CHILD PSYCHOLOGY DEFININGEDUCATIONAL SPACES IN A SCHOOL AT LUCKNOW

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ABSTRACT

The purpose of this research work is to analyze the educational spaces transformation from one era to another according to the child needs and demands for the current situation for making a child ready to deal with the various problems comes up in developing his growth based on the psychological aspect and features. The technology transformation for the same and to minimize its use fullest for the children to adapt them in natural environment as many diseases are prevailing because of the advanced technology uses by the children.

Here in the design has been done on various parameters adopted from various research studies of school premises where child has to spend his/her time in learning and experiences of various things and spaces which either gave positive or negative influences on their development of their growth. The spaces designed in the school of age of group 3-10 years children helps them in their early childhood period for learning in the new way.

Keywords: child psychology, environment, educational spaces, technology

1. INTRODUCTION

Good schools are basic for building flourishing urban territories. They are essential for setting up the future human asset and specifically add to social and financial advancement of a place. They go about as magnets for forthcoming occupants, as well as are essential for holding current population. As public infrastructure, schools mirror their neighborhood their location, design and physical condition are important determinants of neighborhood quality, regional growth and change in quality of life and their impact of housing development and utility requirements among in many things.like- Planning for schools along with other infrastructure in an area is essential, the fact that growth of unemployment in India at current rates can lead to devastating results . At this rate, India is expected to have 30 % unemployment rate by 2020.

The climate in which schools are developed today, with heavy reliance on educational specifications, design guidelines, exemplars and prototypes, leaves little room for real creativity and innovation. Educational specifications create a school before it is really meant for the children we should design the school according child perception.

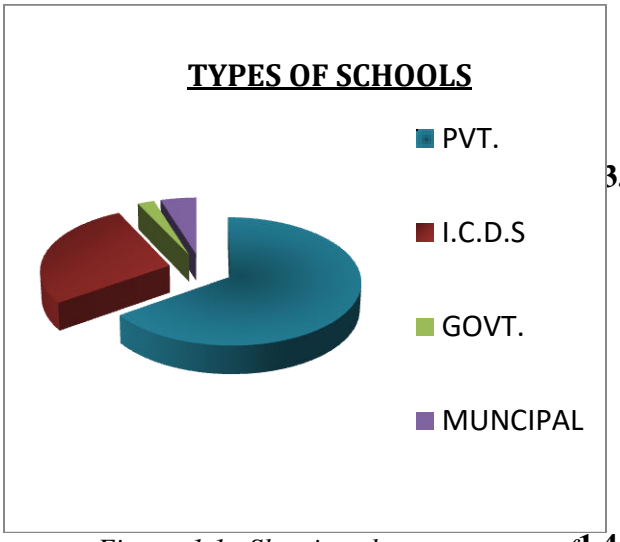


Figure 1.1: Showing the percentage of the schools in the society (Source: Census 2011)

A school based on child psychology where psychology is a blanket term including a variety of pedagogical approaches that is different from the conventional system of education based on standardized curricula and tests. This system was designed to produce standardized individuals all having similar set of skills that enabled them to fit into the industrial society. The non-traditionally could be in the type of curriculum they offer, teaching and administrative systems they employ or their techniques of evaluation. The future cannot be mastered by getting high grades, as most children are led to believe. It can only be lived and therefore mindset is probably more important than anything else in navigating a future we can't predict.

1.1. Research Questions

To what extent the standard of designing education spaces fulfills the child perception in learning with built environment and its surrounding.

1.2. Research Hypothesis

To identify and analysis of designing educational spaces in a innovative way to learn them naturally rather than by using various means of technology in order to minimize the use of technology and promote the children for natural environment in their daily life which helps in improving the development of the child growth.

3. Aim

To design innovative educational spaces which are designed for active, hands-on, collaborative activity, and flexibility within the space for multiple activities which helps in improving the development of the child growth and gaining knowledge from the surrounding.

1.4. Objectives

- To design the child friendly educational spaces to give shelter for educational activities.
- To design informal spaces which are maximized to encourage learning from nature and other practical aspects.
- To transform existing education facilities into alternative learning environments which propagate learning with fun and play philosophy.
- To change the classroom design to accommodate new approaches of pedagogy.
- Proposal of giving a new type of spaces of learning other than contemporary and traditional system of learning.

1.5. Scope and Limitations

To relate the impact of educational spaces designed for children in their development of child psychology, designing for the children of age group 3 to 10 years. To design for all sections except weaker section of India and for healthy children (free from any physical disabilities) who are living in habitable area. To detailed out the interior and exterior spaces of primary wing in the school. Detailing out the formal and informal spaces for the age group 3 to 10 years Detailing out the playground area for

age group 3-10 years with waste materials helps in learning with play and fun.

1.6. Research Methodology:

Following is a flowchart to explain the detailed research methodology:-

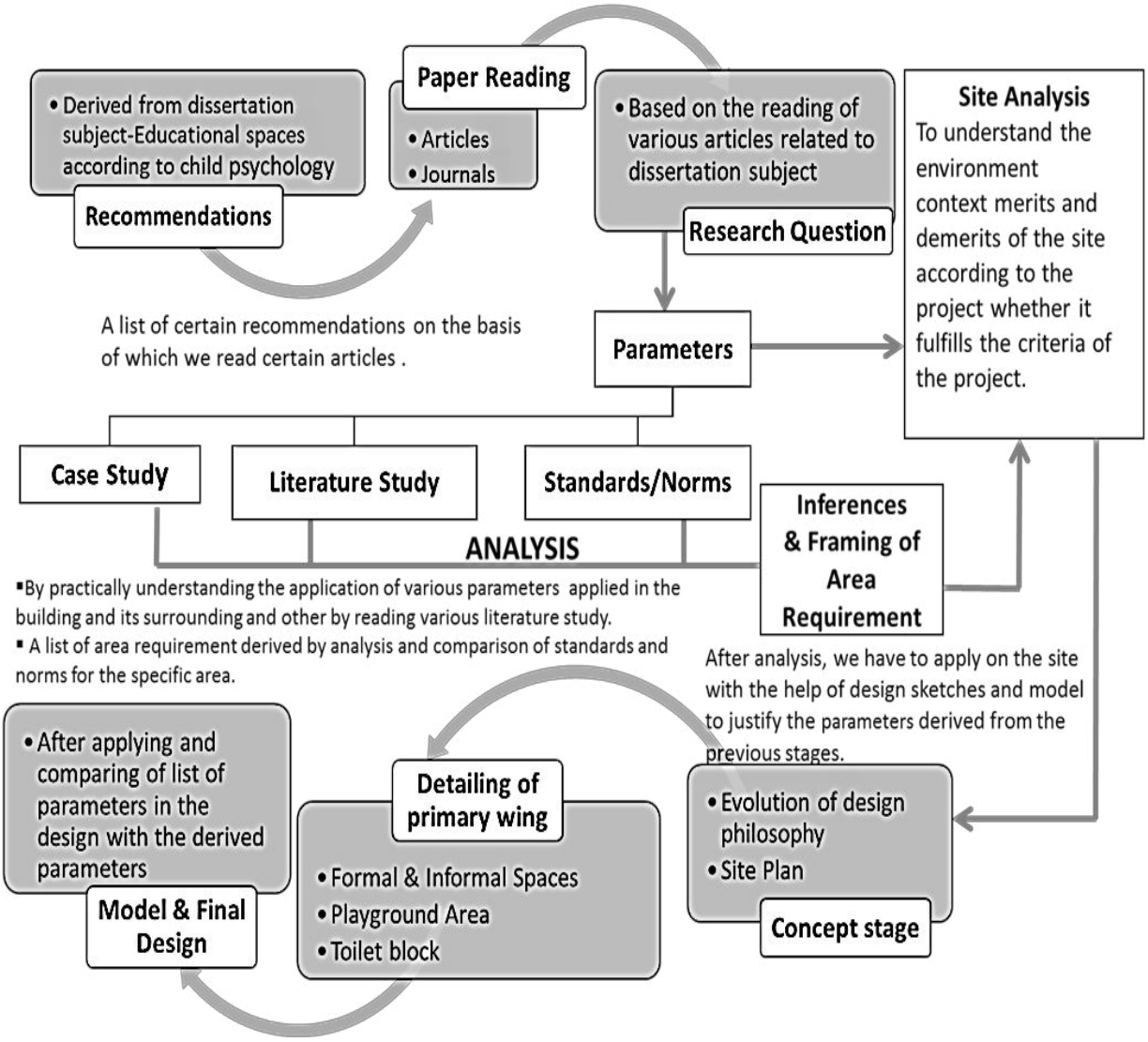


Figure 1.2: Flowchart of Research Methodology

1.7. CHILD AND LEARNING

1.7.1. Learning

Definition from Medical Dictionary the meaning of Learning is; the act, process or experience of gaining knowledge or skill. Knowledge or skill gained through schooling and study. Behavioural modification, especially through experience or conditioning. Learning is acquiring new knowledge, behaviour skills, values, preferences or understanding and may involve synthesizing different types of information Human learning may occur as pan or education or personal development. It may be goal-oriented and may be aided by motivation.

There are a number of ways in which learning can be achieved or facilitated. There are two ways human acquires knowledge through the process or learning- Non-associative Learning and Associative Learning.

A. Non Associative Learning

When psychologists speak of Non-associative learning then they are referring to those instances in which any human's behaviour toward a stimulus. (Motivational or inspirational) changes in the absence any apparent associated stimulus or event.

There is a strong relation hidden and embodied with our senses to perceive our surrounding environment from the day a child takes birth in this world. Through Habituation and Sensitization, a child starts his very basic learning from his immediate environment at very early age can perceive physiological and perceptual needs with help at all senses in their environment. The ability to perceive surrounding environment and adapt in order to learn new things from it is something that is we have been practicing since our inception.

B. Associative learning

Associative learning is the process of learning through association with separate, pre-occurring elements or our surrounding environment. Human develops his perception through association within family cultural and sacral realms, schools and work places. The initial years after birth at a child (after 2 yrs.), which is totally dependent on 'Associative learning ‘throughout his life. The influence which affects the children during these initial years are influenced at home, people and surroundings which not only affect learning capacity and skills. But personalities and attitudes from their surrounding environments they gain wisdom and knowledge about the mysterious world they live in. Child’s Initial years are great time or growth not just in size but also in social. emotional, and cognitive development. Children are learning about themselves, the world around them andother children. This is a great period of imagination. The appropriate learning environment can encourage children to be more perceptive and responsive. There is a need to examine such environment where children are spending their time andevaluate whether these physical environments can be adaptable to support positivechild development. One such approach is the review physical components thatchildren come in Contact with the most time at their growth and learning period. The study of behavioural responses in physical learning conditions at school environment will give a different approach in creating school buildings.

1.7.2. Child and learning environment

The physical environment its attendant social structure and symbolic meaning; allow or limit tire kinds of activities in which children can engage and hence what they learn about the World And since it is through learning about the world that children learn about themselves. it is important to understand that the physical

environments in which children grow up give them a message about who they are and who they can be within this society The physical environments just as important as books, toys and lessons which aims to develop mental abilities of children. The learning is delivered from our social environment. Social environments are often categorized as primary or secondary. The family is then regarded as the primary environment for the child, because it is the first and often the most important. School is another important environment that is considered to be secondary. The learning environments consist of-The HOMES that the children live in,The NEIGHBOURHOOD SPACES that they become a user of. The SCHOOLS that they go to and spend the majority of their time in their early days. There are sub-spaces in each at the above-mentioned spaces, too. At home these sub spaces are me living areas, working areas personal and service areas etc. In a school these can be termed as classrooms play areas, corridor areas, courtyards etc. and in public places there can be very many different spaces the components or these spaces, contributes in the development of the child throughout their lifetime.

1.7.3. HOME AS LEARNING ENVIRONMENT

A 'home' is a place which less personalized according to the beliefs 'culture, personal preferences and the like It is the first learning environment which gives an opportunity to find the" spaces according to their needs A study of use of suchspaces may help in understanding the behaviour of children. This is considered as crucial stage of life when they perceive wisdom about family home culture, language etc. From the birth of the child 'he begins to perceive hrs. environment through sensorial experience in this stage the child through his five senses learns about the world in which he was in. On a basic level a child relates his world through the function of a combination of five senses. These senses are the ways in which all human beings experience their world m some form or another or to some degreeor another .These senses are taste smelly sight touch 'and hearing. Learning to look much hears and feels are the primary objectives of the yearly lessons while play full activity is associated with future learning and one that can last a lifetime.

1.7.4. NEIGHBOURHOOD AS LEARNINGENVIRONMENT

After pre-sensory-motor period (2 yrs.), children need to socialize with outside of the environment. It is me time when he learns by doing and imitating things. If the surrounding setting is right then the child directly learns basic skills and habitsfrom the neighbourhood environment. The process of learning and enrichmentoccurs through social contact which many people and place in surroundingenvironment which we use in daily life. Such surrounding or neighbourhood's environments are considered as a second school after home as first school in human's Life. We have experienced and observed that children use such Common community spaces, streets, connecting paths, plinths, etc. for their daily play, they learn most of their life's basic wisdom while they are playing. There is an enormous importance of play during the childhood, which had been emphasized in most of the behavioural psychology of child. Christopher Alexander have given Importance of child's play activity for learning lessons from our physical environment as he stated, "Play has many functions: it gives children a chance to be together, a chance to use their bodies, to build muscles, and in test their skills. But above all, play is a function of the imagination child's play is his way of dealing with the issues of his growth, of Relieving tensions and exploring future. It

rejects directly the problems and joys of his social reality. Children come to terms with the world, wrestle with their picture ofit, and reform these pictures constantly through those adventures of nation we call play "Any kind of playground which disturbs. or reduces, the role of Imagination and makes the child more passive, more the recipient of someone else'simagination, may look nice, may be clean, may be safe, may be healthy- but it just can't satisfy the fundamental need which play is all about.

1.7.5. CHILD BEHAVIOUR AND EMOTIONAL ENVIRONMENT

Our streets, neighbourhood open spaces are the first playground for young childrenit offers an appropriate development environment in which children is given opportunities to make choices pursue their own questions and concerns connect what is known to the unknown and be successful as they explore and discover through play. Informal learning activities and projects. Children have enormous sense to mould themselves to surrounding spaces. They evolve their games as the physical environment offers them the opportunity to do so.**"A child cannot discover city unless the city rediscovers its children "**Aldo Van Eyck (The mid and the city).Aldo Van Eyck has given a major importance to playgrounds in the city. Our neighbourhood must offer these playful environments to children require for playing Van Eyck has turned the unexciting open spaces in playgrounds, actively used and appreciated by the community itself. His designs offered children to play with the elements like sandpits and railings. They are surrounded by sitting for parents to sit and chat while overseeing them young children, He described" The play should be tree, voluntary unpredictable and repeatable activity: carried out within a demarcated area, and generating a nucleus user who can thrive outside the play area, "Here. the surrounding environment should provide an opportunity (or socializing with outer world 'in order to conduct and attend the outdoor classroom, where child to child, child to youngster. Child to elders teaches each other according to their specialities. Children go about their playful desires in their immediate environments spontaneously. The right environment can help to improve children's cognitive, perceptual sensory and motor skills. All whileproviding fun. Therefore providing them with the appropriate elements that canboost the growthon many key areas such as physical 'emotional social, language Intellectual and creativity. These elements are described in the next part. These Elements or compartment of play in home and neighbourhood based environment can be considerably articulated into me school environment. Not by simply imitating thembut by understanding the child's need and behavioural responses in such conditions one can add a meaning to learning spaces of school. These informalspaces (other than classroom), plays equally important role like the classrooms. A child is free to do what he needs horn his neighbourhood environment it gives conditions where there are no restrictions or barriers. Such conditions provide evidence to the theory based understanding about child's needs. Such conditions and components of home and neighbourhood environment are addressed bell, and giving practical evidence or child's needs.

1.7.6. Spatial conditions of learning environment

We find the similar human behavioural response in any given space situation and condition. It our most natural practice to respond and adopt our surrounding builtenvironment for fulfilling our cognitive needs. The learning environment which fulfils child's physiological and psychological needs is the one may involve themselves in physical environment through play activity. The involvement or play in

physical environment shows child's likeness in order to satisfy his playful desires. Some situation which we often find at home and neighbourhoodenvironment which children adopt and uses and conditions of built form gives an idea of what kind of spaces, they require in their daily life. Here. Through observing their behaviour in such conditions an attempt has been made to identify the elements and situations which are most common to any child's needs. These elements further can be transformed in school spaces.

1.7.7. Primordial space conditions

1.7.1. Cave like space

A pattern language' was one of the attempts to link the observations of environmental psychology to architecture (physical environment). Christopher Alexander's spaces for children such as "Child Caves" show here depict architecture for children from adult's point of remembering childhood and assigning physical guidelines to recreate exact experiences. As he has shown how children evolve their spaces, like under the table, below the staircase landing etc.,Children find small cave like spaces in order to separate themselves from our 'adult space'(Christopher for our world as 'adult space' which are unreachable foradults. Children need first faces of their own scale; to feel sheltered and cosiness in large spaces of our world. They feel safe and isolated in their own kind of space. This is a very common way where we found in any child for seeking such spaces of their own world and full of imaginary play. Such provide situation to observeactivities and perfect things from surrounding environment giving isolated workspace to hold operational activities.

1.7.2. Natural element

A Sand

Playing with sand is the most popular and most valuable equation from education point of view. It serves specially to develop imaginative and creative powers of the child. Sand is therefore a most important element for any playground in a school.Children can make canals, castles, tunnels, trenches, mountain, and piles as they perceive the built environment and surroundings and represent their dream world. Play with the sand is essential for children to develop imagination, the skill to build and also art of sculpting. Though it's a very initial stage when it's only a play for child but such play gives confidence what Piaget (a psychologist) has described as one of the emotional used in concrete operational period of a child. The concreteblock provides open platform as well as it also separates the large sand pit into smaller play areas (for operational work spaces in adult terms).

B Water body

Water is liked by many children. They feel delineated when they can play with water. The water splashing and making each other dirty is the most enjoyable play.As per children psychologists such play gives some mental satisfaction and fulfils emotional needs. The activities like padding in water, splashing, making paper boats, and play with sprinklers are found in child's play. Depending upon its usage the water bodies are designed for providing a pleasure and happiness. Such kind of elements start with small puddle and can vary in different scale the image showing a child seeing her face into it. This reflective characteristic of water generates curiosity for a child. Various sitting conditions are provided by different elements such as steps, benches, parapet, etc. In urban fabric of India it is seen that the different levels and plinths suggest that for social spaces gives a meaning to our spiritual and emotional needs. The basic characteristics of such

spaces are that, it is focused on the central element, and such sitting activity happens at the corner or sides or edges. It requires shaded or shelter situation to hold a group or an individual and its focused to the active place.

C Steps and Plinths

Steps and plinths are one of the most prominent element in the children's play activity. It is extensively used number of its usage according to the conditions provided. The places where steps are not just performing as transitional element but at some point, showing its Generosity by holding some informal activities and preferred as child friendly element.

The Plinths created by raising and lowering the levels, of whatever differentnature,encourages and give rise to small theatre kind of condition. These conditions provide sitting situation around the stage. This element has a multiplicity in its usage and allows more number of activities to take place.

D Pipes and Railings

For children, any fence or railing on streets make the most natural climbing frame. Its quality was never intentional, but the adaptation to children's play has been observed in most our neighbourhood environments. Not only the street railing but the staircase railing is used for sliding down. The need of such physical activities, like swing, slide, climb, sit etc. is a necessity for any outdoor learning environment. These are very natural elements for the physical exercise for a child.The demonstration of a child's physical ability gives him confidence and satisfies his needs to create position among the group. Climbing arches and tubular railings are generally part of any playground. The designers have discovered new shapes and forms for outdoor play area using pipes; for children to swing, hang and climb on it. Such elements can be articulated into the school environment.

E Wall

The element 'wall' has multiple components which can be used for creating child's play full environment .It provides surfaces for painting, scrubbing, etc. A vertical surface always gives an opportunity to create childish artwork. Child always asked to sketch a right on the wall within his reach. This activity has been observed in almost every child. This element has continually amplified, modified over the years. It is more of a permanent element and it has quality to divide spaces, the low height wall partition can confine a group of student's activity. Sometimes the openings of forming scenery and make child curious about hidden things behind the wall the unexpected twist and discovering new things through the openings of the wall. The unexpected vista and discovering new things through the openings of the wall; the children feel free to run along the surface and indulge in other play activities; involvement in games like Hide and Seek- are some of the characteristics of the element.

1.7.8. UNDERSTANDING THE LEARNER

To make the above process holistic in a school, it requires an Environment which facilitates interaction at various levels. For this to happen, environment must evoke a sense of belongingness of freedom and order and also it must have a great variety of spaces to suit individual demands. There are 9 types of intelligence-Existential – Life Smart, Interpersonal – People Smart, Musical – Sound Smart, Bodily Kinesthetic – Body Smart, Visual/Spatial – Picture Smart,Intra- Personal – Self Smart, Linguistic – Word Smart, Logical –

Mathematical – Number/Reasoning Smart and Naturalistic – Nature Smart etc.

1.8. Types of Knowledge

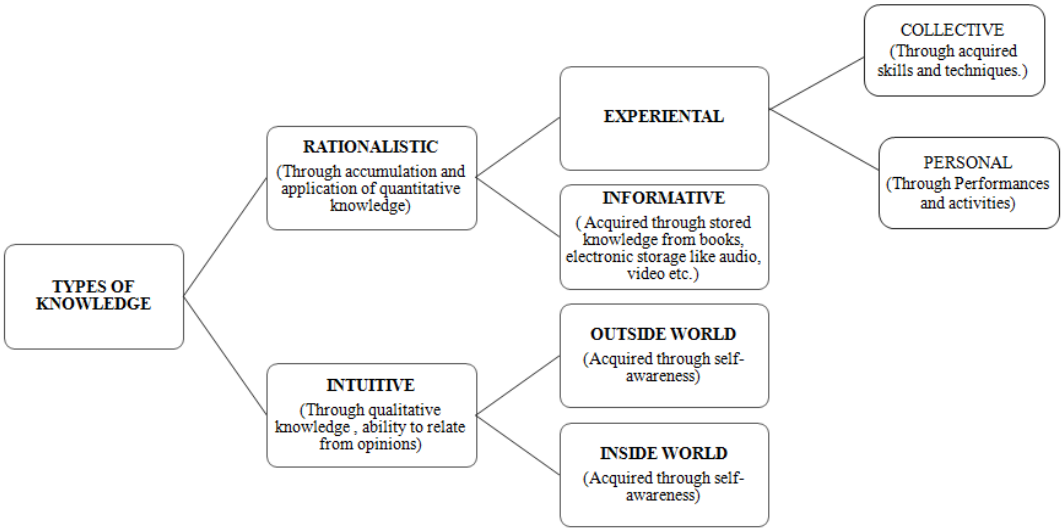
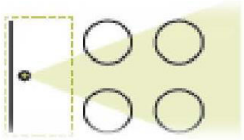
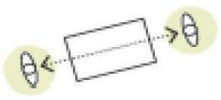
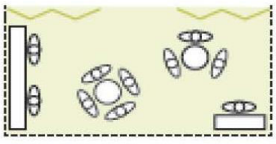
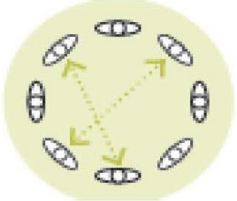


Figure1.3: Showing Types of Knowledge (Source: Cullen, K. (2011).Introducing Child Psychology. Icon Books Ltd

1.9. Pedagogical Activities

PRINCIPLE	PEDAGOGICAL APPROACH	PEDAGOGICAL ACTIVITY	SPATIAL ICON
The Learning envronemnt is supportive and productive	Learner centered pedagogies with multiple learning collocated	DELIVERING	
The Learning envronemnt promotes independence,interd pendence and self motivation	Peer to peer learning integrated problem and resource based	APPLYING	
Students are challenged and supported to develop deep levels of thinking and application	Integrated problem and resouce based learning	CREATING	
Students need perspective and interests are reflected in the learning program backgrounds	Theory linked to practice problems integrate both aspects,resources, used continually and creatively integrated curriculum delivery	COMMUNICATING	

1.10. Learning Settings-

These multi-modal learning settings should be collocated and clustered to allow students to move around the various learning environments to suit the particular learning task.

1.10.1. Sensory Designs

Sensory Stimulation-By encouraging the students to engage and explore the environment then it can havepositive effects on their ability to react and interact with the larger world around them. Following on from this, sensory stimulation that can engage different areas of the brain, helping children absorb and retain more information and better meeting the needs of the individual further increasing the concentration and focus attention. Improve Balance, Movement and Spatial Orientation-Sensory environments can helpdevelop children's visual processing abilities as well as their fine and gross motor skills, facilitating day-to-day living.Mental & Physical relaxation- Sensory spaces help in stress level drop and results in lower aggressive behaviour. Develop or reactive senses of hearing, sight, smell, touch and taste. It develops the student as a whole through all senses which further enhance the function of their senses in their future life.

1.10.2. Touch

This separating ability of vision is starkly contrasted to the other. Senses ability to unite us with our surroundings. Peripheral and unfocused vision is the very essence of our lived experience. Focused vision confronts us with the reality of the world whereas peripheral vision envelops us in the flesh of the world.

1.10.3. Smell

Consider the olfactory dimension by investigating the air circulation and flow in the building. Incorporate the associate potential of scents.

1.10.4. Sound

Within architecture, the physical form of the environment adds to the auditory experience. Design with the acoustic potential of volumes in mind.

1.10.5. Taste

Consider the taste associations when selecting materials and introducing colours in the design. The sense of taste in architecture is an abstract concept and is usually experienced in conjunction with the other senses.

1.11 Multi-Sensory Environment Design

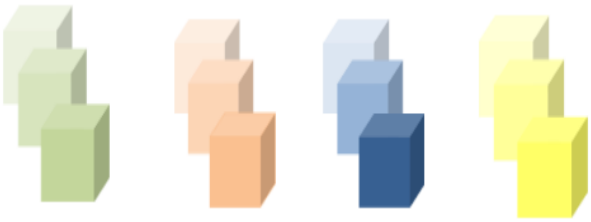
A better approach is we want to create a garden which is a great place for all folks to enjoy and we want to ensure particular user groups and activities are ensuring user's senses and equitably support.

1.11.1. Through Colour

Colour is a sensory perception and as any sensory perception, it has effects that are symbolic, associative, and synesthetic and emotional. It is an international visual language understood by all. Its impression conveys utmost importance in creating the psychological mood or ambiance that supports the function of a space. The natural colour of balance, greens are great for counseling, libraries, history& social studies spaces. The calm of blue and creativity of yellow collide in the multitasking green family of colour. Pre - Primary and Primary school students prefer the warmer side of the palette red/orange/yellow) while secondary school gravitates towards the cooler side of the colour wheel (blue/green).These colour tones help support study and increase calm

and works not only with focus but levels out hormones tools.

Figure 1.5: Showing different types of



1.11.2. Through Landscape

The school landscape and outdoor play areas can be designed to create experiences that stimulate, educate & evoke the senses. A strong visual element and orientation point for the school. A quiet seating/ respite area. An outdoor teaching and learning area. A space for lunch time seating. Indoor/outdoor social gatherings and functions. A circulation route for students and staff moving between indoor spaces. The space is organized so that different activities can occur in different parts of the courtyard. The design of the courtyard includes a pebble maze, a pebble stream and outdoor tables sheltered by eaves.

1.11.3 Through Light

Different fenestrations can create patterns and focal points through their shape, size, colour and placement. This can engage the students and will change the mood of the children during the day. Different colours in glass windows and skylights can be aligned to the sun path and create different atmospheres inside the areas over the course of the day to develop different moods in the children.

1.11.4. Through Material

Different materials can attract children and make them touch and feel it which will further enhance their abilities. Different materials give rise to different moods among the users through their appearance.

1.12. Cooling Strategies:

The proportions of architecture are important with regard to wind augmentation. Diagonally oriented structures to the wind present greater width than the same structure oriented perpendicularly to the wind.The human comfort zone is within a narrow temperature range of 200C to 270C, a corresponding humidity range of 80% to 20% and a wind velocity of at least 0.26m/s.Shelter belts area an effective means of controlling air flow. The longest wind shadow is produced by a shelter-belt density of 50-65% mass to void ratio. This translates into mixed deciduous and coniferous plantings or vertically slatted fencing. Ventilation effects off the wind can be promoted by tall thin structures which are one room wide to allow cross flow or by structures elevated on columns to promote under-ventilation. Thetemperatures which exist 2m-3m below the earth's surface are rather constant

1.13. Needs of a Child

The most important needs of a child within the space are the following- To feel safe, secure and superior in the space. To be

active-mentally and physically and to be surrounded by various devices to provoke creativity to achieve an emotional relationship within the spaces to give a sense of identity.

1.14. Child psychology

It is the study of children's mental processes, with a particular focus on cognitive and `language development and socialization. To help parents, teachers and care workers ensure an environment favorable to children's emotional, cognitive and social development. It makes the distinction between cognitive, emotional and social aspects of behaviour and development. It is purely theoretical as the different aspects of behaviour interact with each other.

1.15. Child Definition

A child is simply a miniature adult, a prevalent view, some special albeit temporary gifts and strengths, quite distinct from those of adult and a child owns in certain age, enable them to show different emotional behaviours.In fact there is a direct relationship between child's growth and learning. *(Source:* Cullen, K. (2011).*Introducing Child Psychology*. Icon Books Ltd) .Piyage names four factors help child's mental growth as follow:

1. Emotional feelings which are motivations for learning,
2. Physical growth which child can gradually understand more,
3. Experiences which child learns to find out for themselves,
4. Social exchange or effective interaction with others especially parents, teachers and playmates.

CONCLUSIONS

- To design the child space according to the perception of the child to live in any space which includes age and its growth.
- Classroom configuration to improve innovative critical thinking abilities.
- Making different spaces dependent on the kid's ages to discharge their vitality,applying light and colours fitting to children's feelings.
- The child space design offers a wide variety of activities to the children.

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