



Instituto Politécnico
de Castelo Branco
Escola Superior
de Artes Aplicadas

Final Project

The Kindergarten in Poland



Mestrado em designação do mestrado

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Abstract

According to five senses: safety, color, toys, zones/areas receives the most attention in kindergarten interior design; however, the other senses are significant as well.

The main purpose of this thesis is to create a kindergarten sensory design framework, which is applicable for designers to design a kindergarten.

A case study is followed to illustrate how to use the framework while designing a restaurant. The final redesign shows distinct advances compared to the original design, which reveals importance of sensory design.

The physical design of a developmentally appropriate classroom allows for experiences in areas for reading, writing, listening, dramatic play, art, numeracy, block, science, technology and an area for large group meetings. Ensuring a balance amongst these various learning areas is an important component in the organization and planning of the physical space in a kindergarten classroom. While classrooms may look different, the space should accommodate these learning areas so that children can learn to move independently throughout the room for the purpose of using the equipment and materials. Consider the idea of dividing the classroom into areas for wet, dry, active, quiet, clean and messy activities. Keep in mind that some areas should offer more flexibility based on materials, space and interest.

Zones / areas

Environment kindergarten should be shaped so as not to jeopardize the health and life of a child. Because kindergarten is the educational institution, and at the same time caring for children aged from three years of age to enter the period of compulsory education. So fun and activities, as well as the organization of the nursery should be considered in terms of safety of the child, provide him with hygienic environmental conditions.

Prime importance is the creation of children in kindergarten safe living conditions to eliminate any factors threatening accident, prudence and caution all staff at every step and in every situation, the ability to anticipate and prevent injuries and accidents.

Safety

Architecture interior of the building is primarily a game of colors. Their respective composition and well-chosen range of shades can better influence the memorization and well-being of children. Too bright, strong colors scattered attention. Other hand dirty, smoky colors disincensive to stay in the middle. Definitely work best light, delicate pastel colors, and delicate yellow, orange and calm: blue and green. Color enhances the visual experience. It has an emotional appeal and should be considered as well as material selection. In classrooms it is best to use deep and neutral tones. Color should also be used as a mechanism for way finding in facilities geared for the use by a child.

Color

- Zons/areas
- Safety
- Color
- Toys

Keywords

Objectives

The purpose of this study is as follows:

First, based on sensory study, propose a framework. Through sensory study: color, safety, toys, zones/areas to find approaches which are applicable in kindergarten interior design, 2 and transfer them into a framework. The framework would be an effective reference for designer and restaurant owners.

Second, through case study, illustrate the importance of sensory design and feasibility of the framework. To test the application, the framework is applied to redesign an Polish kindergartens. Through a comparison between original design photos and redesign renderings, design advances are demonstrated, which displays the significance of sensory design and feasible application of the framework.

Introduction

As my final project I wanted to design something we had not had the chance to design before. That is why I started to look for a suitable project. In one of the local newspapers I found an article about the ongoing construction site of a kindergarten in the village close to my home town. There were added pictures of a construction site and a future interior to the article. I did not find the interior attractive, aesthetic nor well-designed as it was full of bland and overwhelming colors with only simple and common pieces of furniture. The previous project is not coherent. The elements of the initial design did not share any common style. Orange and green were the dominant colors in the interior. Even the floor had the same color as the walls and as a result a general image of the interior was rather bland. The only aspect I liked about that interior was a large number of windows thanks to which the rooms were bright.



Image 1 - The building site of kindergarten, Lwovek.

My first visit on the site took place when the construction works were almost finished. I asked the owner whether I could take a look at the interior. The response was positive. The building site was in a raw state, without finishing.

I visited the kindergarten for the second time on the day of its opening. At that point it looked impressively. The interior looked similar to that depicted in the visualizations so I decided to design a present building in my own style. I wanted to design a building where I would send my children with pleasure and peace in my mind.



Image 2 - The front facade of kindergarten, Lwovek.



Image 3 - Play room, the kindergarten,
Lwovek



Image 4 - Play room, the kindergarten,
Lwovek



Image 5 - Play room, the kindergarten,
Lwovek



Image 6- Changing room. The kindergarten
Lwovek



Image 7 - Toilets, the kindergarten,
Lwovek



Image 8- Toilets. The kindergarten
Lwovek

Initial research

Kindergarten project: Interior Design Stage

Kindergarten is a child's first experience with formal education. Since this primary year provides a foundation for success in the grades that follow, it is very important that a child is in a good kindergarten class. Children in a kindergarten not only play and have fun but also learn, sleep and eat.

Very often children are afraid to stay in a kindergarten without their parents. The task of interior designer, is to create an interior in which a child will feel comfortably, safe and happily. The interior thank to which a child will want to stay in kindergarten instead of counting the hours left to leave it and go home. The interior of the kindergarten's main room has to stimulate a child both for playing, having fun with others and for learning in some various ways. The interior of the kindergarten has also to meet parents' expectations and demands as they are the ones who make the decision which kindergarten to choose.

Rooms for children:

- plays room, classroom
- toilets
- changing rooms
- storage
- toilets accessible from the outside (in the case of how big is kindergarten)
- disabled toilets

Another rooms:

- food preparation rooms
- staff room
- office
- storages (protected from children access)

When designing the kindergarten interior, I will keep the following aspects in mind.

It's fundamental to explore a Concept that represents and corporative design of the kindergarten, considering:

- Color
- Materials
- Ergonomics
- Furnishing
- Lighting solutions

The early childhood classroom and its furnishings should be scaled and targeted towards the child. According to research shows the more child-scaled the environmental space, the higher the quality and complexity of a child's play will

be and the longer he/she will be preoccupied in the play—thus the more he/she will learn. Child-sized environments increase concentration and interest. Selecting child-size furniture; varying ceiling heights; placing windows at a child's eye-level; and mounting sinks, toilets, and water fountains at appropriate heights for children are just a few ways to effectively design an ECE classroom. Required by the National Association for the Education of Young Children and the program's accreditation criteria for the physical environment of early childhood educational settings, all spaces should include child-sized furniture appropriate to the child's age and size. For example, it is required that each space must include one chair for each child over the age of one. Each chair must have a back and seating height that allows the child to sit with his or her feet on the floor or ground. Using furniture scaled specifically for children increases comfort, productivity, and learning. Using materials, furnishings, and architectural elements appropriate for a child's level of manual dexterity, muscle capability, and level of intelligence is also essential to the successful design of early childhood centers and classrooms.

Ergonomics is important to consider in a preschool and kindergarten setting as a designer should take into account children's physical sizes and abilities such as height, grip, reach, and field of vision so tasks can be performed with minimum stress and maximum efficiency and safety. Thus, tables should be waist high to children, children's feet should touch the ground when seated in a chair, and chairs should have shallow seats and slanted backs. Tables at a height that allows a child to sit comfortably with the table between his or her underarm and waist are required to be present throughout the space according as well.

Storage, for both the child and the teacher, is an issue often overlooked when designing an educational space. Ample storage is needed to accommodate the increasing amount of equipment and materials used in instructional and extracurricular programs. The presentation of materials and the degree to which children have easy access to them will influence behavior. Open shelving rather than enclosed cabinets should be used as children have high visual-perceptual orientation; what they see is more attractive than what they are told might exist. Therefore, low shelves should be used instead of large bookshelves. Materials should also be organized and uncluttered as children often pass by without notice if the activity area is disordered. A standard for NAEYC Accreditation also states that individual space should be provided for each child's belongings. Cubbies, boxes, or crates should be provided to store a child's personal items such as coats and backpacks as well as give the child a place that feels his/her own. Material selection within an early childhood classroom and facility is an important component of design. Materials needs to be durable and easy to clean and maintain. Using materials and finishes that can be sanitized is extremely

important as furniture and surfaces get extremely dirty very quickly. Institutional, unnatural finishes and textures should also be avoided. Rather, natural finishes emphasizing a "hand-made" appearance are suggested. Wall surfaces should have a smooth finish and be painted a low sheen. Toilet walls in particular should be impervious and easily cleanable as well. High gloss paint and/or ceramic tiles should be considered for areas at risk. The acoustical environment should also be considered. Unlike adults, a child is cognitively unable to fill in the blanks if he/she cannot hear his/her teacher. Therefore, soft surfaces such as carpet, fabric and/or perforated ceiling tiles should be used within a classroom to reduce the noise level in a structure built of concrete blocks and tile flooring. Flooring materials should also be secured to keep staff and children from tripping and falling. Finally, materials and furnishings should age gracefully with use and be extremely resilient to uphold the wear and tear of a child.

The use of room in the kindergarten is very different. Flexible lighting provides an optimum support to the children at any time. It ensure perfect visual conditions for tinkering and makes for a relaxed atmosphere via dimming while the children are resting. Lighting in walkways like corridors has to be safe and reliable. With a need-based light control the light only get switched on when it is actually needed. After the children or educators are leaving the corridor, the lighting will be dimmed or switched off after the shut-off delay time has elapsed. This presence detection system enables considerable energy.

Polish Building Regulation

Designing a kindergarten means taking into consideration the distinctive needs of the young children between 4 and 6 years old. The equipment and toys must be certificates. The kindergarten is located in Poland so I have to observe the standards contained in Polish Act.

Minister of Infrastructure Regulation from 12 April 2002 regarding the technical requirements of buildings and their location. (Dz. U. z 2002 r. Nr. 75, poz. 690, z pozn. zm)

-the space must be located in building or some part belonging to category of people threat
ZL II,

- total surface min 16 m² for 3-5 children
- above 5 children 2m² per child (if the time spent is up to 5 hours
- 2.5 m per child when sleeping is provided
- the room for groups of children should have the natural light of min 3 hours (on the 21 III, 21 IX) between 8 a.m - 4 p. m
- room height min 3 m
- the temperature in room should be min. 20°C
- the should be a place to keep cleaning equipment and detergents
- separate changing room for children
- the equipment and toys should have certificates

- the furniture should be done according to the ergonomic requirements
- the level of the floor should be 0.3 m above ground around the building
- floor and walls easy to be kept clean
- the radiators will be protected
- access to toilets, sink, shower
- 1 toilet per 15 children
- 1 sink per 15 children
- toilets accessible from play rooms
- toilets and sinks should be installed at lower position
- children toilets don't need to have separate cabins of the height 2 meter

Inspiration

The Kindergarten in Poland

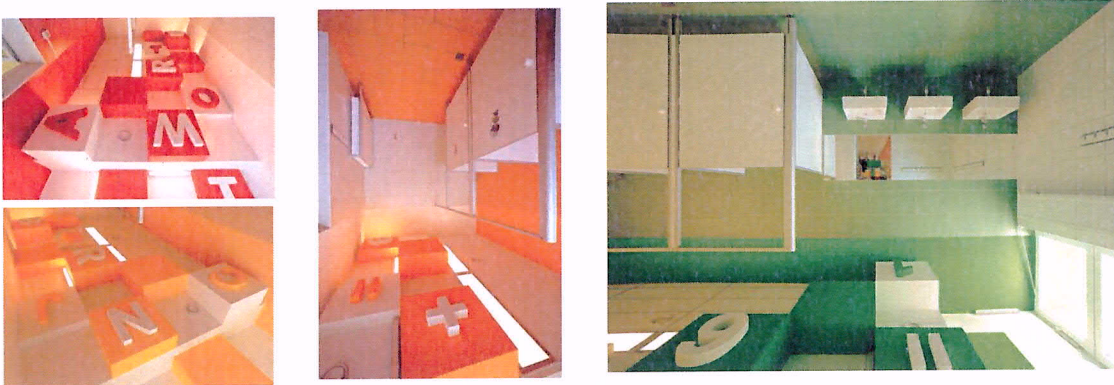


Image 9,10,11 -Toilets, The Kindergarten
Arch/Designer: Robert Skitek
Localization: Tychy, Poland

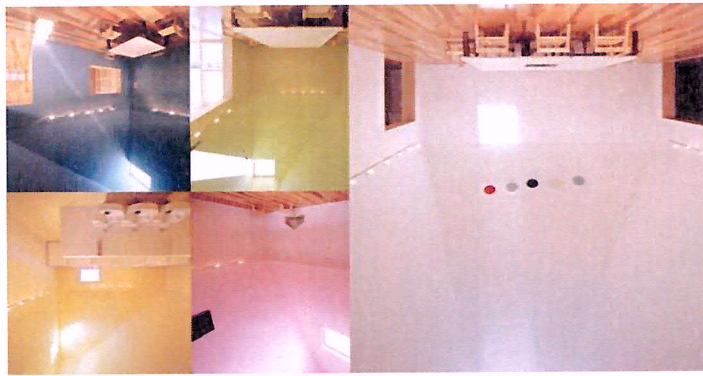


Image 12 -The Leimond Nursery School
Arch/Designer: Archivision Hirotani Studio
Localization: Nagahama, Japan



Image 13,14,15 - Kindergarten Units
Arch/Designer: Losdel Desiert
Localization: Almeria, Spain

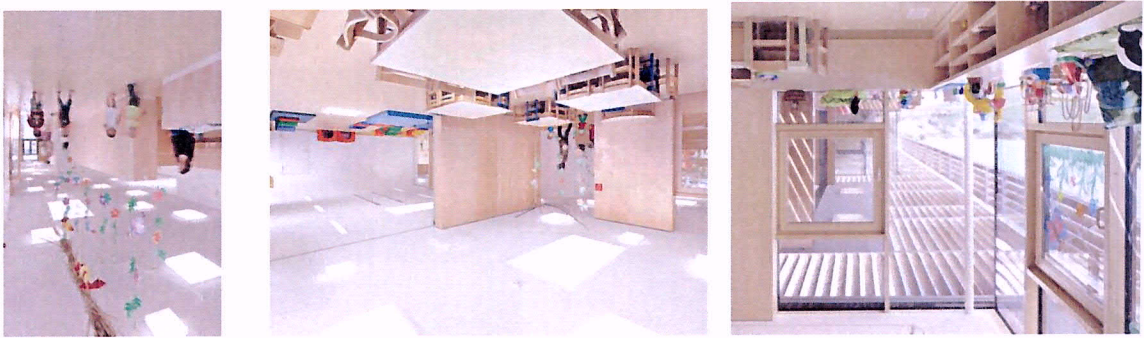


Image 16,17,18 - Kindergarten Neufeld an der Leitha
Arch/Designer: SOLID architecture
Localization: Burgenland , Austria



Image 19,20,21 - Kindergartens in Tromsø,
Arch/Designer: 70°N Arkitektur
Localization: Tromsø, Norway

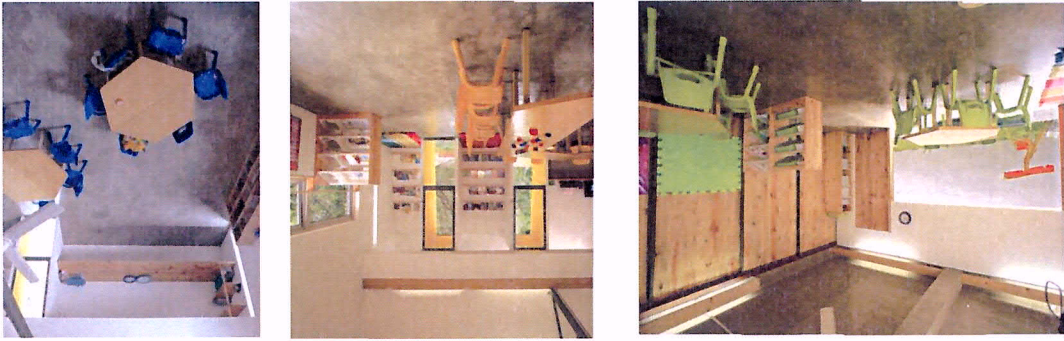


Image 22,23,24 -Shining Stars Kindergarten
Arch/Designer: Djuhara + Djuhara
Localization: Jakarta, Indonesia

Image 19,30 - Segrt Hlapic Kindergarten
Arch/Designer: Radionica Arhitektura
Localization: Zagreb, Croatia



Image 25,26,27,28 - Playful and Modern Kindergarten
Arch/Designer: Shani Hay
Localization: Ramat Gan, Israel



The Kindergarten in Poland

Problems identification

The biggest problem I encountered was adapting to the needs of all children. The whole furniture and all the sanitary facilities should take into account and be adapted to children's physical sizes and their abilities, such as child's height, grip, reach and view so that tasks can be performed with minimum stress and maximum efficiency and safety.

Solutions: Learning about ergonomic characteristics of children furniture and studying about the needs of children.

Another significant problem and challenge of the project was to create a concept of an interior in which a child would feel comfortable, safe and happy -- the interior thanks to which a child would like to stay in a kindergarten without a parent.

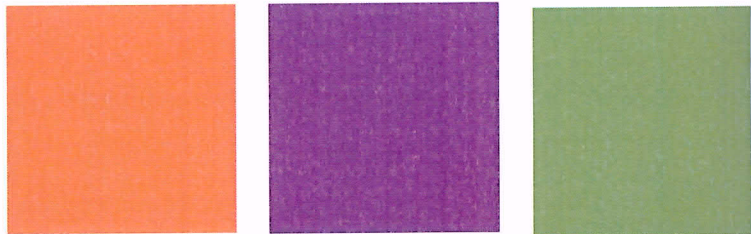
Solution: Preparing a research, searching for an inspiration, having conversations with the children about their favorite objects, interests and desires.

Concept

A good kindergarten should be enjoyed by both children and their parents. For both groups this means however, something quite different. During their daily stay at a kindergarten, children want most of all to have fun and to feel at ease, relaxed. Parents tend to think more about safety, health and the best conditions for learning for their children. In the project I wanted to combine the functionality of the various interesting designs. This proves that a modern interior and an interesting form can be friendly and safe for children.

The main concept of my interior design is having a fun with colors, stripes and *circles*. I created my own compositions of colors that would affect the well-being of children.

Image 31, 32,33-
compositions of colors



A color is a very important factor for small children. At that age, children do not write yet, nor do they read, but they already recognize colors and shapes. Colors can greatly affect some of child's emotions as well as the behavior – for example how quickly a child falls asleep and whether he or she is nervous, anxious or calm. Moreover, the colors of the surrounding also influence or even shape child's sense of aesthetics and might support the development and sensitivity to an emotional stimuli. Children can observe the reality very well and in a very detailed manner.

These composition of stripes and circulars (shapes) are intended to invite kids to play and have fun.

The rooms which I designed will be used by the children between 5-6 years old.

Final Result

I was responsible for recreating and furnishing a part of a kindergarten in Poland in a small town - Lwówek. Its retro design has been transformed into a colorful and complete concept which still manages to maintain and combine both the warmth of the interior and the modern style.

It is completed by a good, high-quality lighting, furniture and branding design. Much attention has been paid to the details, materiality and consistency. The walls are formed in half arches. Other characteristic features of the interior are perfect balance of a daily lighting, white paint walls and various kinds of furniture. Besides wood and soft carpets, there is a magnetic paint.

I was trying to combine wood with color. Consequently, I was able to create a kindergarten such as the modern warm interior with every day full of children who love fun.

I was trying to combine wood with color. Consequently, I was able to create a kindergarten

Conclusion

The main purpose was an advises us to pay attention to the way something works – or doesn't work – before considering how it looks.

All too often, however, managers concentrate only on the children education programs and give less attention to the interiors.

Thanks to the project I got to know how to make a solid design plan which can allow a kindergarten to operate more efficiently and be a more enjoyable place both for children and their parents.

I also learned that the central element of a kindergarten's design is safety and ergonomics. Each space in a kindergarten must be assigned to a specific purpose and the plan must outline how each of these spaces interacts with the others.

I managed to understand how to organize the lighting in a room and how to expand the space not only with color but also with the help of mirrors, creating at the same time the needed design.

Designing a kindergarten means taking into consideration the distinctive needs of the young children between 4 and 6 years old. In the project I had to pay attention to the ergonomic aspects of the furniture design. The equipment and toys have certificates. This project brought me a lot of joy and once again I felt like a child.

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