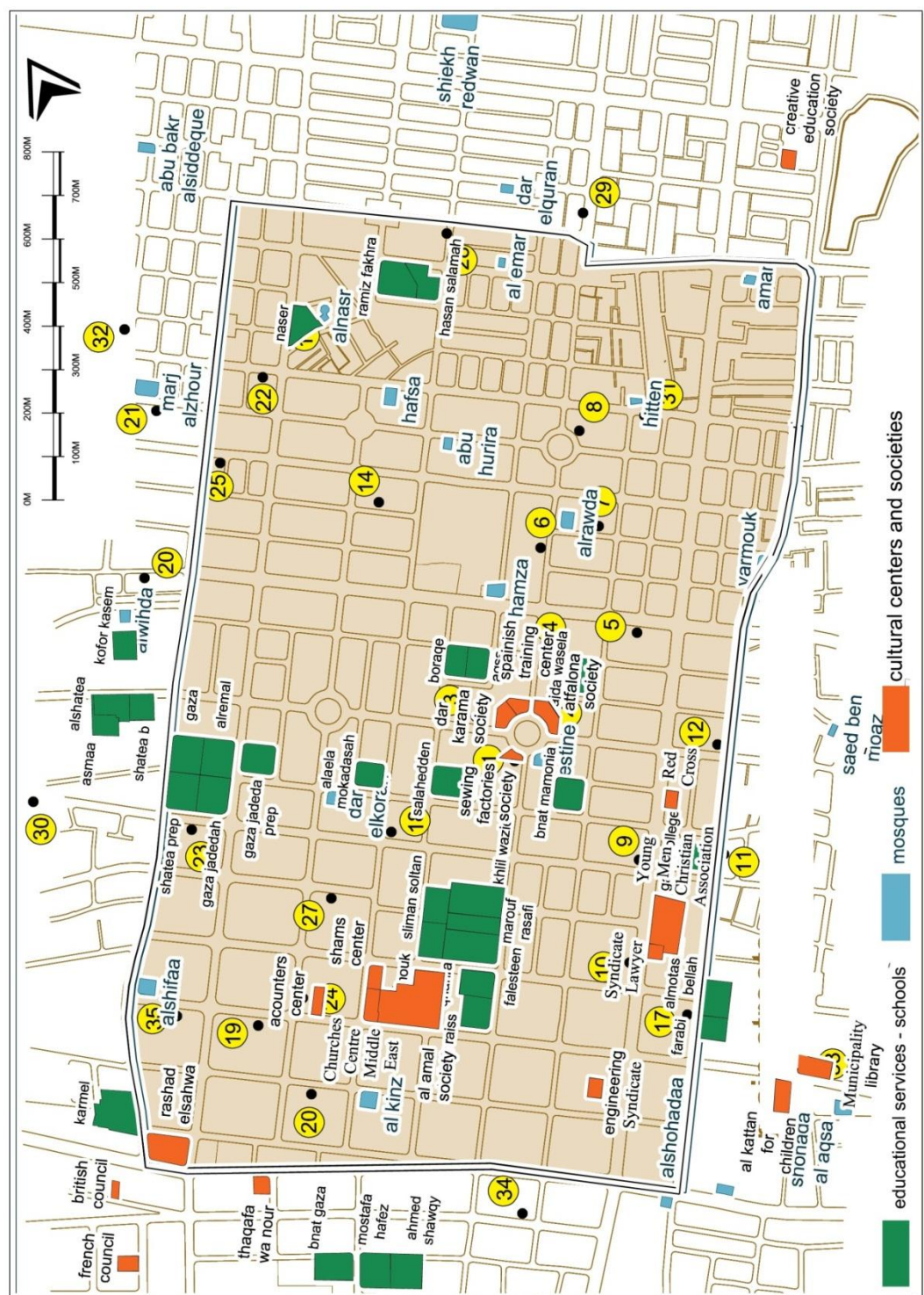
Figure (6.3) scope of kindergartens services in the case study sample

The upper figure (6.3) displays the scope of kindergartens services which forms a circle of 400 meters diameter. The circles seem to be very near together and there are too much intersected regions.



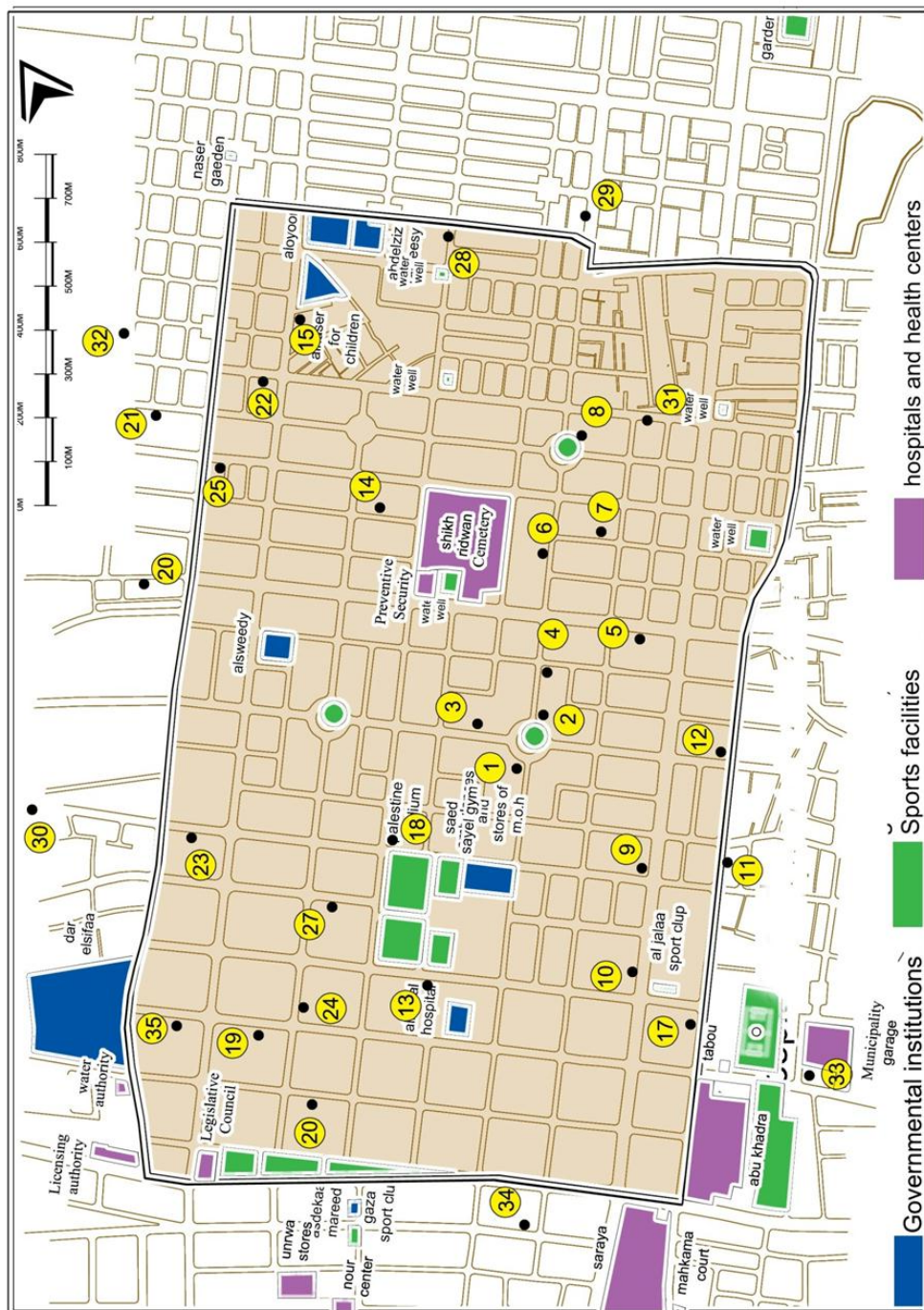
Figure (6.4) the residential buildings in the case study sample

The upper figure (6.4) displays the residential area for the study sample region and the location of kindergartens to describe the relationship between the children house and the building of kindergarten. The figure presents that the high density of residential areas contains small number of kindergartens. While the areas of lower residential density represents the upper number of kindergartens. this result can be explained as this area represent a concentration of educational and cultural buildings. Also, the urban planning for this region and the style of housing is suitable to be rented or converted as kindergartens . see the figure (6.5)



The upper figure (6.5) displays the educational, cultural, societies and mosques buildings and the relationship with the kindergartens buildings at the case study area.

Figure (6.6) distribution of hospitals , sport and governmental building in case study region



The upper figure (6.6) displays the governmental institutions, sports facilities, hospitals and health centers and the relationship with kindergartens at case study area while the table below outlined more information about the kindergartens of the case study sample.

6.2.4 Difficulties and Obstacles

There was no detailed drawings that determined the kindergartens site plans in the detailed plan of the local government, but the maps outline the educational services generally. As this reason, the author signed the map of kindergartens by the framework of the case study as an individual effort that took more time.

6.2.5 Field Study for Selected Kindergartens

First - Al -Awda Kindergarten

A - General Information:

Table (6.1) general information about Alawda kindergarten

Kindergarten name	Al-awda kindergarten
Kindergarten address	Khilil wazir street
Year of establishment	2001
Total number of children	164
Number of classrooms	5
Average number of children per class	32.8 child / class
Site plan area	410 m2
kindergarten area	180 m2
Exterior yard area	75 m2
owner	Private

B - Site Plan Analysis

As shown in Figure (6.7) the kindergarten is located at Khilil wazir street , near the intersection with Ezzideen qsaam street , bordered on both sides by residential homes. It is noticed that the kindergarten takes place on narrow street which leads to al Shatee refugee camp.

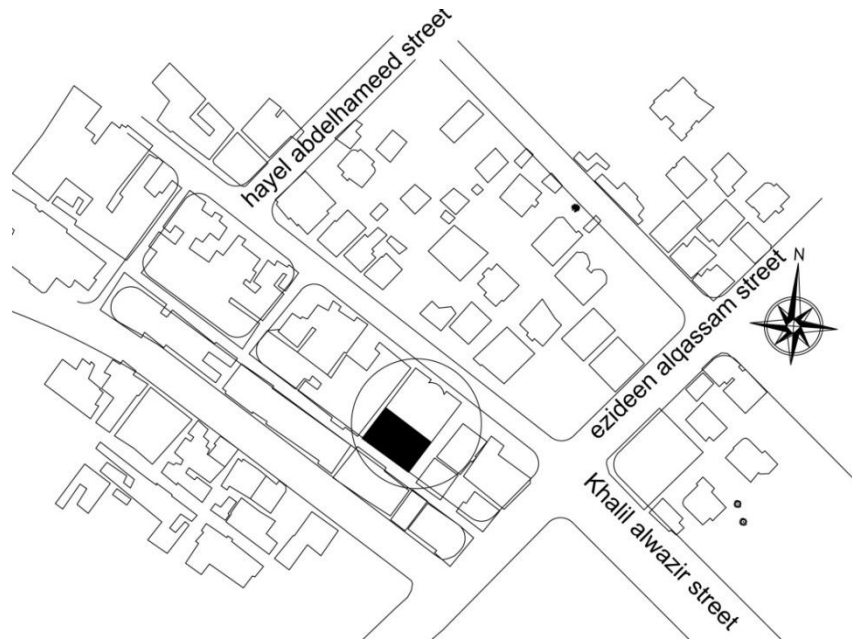


Figure (6.7) location of al- Awda kindergarten

According to questionnaire analysis which is related to Al- awda kindergarten site plan, these information can be listed as:

- This kindergarten takes place near a residential area.
- It is easy accessible.
- It is near from traffic area (cross road of khlil al wazir and Ezzidden Alqassam street).
- The entrance of kindergarten takes place in a side street so it is not shown easily.
- There are two kindergartens at the nearby region.

C - Kindergarten Description:

Overall design of the kindergarten seems traditionally a set of rooms on a regular form of descriptive and written at the back area of multi-story apartment building.

The front elevation of the building is for shops adorned the entrance that leads to the door of the kindergarten, which occupy the space of the back area. The figure (6.8) and (6.9) below describes the plans of al-awda kindergarten.

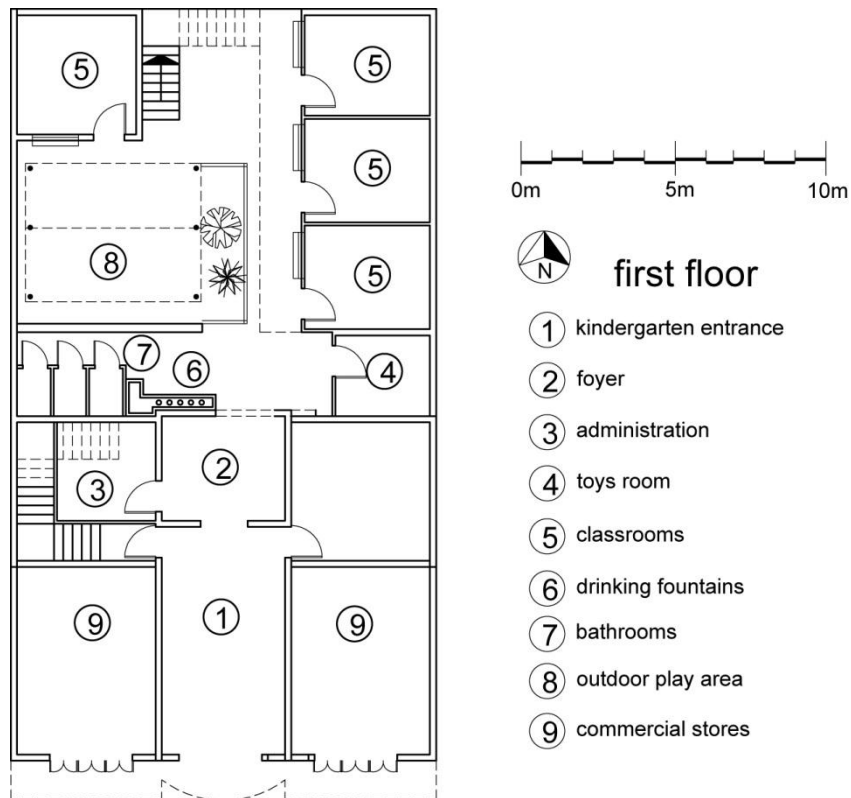


Figure (6.8) the first floor of Alawda kindergarten – source the author

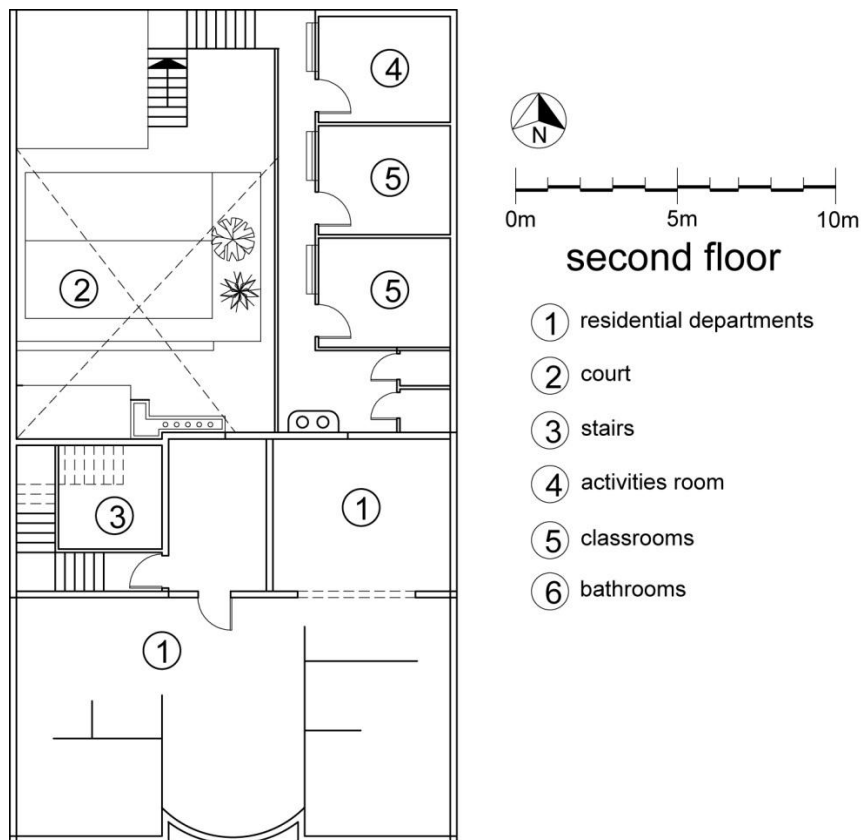


Figure (6.9) the second floor of Alawda kindergarten – source the author

Remarkably ,the space allocated for the stairs , which does not exceed the dimensions of 2.5 m * 2.5 m has been transferred to the management room of kindergarten and stalls topped with a staircase leading to the foyer where the entrance to the kindergarten yard area which is not more than 70 square meters.

the yard of this kindergarten contains the following:

- In the southern part there are water fountains for the children which include a set of taps grouped in row direction and lead to sanitation drain.
- At the corner of the adjacent stripes, three bathrooms with wooden doors opening to the outside, covered with tanks plates.
- In the northwest corner of the courtyard there is a separate class for children from 3 to 5 years with an estimated area of 20 square meters, tin-roofed and lined inside with sheets of gypsum.
- Along the eastern part of the arena there is a small room with an area of 10 square meters dedicated to all games and three semesters in a linear array containing the windows open directly to the courtyard.
- As for the second floor , stairs with L shape leads to the multi-purpose room and two classrooms covered with sheets of tin without any types of insulators.
- these rooms are arranged along narrow corridor fixed through iron railings lead to three toilets with better finishing than those in the ground level.
- Of the observed difference in the kindergarten classrooms on the first and second floor in terms of finishing, furniture, walls and ceiling where the upper part was added as part of supplement by the support of a donor after the recent war on the Gaza Strip. (according to the interview with the kindergarten headmaster).

During the field visit to al-awda kindergarten , some photos are taken .

Figure (6.10) displays the exterior design of the kindergarten , play area , the middle court and the foundations.

While figure (6.11) displays the exterior finishing and the classrooms occupied with children.



Figure (6.10) Exterior photos for Al -awda kindergarten



Figure (6.11) interior photos for Al -awda kindergarten

Second - Al Remal Kindergarten

A - General Information:

Table (6.2) general information about Alremal kindergarten

Kindergarten name	Al-remal kindergarten
Kindergarten address	Al – remal - Alwihda street
Year of establishment	1998
Total number of children	180
Number of classrooms	6
Average number of children per class	30 child / class
Site plan area	750 m2
Kindergarten area	167 m2
Exterior yard area	110 m2
Owner	Private

B - Site Plan Analysis

As shown in Figure (6.12) the kindergarten is located at ahmed abdeaziz street , near alkinz mosque , bordered on both sides by residential homes and from the opposite site

of the street there is the headquarters of Islamic Relief. The following figure (6.12) displays the location of al-remal kindergarten .



Figure (6.12) location of al- Remal kindergarten

According to questionnaire analysis which is related to Al- remal kindergarten site plan, these information can be listed as:

- This kindergarten takes place near a residential multistory building.
- It is easy accessible as the location of main road.
- It is very near from traffic jammed area (especially it is nearby a commercial movement of omar al- mokhtar market).
- It takes place in a very noisy area.
- The entrance of kindergarten takes place at main street so it shown easily, but it seems to be dangerous at the evening which represent peak period.
- There are two kindergartens at the same neighborhood.
-

C - Kindergarten Description:

According to figure (6.13) which describes the plan of Al remal kindergarten and during the first visit of the kindergarten , it is noticed that the original building is a residential house with new function to be a kindergarten.

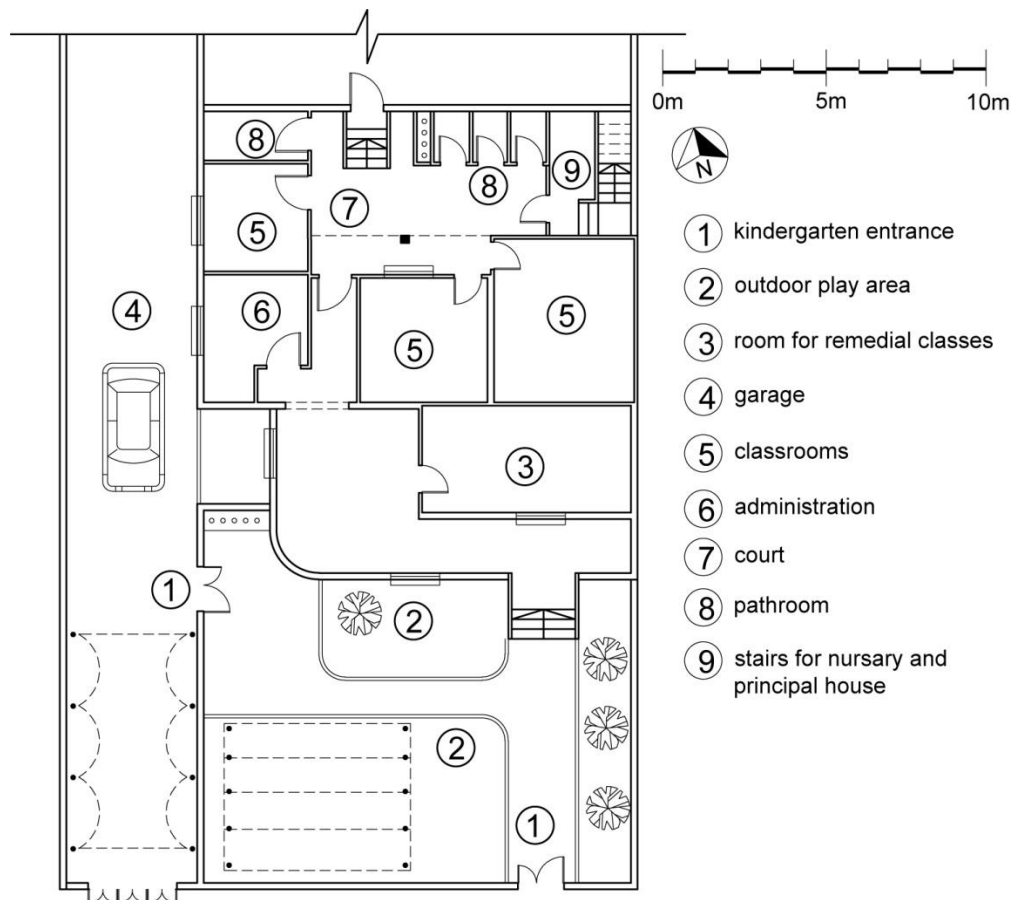


Figure (6.13) plan of al-remal kindergarten – source: the author

The accessible to the kindergarten is through the entrance of a small iron door which does not seem to be an entrance for kindergarten. where a footpath paved well and is very similar to parks tile located on both sides with ornamental plants and lead to 6 stairs up to the large balcony (style of old villas in Gaza Strip). This balcony represents the lobby of the kindergarten and opens to a room used as learning center for all ages of school students.

There is another entrance for kindergarten through 4 meters internal street covered with white cloth tent used as a garage for kindergartens buss.

Through a narrow corridor you can access the administration room with no more than 12 square meters which is divided to prevent internal courtyard , a foyer for three classes and three bathrooms which is arrayed at the north side and painted with yellow and purple colors.

from the inside, there are narrow classrooms with average area of 13 square meters crowded with plastic chairs and tables arranged in a traditional matrix way. It is observed that there are some spaces without windows for natural lighting or ventilation.

As for the external field there is a sandy courtyard contains some simple playgrounds (such as swings and sliders). There are also some strange tires combined with welding iron bars for children to swing without any consideration of security and children safety.

During the field visit of al-remal kindergarten some photos are taken.

Figure (6.14) displays the exterior court yard, the entrance, and the playgrounds.

While the figure (6.15) displays the interior spaces, finishing and furniture.



Figure (6.14) Exterior photos for Al -remal kindergarten



Figure (6.15) interior photos for Al -remal kindergarten

Third - Barbie Kindergarten

A - General Information:

Table (6.3) general information about Barbie kindergarten

Kindergarten name	Barbi kindergarten
Kindergarten address	Al – Naser - Abdelkader Hosieny street
Year of establishment	2005
Total number of children	132
Number of classrooms	5
Average number of children per class	26.4 child / class
Site plan area	375 m2
Kindergarten plan area	155 m2
Exterior yard area	140 m2
owner	Private

B- Site Plan Analysis

By the first look at the master plan of Gaza strip, Al Remal buildings has special characteristics with about 1000 meter squares or more for residential land use which respect the location of two stories villa at the middle. Barby kindergarten takes place at Abdelkader Hosinie street , an internal street with 16 meter wide leading to square garden. The general atmosphere is really quite with sounds of birds over trees. The entrance of kindergarten is very simple, looks like Al remal kindergarten entrance, a steel door opens on a pathway leads to the administration room which is a corner part of a wide balcony . divided with plastics and glass partitions, opens at a living room which represents the lobby for all classrooms.

Generally, the classrooms are quite and healthy with good ventilation and lighting especially those located at the outdoor yard of playgrounds. However, and at the southern part of the building, the rooms seems to be dark and useless because of the neighbor building which dominate the extent limitation of the site area and prevent the sun shine to enter the kindergarten.

The kindergarten covered the ground level of the building. And so on , the first floor is a residential department.

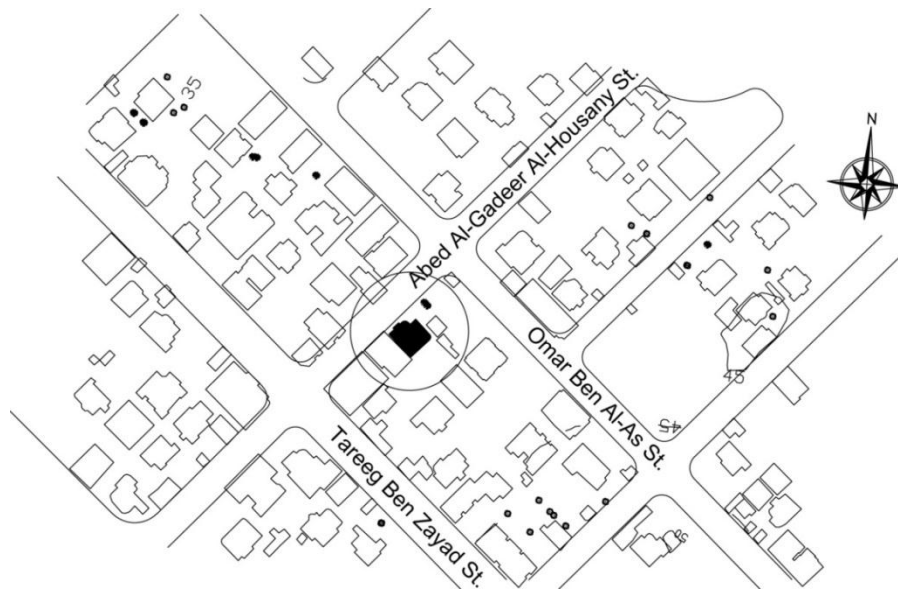


Figure (6.16) location of Barbie kindergarten

According to questionnaire analysis which is related to Al- remal kindergarten site plan, these information can be listed as:

- This kindergarten takes place near a residential multistory building.
- It is easy accessible as the location of main road.
- It is very near from traffic jammed area (especially it is nearby a commercial movement of omar al- mokhtar market).
- It takes place in a very noisy area.
- The entrance of kindergarten takes place at main street so it shown easily, but it seems to be dangerous at the evening which represent peak period.
- There are two kindergartens at the nearby region.

C - Kindergarten Description:

During the first visit of the kindergarten , it is noticed that the original building is a residential house with new function to be a kindergarten.

The accessible to the kindergarten is through the entrance of a small iron door which does not seem to be an entrance for kindergarten. where a footpath paved well and is very similar to parks tile located on both sides with ornamental plants and lead to 6 stairs up to the large balcony (style of old villas in Gaza Strip). This balcony represents the lobby of the kindergarten and opens to a room used as learning center for all ages of school students.

There is another entrance for kindergarten through 4 meters internal street covered with white cloth tent used as a garage for kindergartens buss.

Through a narrow corridor you can access the administration room with no more than 12 square meters which is divided to prevent internal courtyard, a foyer for three classes and three bathrooms which is arrayed at the north side and painted with yellow and purple colors.

from the inside, there are narrow classrooms with average area of 13 square meters filled with plastic chairs and tables arranged in a traditional matrix way. It is observed that there are some spaces without windows for natural lighting or ventilation and therefore the learning environment is not healthy.

As for the external field there is a sandy courtyard contains some simple playgrounds (such as swings and sliders). There are also some strange tires combined with welding iron bars for children to swing without any consideration of security and children safety. The following figure (6.17) discribes the plan of Barbie kindergarten. The next figure (6.17) displays the plans of Barbie kindergarten.

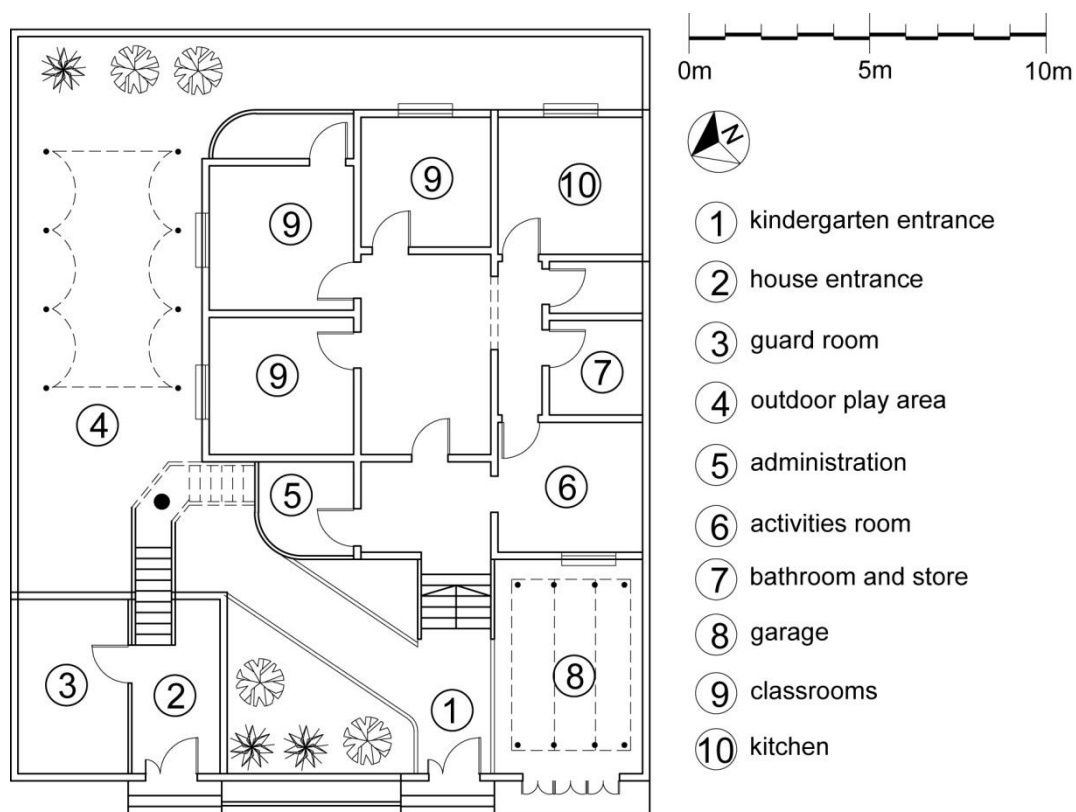


Figure (6.17) plan of Barbie kindergarten – source: the author

During the field visits for Barbie kindergarten , some photo are taken in order to clarify the interior and exterior situations.

Figure (6.18) displays the exterior pathways and the shading coverage, While the figure (6.19) displays children in classrooms.



Figure (6.18) Exterior photos for Barbie kindergarten



Figure (6.19) interior photos for Barbie kindergarten

6.2.6 Findings and Outcomes

- The study displays that a big number of kindergartens crowded and congested at this area specially along the Palestine street.
- The number of kindergartens at this area is 35 which have been limited in the area of (2.855 square kilometers) confirms that there is an organizational and urban planning problem.
- There are no kindergartens land use determination at the detailed or local master plan that causes inappropriate land using – for example, the questionnaire study at chapter 5 displayed that 73 % of kindergartens was established at residential , multi-story and rented buildings while the remain percentage was originally designed as kindergartens.

- The general overview at the case study sample shows that there is a shortage of green areas added to the kindergartens site plan, that makes a problem for the availability of external activities of kindergartens as playgrounds, for example.
- The master plan of study region displays that there is a large number of residential units compared to the services provided in these areas.
- According to the analytical study of kindergartens plans and Schemes its noticed that it is not designed originally as kindergartens.
- Most of kindergartens buildings in Gaza strip are residential buildings as an origin function, however the interior spaces are converted to be classrooms and play rooms.
- The outdoor spaces are sandy areas with some playgrounds which is not enough for children.

6.3 The License Terms Of Kindergartens In Gaza Strip

Based on the instructions at the ministry of education report which are related on license terms of kindergartens , the following items are mentioned at the clause of specifications of kindergartens building:

6.3.1 Specifications Of Kindergartens Building

- The ceiling height should be 280 cm at least.
- If the ceiling is made of tanks layers or asbestos, it should be covered with Gypsum or Polestrein panels to provide thermal comfort.
- Classrooms or activity rooms area should be 20 meter square at least.
- The floor of classrooms is covered with tiles at least.
- All health conditions such as natural lighting and fresh ventilations should be considered according to the healthy and technical measures.
- The kindergarten building should be stand-alone in terms of building construction, equipment, outdoors and separated from different functions of other buildings.
- The kindergarten building is preferred to take place at ground floor.
- Classrooms should be specified with an architectural space while it is not licensed to be outdoors or at the external foyers or balconies.
- It is recommended to allocate other spaces at kindergarten such as administration, teachers room, kitchen and bathrooms for adults.
- Providing bathrooms and drinking fountains with the rate of 1 per 20 child and all equipment should respect the child scale.

As the previous notes are related with the specifications of kindergartens building, the following clauses are reported to produce specific requirements for kindergartens to be licensed:

6.3.2 Kindergartens Requirements to Be Licensed :

A. Outdoors:

- Outdoor spaces with double area of interior spaces at least – the interior areas are calculated as 1 meter per child. Therefore , the outdoors area are 2 meters per child at least according to ministry of education terms.
- Provide shading areas with minimum area of 25 % of the outdoor area.
- Balconies , pergolas and outdoor foyers are considered as shading spaces.
- It is forbidden to use the building roof as outdoor space.
- The outdoor spaces should contain ornamental and play elements such as grass, flower boxes and playgrounds with different types.

B. Furnishing and Equipment:

- Each child should have one chair with specifications suitable for child size.
- Comfortable and suitable furniture for children.
- Cupboard and cloth peg for each child.
- Writing board with suitable height for children.
- Activities room should be covered with suitable carpet, cork or rubber.
- The administrator room and the library should also have suitable finishing and equipment.

C. Toys and Educational Tools:

- Tools to increase hobbies and career desires such as construction toys, pencils, colors, nursery tools, musical instrument and so on.
- Toys for entertainment such as balls, league, boxes, cars, dolls and so on.
- Educational aids such as wooden or plastic animals, numbers, letters and other similar masses.
- Scientific martials such as measurement tools , planting methods, physical recognition and natural phenomena.
- Zoning for imagination and careers simulations with equipment for doctors, teachers, shopping and other desires.

D. Outdoors Playgrounds:

- different types of playgrounds such as sliders, huts , swings and other available playgrounds.
- Clean Sand area for playgrounds with minimum depth of 20 cm.
- Gardening tools and outdoor instruments suitable for children age.
- It is important to consider the minimum distance of 3 meters between playgrounds for safety requirements.
- Sliders should be made from fiberglass while steel sliders are forbidden.

E. Considerations for Child Safety

- Firefighter cylinder
- First aid box including all requirements.
- Licensed and safety busses for children transportation.
- Walls, boundaries and safety openings.
- Electrical plugs with protection covers.
- Providing staircase with safety railings.

6.4 Comparison Study Between the Selected Kindergartens

the following part of the analytical study is the comparison between the selected kindergartens throughout many points according the terms listed in the ministry of education notes. The comparison study include different points related with architectural sides including outdoors , interior furnishing , child safety , license terms and other points. The following table describes the comparison study:

Table (6.4) comparison between the selected kindergartens according to
the ministry of education terms

Comparison point	Al- awda kindergarten	Al- remal kindergarten	Barbie kindergarten	Ministry of education
General criteria				
average number of children / class	32.8 / class	30/ class	26.4 / class	28 maximum
Number of children at kindergarten	164	180	132	25 - 200
Site plan area	410 m2	750 m2	375 m2	Not less than 200 m2
Number of classrooms	5	6	5	two at least
specifications of kindergartens building				
Building area	180 m2	167 m2	155 m2	Not less than 70 m2
Ceiling height	295 cm	280 cm	275 cm	Not less than 280 cm
classrooms area	20 m2	17 m2	15 m2	Not less than 20 m2
Administration room area	9 m2	6 m2	7.5 m2	Not less than 12 m2
Teachers room area	9 m2	Not available	Not available	Elective
Number of bathrooms	3 WC	4 WC	2 WC	One for 20 children
Healthy requirements	good	Worse	very good	Mentioned above
outdoors				
Exterior yard area	75 m2	110 m2	140 m2	building area Twice
Playgrounds types	Swings and sliders only	Swings and sliders only	Swings and sliders only	3 different types at least
Playgrounds quality	very good	worse	good	
Distances between playgrounds	1 meters	1.7 meters	3 meters	3 meters at least

Exterior coverage and sun shading	Steel panels	Steel panels and cloth tent	Cloth tent	Steel panels are forbidden
Outdoor shading area	35 m2	65 m2	90 m2	25 % of the outdoor yard
Interior furnishing				
Chairs, desks	Good	Good	very good	quality
Administration room furnishing	very good	very good	very good	quality
children cupboards	Not available	Not available	1 for each classroom	pocket for each child
Furnishing scale	suitable	Not suitable	suitable	Suitable for child scale
Safety factors				
First aid box	Available	Not available	Not available	One at least
Fire fighter cylinders	Not available	Not available	Available	One at least
Covered electric plugs	Not available	Not available	Not available	As standards
Safety factors for playgrounds	Not considered	Not considered	considered	As standards
Exterior walls and openings quality	good	very good	very good	As standards
Tools and equipment				
Toys for entertainment	Available	Not available	Available	important
Educational aids	Available	Available	Not available	important
Scientific martials	Not available	Available	Available	important
Tools to increase hobbies	Available	Not available	Available	important

According to the ministry of education terms which belong to the kindergartens situations in gaza strip , these points can be noticed as comparison study estimation :

A - General Criteria :

- Related to the average number of children per class Barbie kindergarten is the best while al-awda is the worst.
- The number of children at Barbie kindergarten is the lowest but it is the highest at al-remal kindergarten.

- The highest site plan area is at al-remal kindergarten (750m²), while the lowest area is (40 m²) for al-awda kindergarten.
- The average number of classrooms is nearby for the three kindergartens.

B – Specifications Of Buildings :

- The biggest building area is for al-awda kindergarten ,while the lowest is for Barbie
- Ceiling high is for the three kindergarten .
- By the comparison with ministry of education terms , classrooms area for al-awda kindergarten is suitable (20m²)but for Barbie and al-remal kindergarten is not.
- the administration room is not suitable and seems to be lower than the standard terms for the three kindergartens /
- teachers rooms is not available at Barbie and al-remal kindergarten ,while it area is very small at al-awda kindergarten.
- The ministry of education terms requires are wc for 20 child . this means that the three kindergartens wcs aren't enough . to verify the terms the kindergartens need 8,9,6 wcs.
- According to the description of plans, Barbie kindergarten achieves the most healthy requirements which related on sunshine and good ventilation.

C - Outdoors :

- The ministry of education term requires twice building area for exterior yard . this means that the three kindergartens haven't enough areas for exterior yards. To achieve the terms the area must be 360 m² , 357m² , 310 m² in consequences.
- The playgrounds are not enough in the three kindergartens. They also need some maintenance and more areas to increase the distance between each other.
- As mentioned in the terms, steel panels are forbidden to be used as a coverage. However this type of coverage is widely used .on the other hand ,the area of these coverage is enough as it achieve the percentage of 25% or more than the exterior yard area.

D - Interior Finishing:

- The three kindergartens have enough desks and chairs for classrooms. The furniture is suitable for children scale . however , the quality of this furniture needs to be better , and some cupboards is not available every time.

E- Safety Factors:

- The ministry of education requires at least one first aid box , fire cylinder. It is noticed that the three kindergartens aren't completely respect safety factors . also these aren't enough cranes about the playgrounds safety , however , there are more awareness about the safty factors of outdoor walls and openings.


F - Tools and Requirements:

- Toys for entertainment , education aids, scientific materials , and hopes tools are available in the three kindergartens bit seems to be not enough.
- The ministry of education terms say that these tools are important and must be available in every kindergarten.

6.5 Conclusion

According to the analytical studies, it is noticed throughout the previous chapter that the architectural situation of kindergartens buildings in Gaza strip is not suitable for its duty. For example, there are general problems in the urban planning relate to the distribution of a large number of kindergartens in small urban region through analytical study of Al Shiek Ridwan neighborhood . There are also many problems in the general architectural design of the kindergarten , the function of the building , the interior finishing and. There is also a lack of the external environment equipment such as grassed areas , fountains and playground units.

The next chapter presents some ideas as a solution for these problems. Its title is (proposals and recommendations for kindergartens in Gaza strip).



•chapter 1 • General introduction
•chapter 2 • childhood and children situation in Gaza strip
•chapter 3 • kindergartens and their situations in Gaza strip
•chapter 4 • The role of architectural design in improving the kindergarten's environment
•chapter 5 • Assessment of the architectural situations for kindergartens in Gaza strip
•chapter 6 • kindergartens Analytical study
•chapter 7 • proposals and recommendations

Chapter 7- Proposals and Recommendations

7.1 Introduction

The previous chapter presented local and foreign analytical studies about kindergartens design. It is noticed throughout these studies that there are different problems in kindergartens design in Gaza Strip.

This is evident through the sample which was chosen in Sheikh Radwan. it is found that there are shortcomings in the overall design of the kindergartens, the interior spaces, the surrounding environment, children's playgrounds and so on.

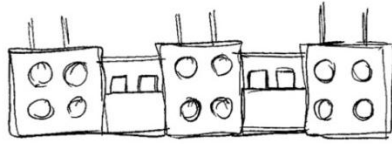
In light of these problems, this chapter will produce a set of ideas and concept design in order to find appropriate solutions to these problems, as this chapter offers a range of alternatives in the areas that are listed in the questionnaire which aims a random sample of kindergartens in the Gaza Strip. According to the ratios and statistics which are resulted, this chapter provides suggestions and ideas as proposals for solutions.

7.2 Proposals for Renovations and Design Improvement

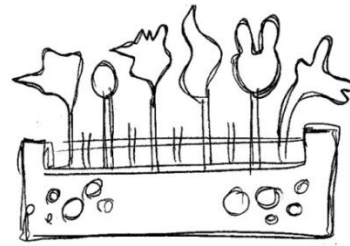
According to the case study sample, it is noticed that there are general problems that can be solved by the following proposals:

First \ Site Plan of the Kindergartens

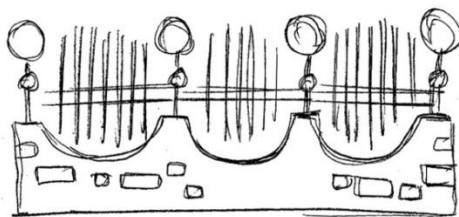
1. Kindergartens should not be licensed if the land use is not appropriate as a kindergarten.
2. About the current situation of kindergartens which are not adequate to the ministry of education rules and regulations , it is recommended to remain the buildings that are designed as kindergarten, and so on the rented buildings should be moved to other place that type of services.
3. It is important to give more attention to the site plan of kindergarten which required to avoid the noise sources such as traffic and factories but if there is a noisy sources good solutions can be produced by planting the kindergartens outdoors with dense trees that can absorb the noise. Figure (7.1) presents different ideas for fence design.



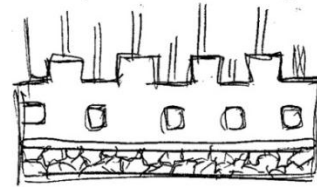
the outdoor fence can be formed from cement concrete blockes which give the apperence of toys and kids games of blocks gathering



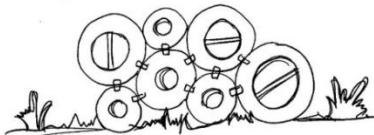
the outdoor fence can be build simply bu local materials , but some steel shapes of animals or cartoon characters painted with main colors can give prety apperence for children buildings



simple fence with curved lines colored with different complemental colors will cproduce atractive apperence - trees aroound will give mor beautiful snapshots



historical fences with Archaeological apperence Gives the children sense of belonging and a kind of patriotism



recycled tiers painted with cheerful colors can be used as a protect fence in front of green plants.

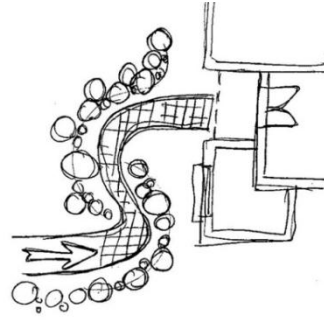


precast blocks combined with steel bars fence can provide an education panel of alphapets , numbers or animals pictures.

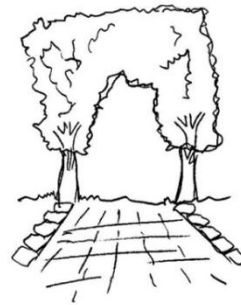
Figure (7.1) different ideas for the outdoor fence - sketched by author

Planting trees at the kindergartens site is necessary. The following figure (7.2) produces different ideas for trees planting. While figure (7.3) produces solutions to increase accessibility for kindergarten site.

planting trees can make good direction along a pathway , provide privecy , increse interesting and avoide surrounging noise.



planting two raws of trees along a pathway can form beatiful coverage for children which can be formed as arches , polygones or any shape - (instead of metal or plastice pergullas.



trees also can form natural fence around kindergarten - steel wires can provide safety from strange passengers - small shrubs and flower box under these trees can prevent children to creep througout.



Figure (7.2) planting dense trees to avoid noise in kindergarten – sketched by author

the way to a kindergarten can be organized to increase the accessibility. planting trees at street side can drop shadows which increase the Opportunity for walking - street seats for rest - iron bars for protection along the pavement will increase the safety.

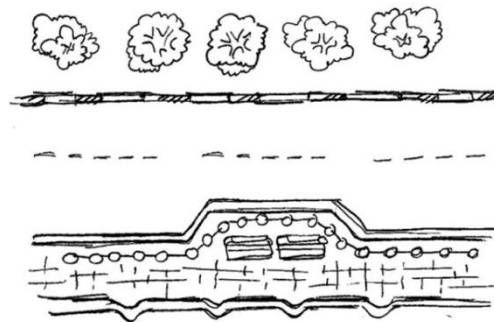


Figure (7.3) solutions to increase the accessibility for kindergartens site – sketched by author

Second/ General Design Of Kindergartens

- To take care with the environmental design in kindergartens that achieves good ventilation, pretty lighting and thermal comfort for kids, this can happen by:
- Provide south windows with sun shading
- Increasing the north openings area that ensure the entrance of natural wind and achieve good lighting. The next figure (7.4) and (7.5) produce proposals for environmental solutions to increase thermal comfort in classrooms of kindergartens.

There are many environmental solutions for thermal comfort - different kinds of sunshades can be used to reduce the direct sun ray temperature. it is possible to transform these sunshades according to the drop rays angle.

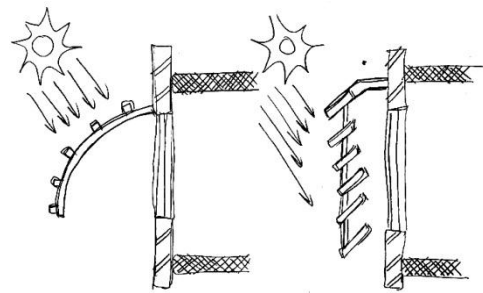
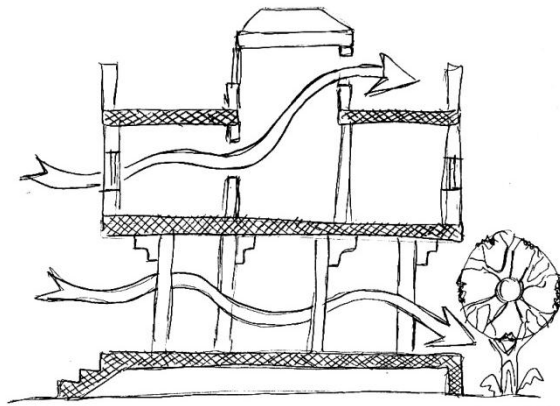


Figure (7.4) proposals for windows sun shades – designed by author



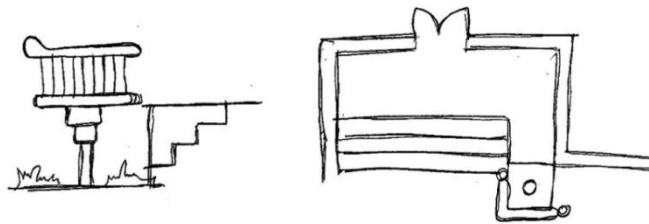
For thermal comfort, good ventilation can reduce the interior temperature and refresh the atmosphere of the children breath. This can be easily occurred by making cross ventilation by openings such as doors or windows in different directions.

Figure (7.5) proposals for environmental design in kindergartens
cross ventilations - sketched by author

- 1- Most of kindergartens principals have no idea about the importance of disabled requirements in these buildings. So, it is recommended to provide ramps, signs and what is required for disabled facilities. The followings figure (7.6) shows different ideas for entrances of kindergartens to be suitable for disable children.



it is necessary to provide the kindergarten entrance with ramps for disabled. it is noticed throughout the questionnaires analysis that there are a great number of kindergartens without any equipment for disables. There are many proposals for ramps location.



If there is no more space for the previous kinds of ramps, hydraulic ramps can be established nearby the stairs.

Figure (7.6) proposals for disabled in kindergartens- sketched by author

- 2- To take care with the outdoor appearance of kindergartens. Many strategies can be produced in this field:
 - To take care with the external walls colors and paintings.
 - To take care with building masses and openings that forms the elevations.
 - Planting trees and flower boxes.
 - Playgrounds colors can produce good appearance in the general elevations.

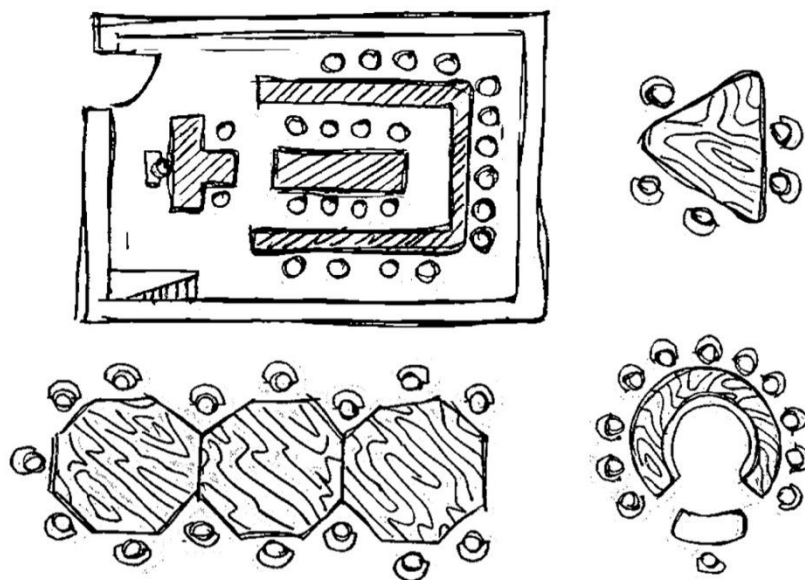
Third/ Interior And Spaces Design Of Kindergartens

A. Classrooms

1. Classrooms can be furnished by the free distribution method for chairs and tables that gives good opportunity for children participation and increases social relations. This method is better and includes more benefits than the traditional row furnishing.
2. Rooms should be arranged to facilitate the activity and movements of children at work by attending to available paths for their use and minimizing the amount of interference.
3. Learning materials should be arranged and displayed so that they are inviting to children and suggest multiple possibilities for use; they should be clearly visible and accessible,

enabling children to return and replace materials as easily as they can get them. Clear, well-organized materials facilitate children's ability to use and explore them.

- Classroom design should respect the child scale with regard to the furniture, ceiling height, room area and space size. The following figure (7.7) produces different methods for furniture distribution in kindergartens classrooms.

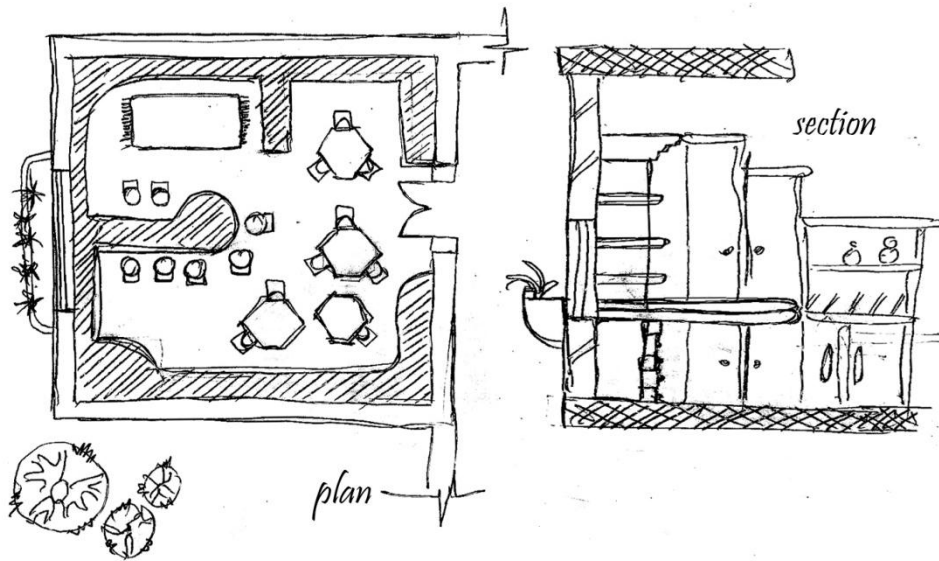


Classrooms furniture can be arranged in different ways . Traditional method contains rows and columns is not the ideal way for children learning. Furniture can take the form of circles, polygons, triangles and other ways according to the classroom area and space.

Figure (7.7) methods for furniture distributions in classrooms - sketched by author

B. Activities room

- To take care with tools and equipment of activities room such as shelves, cupboards and other required furniture.
- Produce what is required for art activities and hand crafts such as stationery, music instruments, toys, cubes and other related sets.
- Activities room should be arranged to accommodate individual, small group, and large group activities.
- Materials should be changed and combined to increase levels of complexity, thus helping children become more self-directed and increasing their level of involvement.
- Take care with technology education by using computer child programs, educational movies and valuable clips. The next figure (7.8) shows proposal for zoning inside the activities room .

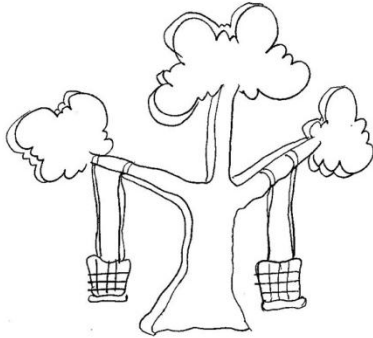
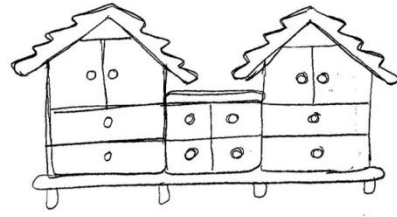


activities room can be divided for several corners to achieve children hobbies. One space can be divided by movable or static furniture. Walls can help to increase each corner space by using shelves, cupboards, pictures and so on.

Figure (7.8) proposals for activities room in kindergartens- sketched by author

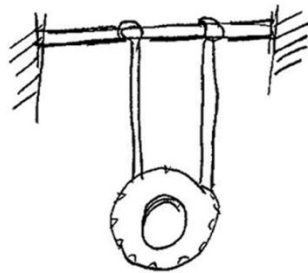
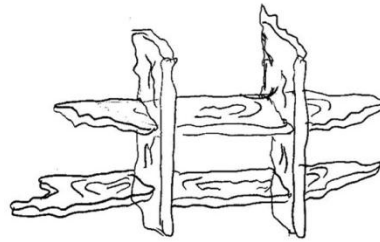
A corner of activities room can be separated by shelves or cupboards to create new space that can used as a store for activities room equipment. this method can be applied in different ways to create zonings and more activities corner for children educational subjects. The next figure (7.9) displays more elements which can be used inside the activities room.

Cupboards can take a non-regular shape - for example the form of a hut can be used in activities room that let children put and save their objects. Other examples animals, trees, cages, boxes and so on.



The form of tree made of steel or plastic can be used as a peg or hanger for dolls or toys baskets inside activities room.

Shelves made of wood logs can produce flora environment especially if the style of interiors contains similar natural items.



Recycled tires can be used in different situations. for example, hanged by steel support for sitting or clamping.

Also, these tires can combined with steel chains to make a rounded or traditional swing.

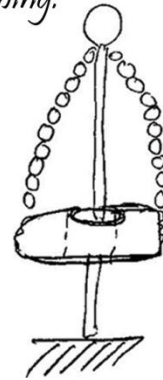


Figure (7.9) zonings and corners for more activities - sketched by author

Fourth/ Outdoors

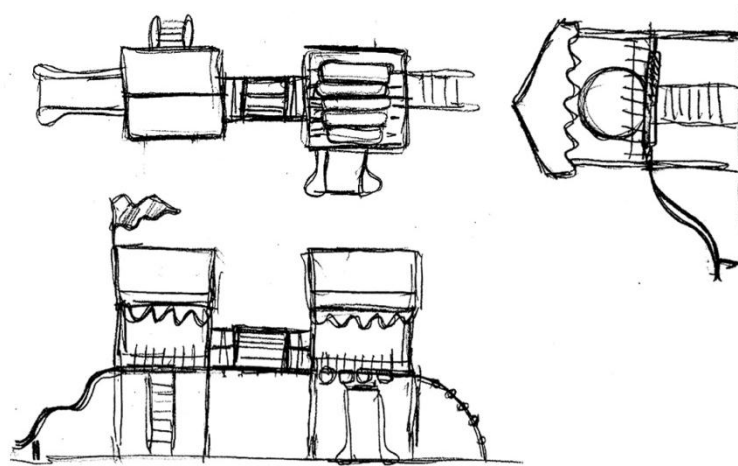
A- Take care with kindergarten landscaping that includes:

- planting trees and shrubs and flowers boxes.
- planning for pathways and accessibility passage.
- providing site coordination elements such as lamps, seats and baskets.

B- Providing the kindergartens with different types of playgrounds.

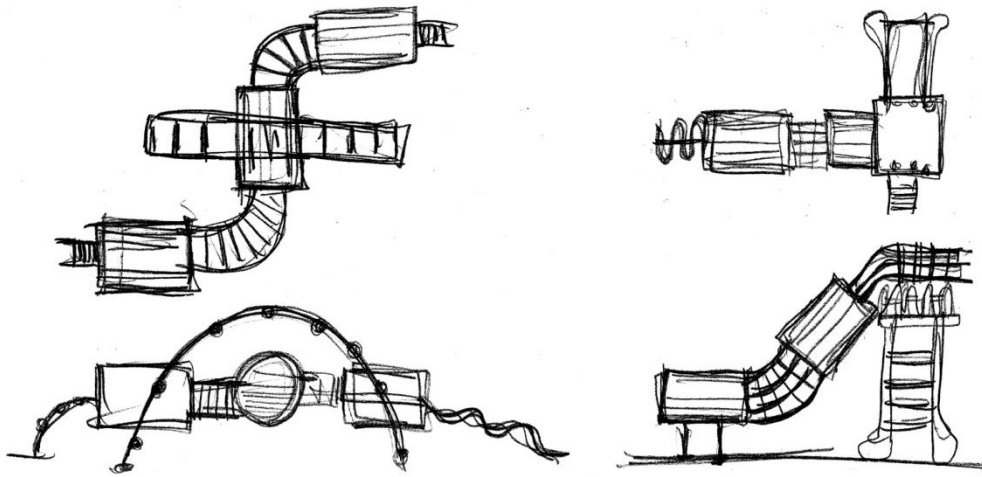
- The garden can be grassed and fenced and divided into different play areas.
- Pergolas and coverage can be produced to protect children from the sun and to provide good play area.
- There are different concepts for playgrounds such as sliders, tunnels, swings, springs, climbers and other separated units.

Figure (7.10) displays design concepts for playgrounds which represents the history of the refugee camps in Gaza strip . While figure (7.11) displays ideas for playgrounds manufactured by the reused water barrels.



Playgrounds can tell the story of refugee camps. These playgrounds are designed simply by sliders and ladders but formed the scene of refugee camps with the Palestinian flag at the poles and leather colored coverage which represent the tents of refugees.

Figure (7.10) design concepts for playgrounds – the refugee camps - war tents and tunnels between houses - designed by author



Play grounds can be designed from local elements. For example these playgrounds are designed from the plastic water tanks (blue barrels) which are used as tunnels , combined with steel structure for climbing and stepping.

Figure (7.11) playgrounds ideas from recycled water barrels with different directions combined with steel bars and fiber sliders - designed by author

It is noticed that Steel coverage are widely used in the case study in kindergartens and it is recommended to be replaced with fabric tents or light coating shades with varied colors and light materials. Figure (7.12) displays ideas for shadings coverage using fabric tents and light coating shades.

According to the third chapter of this letter, outdoor spaces is very important for children. And because of the safety factors, children should be protected from direct sun shades. There are many ideas for that. The following sketches present outdoors coverage tents made of plastics leather or light clothing supported by steel poles.

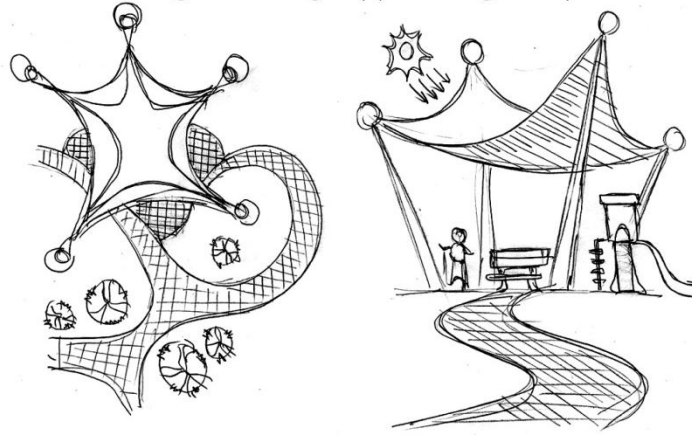


Figure (7.12) proposals for fabric tents or light coating shades with varied colors and light materials.- sketched by author

Fifth/ Finishing And Furnishing

- A- If the ceiling is a steel material, this will increase the temperature degrees inside classrooms that causes reduces thermal comfort. So it is recommended to coat the ceiling by polystyrene or gypsum panels as fall ceiling, this will relate the transformation of temperature and increase thermal comfort. Figure (7.13) displays details for false ceiling which can be used below the tank or asbestos ceilings.

There are many ways for ceiling treatments, false ceiling can provide good thermal comfort for tanks ceilings. Also, it can be used for artificial lighting producing good appearance. For ceilings facing the sun rays, sun lamps can be used to reduce electrical consumption.

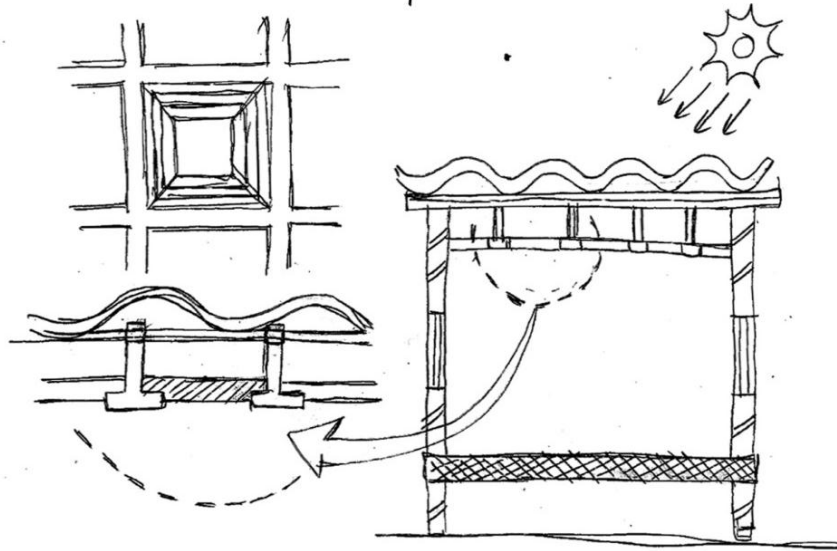


Figure (7.13) details of ceiling coverage - sketched by author

- B- floor can be covered with colored rubber or carpet especially the activities room.
- C- the furniture can be designed to be in deferent and creative appearance. This can be achieved by good choice of colors, clever simulation of other environments, clever devise of Unconventional shapes and so on.
- D- There are many kindergartens with partial finishing. It is effective to complete these finishing by using cheerful painting colors, cartoons drawings, and other complements materials.

7.3 Conclusion :

As it mentioned in chapter 5 , there are some problems in kindergartens in terms of urban planning , interior and exterior design , finishing and furnishing.

This chapter has produced more ideas for kindergartens of the study sample in order as proposals to solve these problems .

These ideas are produced as guide only that means there are more or different concepts for solutions.

7.4 recommendations

- Kindergartens should be signed on the master plan of educational buildings in the ministry of local government of Gaza strip.
- The ratio of children per class should not raise than 28 child per class according to the ministry of education terms.
- Kindergartens should take place in quiet areas. To achieve that, many solutions can be provided . see proposals of chapter 7.
- There are many considerations for kindergartens which take place in traffic jammed areas. For example indirect entrances for the building – lighting signs on streets and so on.
- Kindergartens buildings have special design criteria. So, the residential building is not suitable to be used for educational purposes.
- Kindergartens should not be licensed if the building is not designed originally for children education. This will respect the architectural situations of kindergarten building.
- The healthy considerations should be taken in mind at classrooms, bathrooms, activities room and other spaces of kindergartens. the natural lighting and good ventilation are very important to create healthy atmosphere for children.
- The aesthetic appearance is also important for kindergarten building. Good appearance can create suitable environment for education. This can be achieved by the awareness of elevations, colors of paintings site coordination elements and good finishing.
- Kindergarten building should respect children with special needs (disabled children). Many ideas had been mentioned in proposals of chapter 7.
- It is preferred to arrange classroom furniture according the concept of zonings and open space activities which are more effective than traditional distribution of furniture rows.
- Nonsystematic room is very important. So, it should be designed to achieve more activities such as theatre, music, and interior playing.
- Many interior spaces of kindergartens should be redesigned to increase teir areas. For example, administration room, teachers rest room and store room are important spaces. However, their areas are not enough to achieve their functions.

- The outdoor area of kindergarten is important and in real need to respect the outdoor activities.
- Most kindergartens are in real need to playgrounds units. Many types of playgrounds can coordinate the outdoor play area, such as slides, climbs, swings and other detached units.
- Many kindergartens playgrounds need some maintenance to be suitable for children use.
- Many kindergartens need exterior and interior finishing in terms of walls, ceilings and floors.
- The vast majority of kindergartens in Gaza strip need financial support to be improved and upgraded in terms of interior and exterior architectural situations.
- Kindergartens buildings are very important for children education in Gaza strip and in real need of more care and support.
- Many kindergartens ceilings are made of tanks or asbestos which need to be replaced or covered with false ceilings. This will reduce the temperature and creat good atmosphere for children learning.

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7.6 Appendix

Table (7.1) kindergartens name and address according to the provinces			
	Kindergarten name	Kindergarten address	provinces
1.	Al abrar	Aljalaa street	West Gaza
2.	Al ferdaws	Abasan al kabera	khanuniss
3.	Al aqsa	Al shatei refugee camp	West Gaza
4.	Al mesbah	Beat lahya – near unrwa clinic	North Gaza
5.	Al aman	Near aman mosque	West Gaza
6.	Al baraa	Altwam – near 17 force	North Gaza
7.	Al ameer alsagheer	Khilil al wazir st. - lababidy	West Gaza
8.	Hiteen	Shijaea bagdad street	East Gaza
9.	Forsan phalestine	Tofah near al jolani mosque	East Gaza


10.	Al sendibad	Abasan al kabira	khanuniss
11.	Al batool	al tanour district – abu misara st.	Rafah
12.	Al kolafa alrashedeen	Jabalil bloch 8	North Gaza
13.	Al zahraa	Al zohour street	Rafah
14.	Al salam	Dear al balah – al mazraa street	Middle reigon
15.	Al shatei	Al shatea refugee camp	West Gaza
16.	Baraem al quds	Al zawaida – al sonna district	Middle reigon
17.	Al kahera	Palestine street	West Gaza
18.	Al quds	Shaboura – taha hsain st.	Rafah
19.	Al rahman	Al nosirat	Middle reigon
20.	Al naser	Naser street	West Gaza
21.	Al nour	Al emam street	Rafah
22.	al sanabel	Al qishta reigon –al ansar mosque	Rafah
23.	Al hoda	Al rayess street	West Gaza
24.	Al hanaa	Shokri qitshali st.	West Gaza
25.	Al wafaa	Near tareq bin ziad school	kanuniss
26.	Baraem al aqsa	Bany sohaila	Kanuniss
27.	Baraem al quran	Alnasr near the Italian campus	West Gaza
28.	Barem almostaqbal	Bany sohaila – al taqwa mosque	kanuniss
29.	Talesoltan	Talesoltan	Rafah
30.	Herzallah	Cross Yosif azama & Yarmouk	West Gaza
31.	Tho noureen	Shigaeia – nazzaz street	East Gaza
32.	Space toon	Al jalaa street	West Gaza
33.	Toyour al jannah	Al tofah – al gataa street	East Gaza
34.	Al wadi	Dear al balah	Middle reigon
35.	alsafaa	Al salam district	Rafah
36.	Al falah	Jabalia	North Gaza
37.	Ali ben abi taleb	Jabalia camp	North Gaza
38.	Fatemah zahraa	al shigaeia	East Gaza
39.	Karamish	Al shaboura	Rafah
40.	Nadi tofoulah	Cross Al jalaa and tareq ziad st.	West Gaza
41.	Nourelhoda	Al amal district – trans street	Khanuniss
42.	Yafa alislamia	Yafa street	West Gaza
43.	Amjad	Bani shila - Khalid walid street	Khanuniss
44.	Yahala	Al thawra street	West Gaza

45.	Al siddequ	Al nosirat – block B	Middle reigon
46.	Khaled bin alwaleed	Al remal – near fa eque ashi	West Gaza
47.	Sanabel attofoula	Al zitoon porham street	East Gaza
48.	Albalsam	Al eman street	Rafah
49.	Toyour aljannah	Al faloujah street	Rafah
50.	Zahrat alhanoun	Bayt hanoun	North Gaza
51.	Baraem al esraa	Al moaskar – block g	Khanunis
52.	Ebad erahman	Al moaskar- taregh ziad school	Khanunis
53.	Zahrat al madaen	Khozaa al qarra st.	Khanunis
54.	Zamzam	jabalia	North Gaza
55.	Alamal moshreque	Alburaige Camp	Middle reigon
56.	Anwar al hoda	Talesoltan	Rafah
57.	Ajyal al aqsa	Bait lahya	North Gaza
58.	Al kawakeb	Abu warda street	North Gaza
59.	Al wadi	Al daraj	East Gaza
60.	Al karama	Jabalia block 8	North Gaza
61.	Shams enahar	Alburaige	Middle reigon
62.	Sondoss	Al thalathinee street	East Gaza
63.	Atfal elbasma	Amer project	North Gaza
64.	Al-baraem altaiba	Yosif al- azama st.	West Gaza

Table (7.2) kindergartens of the analytical study of Al- Shiek Ridwan neighborhood

	Name of kindergarten	Loacation - Adress	No. of students	Number of teachers	Supervision direction	notes
1	Baraem besan	Palestine st. – near Palestine mosque	140	7	Alnajda society	licensed
2	Atfalona	Palestine st. – near civil affairs ministry	60	9	Atfalona society for deaf children	licensed
3	Al-baraem altaiba	Yosif al- azama st.	150	8	Private	Not licensed
4	Al-kahera	Near almajdah school	96	5	Private	Not licensed
5	Al-ameer alsagheir	Khilil al- wazir st.	80	4	Private	Not licensed
6	Kids land	Palestine st. – near al-Rawda mosque	56	3	Private	Not licensed
7	Al-abrar	Hetteen st.	66	5	Islamic Action Society volunteer	licensed
8	Alam atofoula	Ahmed shoqery st.	54	3	Private	Not licensed
9	Nady altofoula	Cross Al jalaa and tareq ziad st.	103	4	Private	licensed
10	Al-shimaa	Al jalaa st. near Jalaa club	45	2	Private	Not licensed
11	Al-yarmouk	Alyarmouk st.	77	4	Private	
12	Herzallah	Cross Yosif al- azama and Yarmouk st.	94	3	Private	Not licensed
13	Yahallah	Al thawra st.	110	14	Society Institute of hope for orphans	licensed
14	Al-hanaa	Shokri qitshali st.	125	5	Private	licensed
15	Al-naser	Naser st.	170	12	Al naser shool	licensed
16	Shoban almashia	Aljalaa st.	130	6	Young Men Christian Association	licensed

17	Ajyal alsaeda	Cross Wihda and Yarmouk st.	97	4	Private	Not licensed
18	Barby	Abdelkader Hosieny street	130	5	Private	licensed
19	Moon light	Alwihda st.	125	6	Private	licensed
20	ALawda	Khilil wazir street	164	6	Private	licensed
21	Besan	Alnasr near alquds university	60	2	Private	licensed
22	Baraem Quran	Alnasr near the Italian campus	103	6	dar el-quran society	licensed
23	Al-osama	Tareqe bin ziad st.	87	3	Private	licensed
24	Hob light	Alwida st.	55	2	Private	licensed
25	Al- takadom	Ahmed shoqiry st.	104	6	Private	licensed
26	Al- remal	Alkinz st.	180	6	Private	licensed
27	Al- mashaël	Althawra st.	103	7	Private	licensed
28	Al-esraa	Esam saratawi st. – near Ramiz fakhra school	44	2	Private	Not licensed
29	Afaqh	Mhmed anajar st.Near the bridge	144	8	Private	licensed
30	Baby smile	Tareq bin ziad near khil alrahman mosque	68	3	Private	licensed
31	Khaled bin waleed	Aljalaa – near hitten mosque	50	3	Private	Not licensed
32	Al morouge	Alnasr- near the open university	180	13	Society of Mercy	licensed
33	Taibah	Alwihda st. near abu asi petrol station	80	3	Private	licensed
34	Jannat alatfal	Khaild bin walied st	43	2	Private	licensed
35	Al moroug	Alremal alwihda st.	50	3	Private	licensed

The Islamic university - Gaza		Master program
Faculty of ingeneering		Searcher - Eng. Monzer Matrabie
Architectural departement		Sup.- Dr. Ahmed Muhaisen , Dr.farid Al Qeek
Letter title -Strategies to improve the architectural design for kindergartens in Gaza strip		

Dear Ms. Kindergarten Principal

Peace, mercy and blessings of God

We are pleased to offer this questionnaire to you, which is the process of gathering information on buildings of kindergartens in the Gaza Strip, as it is necessary to complete a research - within the master's program in architecture at the Islamic University of Gaza , with a title of / **strategies to improve the architectural design for kindergartens in Gaza strip**. So we hope that you fill questionnaire accurately and objectively, with a note that the researcher will depend on this information to provide solutions to the problems and proposals received after the study questionnaires.

First / General Information About The Kindergarten

.Adress		
The year of establishment		
Stage	<input type="checkbox"/> pre-school	Number of classes
	<input type="checkbox"/> kindergarten	Number of classes
	<input type="checkbox"/> nursery	Number of classes
total number of children in all stages.....		
Average number of students per class.....		

Second /Sit E Plan Of Kindergarten

	<input type="checkbox"/> Very near	<input type="checkbox"/> Nearby	<input type="checkbox"/> Far away	<input type="checkbox"/> Very Far
kindergarten takes place near a Residential area				
kindergarten is easy accessible				
kindergarten takes place in traffic jammed area				
kindergarten takes place in a noisy area				
Number of nearby kindergartens	<input type="checkbox"/> More than 7	<input type="checkbox"/> From 5-7	<input type="checkbox"/> From 3-5	<input type="checkbox"/> Less than 3
Do the formation of urban planning shows the entrance of kindergarten easily	<input type="checkbox"/> Yes	<input type="checkbox"/> No		

Is there a bus for children	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
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Third / General Design Of Kindergarten

Does the kindergarten building stand-alone or within another building / (Is the building originally designed as kindergarten)	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
If the answer (No) - the previous Building	<input type="checkbox"/> store	<input type="checkbox"/> rented	<input type="checkbox"/> residential	
The form and aesthetic appearance is acceptable as kindergarten	<input type="checkbox"/> Very good	<input type="checkbox"/> Good	<input type="checkbox"/> bad	<input type="checkbox"/> the worst
Natural lighting in kindergarten	<input type="checkbox"/> Very good	<input type="checkbox"/> Good	<input type="checkbox"/> bad	<input type="checkbox"/> the worst
Natural ventilation in kindergarten	<input type="checkbox"/> Very good	<input type="checkbox"/> Good	<input type="checkbox"/> bad	<input type="checkbox"/> the worst
Is kindergarten adequate to receive children with special needs (Is there ramps, furniture for disabilities) - references to other types of disabilities	<input type="checkbox"/> Yes			<input type="checkbox"/> No
Number of stories				
site plan area				
building area.....				

Fourth/Architectural Spaces

1- Classrooms

classrooms in kindergarten are	
<input type="checkbox"/> Traditional (rows of desks and chairs)	Number of classrooms.....
<input type="checkbox"/> Organized as free distribution furniture and zonings	Number of classrooms.....

2- Activities Room

What is the area of activities room			
<input type="checkbox"/> Over 45m2	<input type="checkbox"/> From30-45m2	<input type="checkbox"/> From30-15m2	<input type="checkbox"/> Less than15m2
What is the available zonings (corners) in this room - mark what is available			
<input type="checkbox"/> Drawing, coloring and Handicrafts corner			
<input type="checkbox"/> Play corner			
<input type="checkbox"/> Housekeeping corner			
<input type="checkbox"/> Corner for educational tools			
<input type="checkbox"/> Library corner			

<input type="checkbox"/> All of the above
Is there any additional activities - mark what is available
<input type="checkbox"/> Theater and the representation
<input type="checkbox"/> Music and singing
<input type="checkbox"/> Team Games
<input type="checkbox"/> None of what is mentioned

There are many tools , instruments and furniture must be available at the activity room

Are this tools available in kindergarten – Are they enough for children need			
	Available and enough	Available but not enough	Not Available
Shelves and cupboards			
Tables and chairs for groups and workshops			
Tools for drawing and Handicrafts (clay, glue , coloring pencils , Sketch Books and so on ..)			
Music instruments			
Technology sets for education (computer, video, TV , and so on ..)			
Plates, printed panels and other educational tools			
Toys, games ,cubes and other similar play tools			
Do you think store room is necessary for saving these tools		<input type="checkbox"/> Yes	<input type="checkbox"/> No

**Are there specific rooms in kindergarten (separated from activities room)
mark what is available**

<input type="checkbox"/> Children library (colored stories, prints , books)
<input type="checkbox"/> Play room
<input type="checkbox"/> Room of Audio and Video (TV and computer and video - recorder and so on)
<input type="checkbox"/> Room for drawing, coloring and Handicrafts
<input type="checkbox"/> Multipurpose room
<input type="checkbox"/> Nothing of listed above

3- Other Spaces

Are these spaces exist in kindergarten			
WCs , hand washing and drinking fountains	<input type="checkbox"/> Yes	<input type="checkbox"/> No	number of WCs
Store room to save something	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Store area.....
Administrator room	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Administrator room area
Rest room for teachers and nannies	<input type="checkbox"/> Yes	<input type="checkbox"/> No	room area
Do the design respects the child human scale (room size ,ceiling height ,furniture type)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Fifth / Outdoor Spaces

Is there an outdoor space in kindergarten design		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
If the answer is (Yes), are these requirements available				
	Available enough	and	Available but not enough	Not Available
Green grassed area				
Sand area				
Aesthetic site elements (trees and ornamental plants, baskets, water Fountains)				
Pergolas and coverage				
Playgrounds units				
Playgrounds status				
What is the determined area for playground (m2)				
playgrounds floor	<input type="checkbox"/> Sand	<input type="checkbox"/> Grass	<input type="checkbox"/> Tiles	<input type="checkbox"/> Cements
Type and number of playgrounds				
	Number	Very good	Good	Worsening
Swings				
Slides				
Looping rounded seats				
Detached playgrounds(horses, spirals, balancing and so on)				

Sixth / Finishing And Furnishing

1- exterior finishing		
The building outside		
<input type="checkbox"/> Full finishing	<input type="checkbox"/> Partial finishing	<input type="checkbox"/> Not finishing
Type of finishing		
<input type="checkbox"/> normal cement Bleaching	<input type="checkbox"/> white Bleaching	<input type="checkbox"/> Super finishing (granolite marbel ,tiles)
The dominated Exterior finishing colors		
Type of roof finishing		
<input type="checkbox"/> cement reinforcement concrete	<input type="checkbox"/> metal tinplate coverage	<input type="checkbox"/> Asbestos
<input type="checkbox"/> other		
If the finishing of the roof is tinplate or asbestos , is there any coverage of Cork or plaster inside		
<input type="checkbox"/> Yes	<input type="checkbox"/> No	

2- interior finishing		
A - Floor / floor finishing material is		
<input type="checkbox"/> Normal tiles	<input type="checkbox"/> Cement concrete	<input type="checkbox"/> Super finishing (marble, Porcelain , and son on
Activities and multipurpose room floor		
<input type="checkbox"/> Covered with Carpet,plastic or rubber leather	<input type="checkbox"/> Mat coverage	<input type="checkbox"/> with no floor finishing
B – Walls / interior walls paintings		
<input type="checkbox"/> super deluxe painting (oil, tambertext , ...)	<input type="checkbox"/> plain finishing	<input type="checkbox"/> with no paintings
Interior paint colors	
are there paintings and pictures reveal the function of kindergaten	<input type="checkbox"/> Yes	<input type="checkbox"/> No

3 – furnishing / what is the furniture status				
	<input type="checkbox"/> Very good	<input type="checkbox"/> Good	<input type="checkbox"/> bad	<input type="checkbox"/> the worst
Administration furnishing				
Classrooms (desks, tables, cupboards)				
Activities room(grouping tables, shelves , tools and so on)				

الجامعة الاسلامية		برنامج الماجستير
كلية الهندسة		الباحث / م. منذر المتريبي
قسم العمارة		المشرف/ د. أحمد محيسن - د. فريد القيق
عنوان رسالة الماجستير – استراتيجيات تحسين التصميم المعماري لمباني رياض الأطفال في قطاع غزة		

الأخت الفاضلة / مديرة الروضة

السلام عليكم ورحمة الله وبركاته

يسرنا عرض هذه الاستبانة على حضراتكم والتي هي بصدد جمع المعلومات عن مباني رياض الأطفال في قطاع غزة، حيث أن هذه الاستبانة ضرورية لإتمام رسالة بحثية - ضمن برنامج الماجستير في الهندسة المعمارية في الجامعة الإسلامية- وهي بعنوان/ استراتيجيات تحسين التصميم المعماري لمباني رياض الأطفال في قطاع غزة. لذا نرجو من سيادتكم تعبئة الاستبانة بدقة وموضوعية علما أن الباحث سيعتمد على هذه المعلومات في تقديم حلول ومقترحات للمشاكل الواردة بعد دراسة الاستبانة.

أولا / بيانات عامة عن الروضة

اسم الروضة.....		
عنوان الروضة		
سنة تأسيس الروضة.....		
المرحلة التي تدرسها الروضة	<input type="checkbox"/> بستان	عدد الفصول
ضع علامة (√) أمام الخيار المتوفر	<input type="checkbox"/> تمهيدي	عدد الفصول
	<input type="checkbox"/> حضانة	عدد الفصول
مجموع عدد الأطفال في الروضة لجميع المراحل		
متوسط عدد الأطفال في الفصل الواحد		

ثانيا / الموقع العام للروضة

ضع علامة (√) في الخانة المناسبة من الجدول	قريبة جدا	قريبة	بعيدة	بعيدة جدا
تقع الروضة بالقرب من المناطق السكنية				
هل الوصول للروضة متاح بشكل جيد				
تقع الروضة في منطقة ازدحام مروري				
تقع الروضة في منطقة ضوضاء				
عدد الروضات في المنطقة المجاورة	<input type="checkbox"/> أكثر من 7	<input type="checkbox"/> من 5-7	<input type="checkbox"/> من 3-5	<input type="checkbox"/> أقل من 3
هل التشكيل العمراني يفصح بسهولة عن مدخل الروضة	<input type="checkbox"/> نعم	<input type="checkbox"/> لا		

هل هناك باص للروضة	<input type="checkbox"/> نعم	<input type="checkbox"/> لا	
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ثالثا/ التصميم العام للروضة

هل مبنى الروضة مستقل بذاته أم يوجد ضمن بناء معين (هل المبنى مصمم أصلا كروضة أطفال)	<input type="checkbox"/> نعم	<input type="checkbox"/> لا		
إذا كانت الإجابة (لا) ما طبيعة المبنى الذي توجد بضمنه الروضة	<input type="checkbox"/> مبنى سكني	<input type="checkbox"/> مخازن	<input type="checkbox"/> مبنى مؤجر	
الشكل الخارجي والمظهر الجمالي للمبنى مقبول كروضة أطفال	<input type="checkbox"/> جيد جدا	<input type="checkbox"/> جيد	<input type="checkbox"/> سيئ	<input type="checkbox"/> سيئ جدا
الإضاءة الطبيعية في الروضة	<input type="checkbox"/> جيد جدا	<input type="checkbox"/> جيد	<input type="checkbox"/> سيئ	<input type="checkbox"/> سيئ جدا
التهوية الطبيعية في الروضة	<input type="checkbox"/> جيد جدا	<input type="checkbox"/> جيد	<input type="checkbox"/> سيئ	<input type="checkbox"/> سيئ جدا
هل الروضة مهيئة لاستقبال اطفال ذوي احتياجات خاصة (هل يوجد منحدرات لكراسي المعاقين) – اشارات لأنواع الاعاقات الاخرى	<input type="checkbox"/> نعم	<input type="checkbox"/> لا		
عدد طوابق الروضة				
المساحة العامة لقطعة الارض.....				
مساحة البناء.....				

رابعا / الفراغات المعمارية

أ - الفصول الدراسية

هل تعتمد الروضة نظام	
<input type="checkbox"/> الفصل التقليدي (صفوف متتالية من الطاولات والكراسي)	عدد الفصول.....
<input type="checkbox"/> الفصل الواسع بنظام الاركان والتوزيع الحر للطاولات والكراسي	عدد الفصول.....

ب - غرف الأنشطة

ما هي مساحة غرفة الأنشطة			
<input type="checkbox"/> أقل من 15 م2	<input type="checkbox"/> ما بين 15 – 30 م2	<input type="checkbox"/> ما بين 30 – 45 م2	<input type="checkbox"/> أكثر من 45 م2
ما هي الأركان والزوايا الموجودة في غرفة الأنشطة – ضع علامة حول الخيارات المتوفرة			
<input type="checkbox"/> ركن الرسم والتلوين والاشغال اليدوية			
<input type="checkbox"/> ركن الالعاب			
<input type="checkbox"/> ركن التدبير المنزلي			
<input type="checkbox"/> ركن الوسائل التعليمية			
<input type="checkbox"/> ركن المكتبة			
<input type="checkbox"/> جميع ما ذكر			

هل تقام أنشطة إضافية في هذه الغرفة – ضع علامة حول الخيارات المتوفرة
<input type="checkbox"/> مسرح وتمثيل
<input type="checkbox"/> موسيقى وانشاد
<input type="checkbox"/> الألعاب الجماعية
<input type="checkbox"/> لا شيء مما ذكر

هناك العديد من التجهيزات والأدوات الواجب توفرها في غرف الأنشطة

هل تحتوي غرف الأنشطة على التجهيزات والادوات التالية			
غير متوفر	متوفر ولا يكفي حاجة الأطفال	متوفر ويكفي حاجة الأطفال	
			أرفف وخزانات
			طاوولات وكراسي لنظام المجموعات والحلقات
			أدوات الرسم والأشغال اليدوية (ألوان، دفاتر رسم، أقلام ونحوه)
			الآلات الموسيقية
غير متوفر	متوفر ولا يكفي حاجة الأطفال	متوفر ويكفي حاجة الأطفال	
			أجهزة تكنولوجيا التعليم (كمبيوتر – فيديو - تلفزيون ونحوه)
			اللوحات والوسائل التعليمية المختلفة
			الألعاب والدمى والمكعبات وما شابه
<input type="checkbox"/> لا	<input type="checkbox"/> نعم		هل تعتقد بضرورة وجود غرفة إضافية كمخزن لحفظ الاغراض والادوات

هل يوجد في الروضة فراغات معمارية (غرف متخصصة) مستقلة عن غرفة الأنشطة - ضع علامة حول الخيارات المتوفرة

<input type="checkbox"/> غرفة مكتبة أطفال (قصص مصورة – نشرات – كتب أطفال)
<input type="checkbox"/> غرفة خاصة للألعاب
<input type="checkbox"/> غرفة للسمعيات والمرئيات (تلفزيون وكمبيوتر وفيديو- مسجل ونحوه)
<input type="checkbox"/> غرفة رسم وتلوين وأشغال يدوية
<input type="checkbox"/> غرفة متعددة أغراض
<input type="checkbox"/> لا يوجد شيء مما ذكر

ج فراغات معمارية أخرى

هل يوجد في الروضة الفراغات المعمارية التالية			
دورات مياه ومغاسل ومشارب	<input type="checkbox"/> نعم	<input type="checkbox"/> لا	عدد دورات المياه
غرفة مخزن لحفظ الاغراض والادوات	<input type="checkbox"/> نعم	<input type="checkbox"/> لا	مساحة المخزن

غرفة إدارة	<input type="checkbox"/> نعم	<input type="checkbox"/> لا	مساحة غرفة الإدارة
غرفة استراحة للمعلمات والمربيات	<input type="checkbox"/> نعم	<input type="checkbox"/> لا	مساحة هذه الغرفة
هل يحترم تصميم الروضة مقياس الطفل (فيما يتعلق بحجم الفراغ ، ارتفاع السقف ، نوع حجم الأثاث المستخدم)	<input type="checkbox"/> نعم	<input type="checkbox"/> لا	

خامسا / الفضاءات الخارجية

هل يوجد ضمن تصميم الروضة مساحة خارجية				<input type="checkbox"/> نعم	<input type="checkbox"/> لا
إذا كانت الاجابة نعم .. هل يوجد في الساحة الخارجية					
	متوفر ويكفي حاجة الأطفال	متوفر ولا يكفي حاجة الأطفال	غير متوفر		
مناطق معشبة خضراء					
ساحة رملية					
عناصر تنسيق (أشجار ونباتات زينة ، سلات ، مشارب مياه)					
معرشات وتغطيات					
وحدات ألعاب أطفال					
حالة وحدات ألعاب الاطفال					
ماهي المساحة المخصصة لوحدة ألعاب الأطفال					
<input type="checkbox"/> رمل اصفر	<input type="checkbox"/> عشب نجيل	<input type="checkbox"/> بلاط	<input type="checkbox"/> اسمنت		
نوع وعدد وحدات ألعاب الأطفال					
العدد	بحالة ممتازة	بحالة جيدة	متدهورة		
<input type="checkbox"/> مراجيح					
<input type="checkbox"/> زحاليق					
<input type="checkbox"/> كراسي دورانية					
<input type="checkbox"/> ألعاب منفصلة (حصان، زنبرك ، دوران ونحوه)					

سادسا / تشطيب وتعفيش الروضة

أ / التشطيب الخارجي			
المبنى من الخارج	<input type="checkbox"/> مشطب بالكامل	<input type="checkbox"/> مشطب جزئي	<input type="checkbox"/> غير مشطب
نوع التشطيب الخارجي			
<input type="checkbox"/> قصارة اسمنتية	<input type="checkbox"/> رشقة	<input type="checkbox"/> تشطيب فاخر (حجر قدسي- كراميك - جرانوليت)	
ما هي الألوان المستخدمة في التشطيبات الخارجية			
نوع مادة بناء السقف			

<input type="checkbox"/> خرسانة اسمنتية مسلحة	<input type="checkbox"/> معرشات معدنية (زنجو)	<input type="checkbox"/> اسبست
<input type="checkbox"/> غير ذلك - اذكر.....		
إذا كانت مادة بناء السقف هي الاسبست أو الزنجو هل السقف مبطن من الداخل بالفلين أو الجبس؟		
<input type="checkbox"/> نعم	<input type="checkbox"/> لا	

ب / التشطيب الداخلي		
الأرضيات - تشطيب أرضيات الروضة من مادة بناء		
<input type="checkbox"/> بلاط عادي	<input type="checkbox"/> خرسانة اسمنتية فقط	<input type="checkbox"/> تشطيب فاخر (بورسلان ، رخام وغيره)
أرضية غرفة الأنشطة والألعاب والغرف متعددة الأغراض		
<input type="checkbox"/> لا يوجد	<input type="checkbox"/> مكسوة بالحصير	<input type="checkbox"/> مكسوة بالموكيت أو الجلد المطاطي
الجدران الداخلية		
<input type="checkbox"/> غير مدهونة (قصارة فقط)	<input type="checkbox"/> دهان عادي (بولسيد)	<input type="checkbox"/> دهان فاخر (تمبرتكس، دهان زيتي ، ونحوه)
الدهانات الداخلية يغلب عليها اللون		
هل هناك رسومات وصور تفصح عن وظيفة الروضة		<input type="checkbox"/> نعم <input type="checkbox"/> لا

ج - الأثاث - ما هو حال الأثاث في الروضة				
<input type="checkbox"/> جيد جدا	<input type="checkbox"/> جيد	<input type="checkbox"/> سيئ	<input type="checkbox"/> سيئ جدا	
أثاث الإدارة				
أثاث الغرف الصفية (الطاولات والكراسي)				
أثاث غرف الأنشطة (الطاولات الجماعية - الخزانات - الأرفف - الأدوات وخلافه)				