SCHOLASTICA SCHOOL COMPLEX

Hemayetpur, Savar.

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ARC 512- Seminar 2

CHAPTER 01 :

1.1 Background of the project:

Scholastica was founded in 1977, by a visionary woman ,who rented a two-storied building for a school, just off the main road near Dhanmondi Lake. Mrs. Yasmeen Murshed wanted to name the school "Scholastica".'A School where English would be the medium of instruction for education.

The mission of Scholastica school is to develop curious, knowledgeable and caring young individuals ,who will be equipped to tackle head-on challenges of our modern- day "Global Village" A school where the knowledge, skills and attitudes of the students are built properly so that they grow up to be responsible and productive citizens who would contribute to the society and community they live in.

The school implements modern, international best practices in education. The teaching method of the school focuses on these four points:

1. Is student focused.

2. Is thought provoking and creative.

3.Takes into account the needs of individuals.

4. Prepares students for the real world.

The students are also taught to be independent learners, curious, critical thinkers, wiling to take challenges, creative.

Scholastica aims to...

1.Promote a strongly rooted knowledge of, and involvement with, national heritage, culture and language.

2.Develop students' intellectual, creative and moral qualities as well as practical skills at the highest possible level.

3.Develop discipline as well as healthy self-esteem in students.

4.Develop students' skills and abilities to meet global challenges, and to be responsible citizens.

5.Encourage students to develop positive attitudes to learn with trust, confidence, curiosity, responsibility and independence.

6.Build strong foundations for further academic development.

7.Promote opportunities for success in the areas of students' strengths and develop skills to overcome challenges.

8.Develop students' study habits and instill the desire to become accomplished human beings.

9.Develop social awareness and a sense of responsibility amongst students.

10.Focus on each student as a unique individual and address their needs accordingly.

11.Encourage development of every aspect of a student by considering all facets of childhood development.

1.2 PROJECT DESCRIPTION:

Name of the project: Scholastica School,Dhaka, Bangladesh.

Project type: School Complex.

Location: Hemayetpur, Savar, Dhaka.

Site area: 750,000

Client: Ascent Group.

The school campus comprising of the kindergarten, elementary section, secondary and high school sections is proposed on a 750,000sft site located in Savar, hemayetpur, on and adjacent to the Dhaka Aricha Highway. The school is estimated to accommodate approx. 1700 students in total and 200 teachers and staffs. The school is currently run in segregated campuses in Uttara , Mirpur, Dhanmondi and Gulshan. One of the objectives of the project is to build a single greater campus located outside Dhaka city. The project should incorporate all the necessary facilities of a modern day schoolwith well designed classrooms , seminar rooms, Different Lab facilities, sports amenities and other required spaces for different schooling activities.

1.3 The Aims and Objectives of the project:

The aims and objectives of the project is significantly correlated with the design requirement of the the Client Organization. Scholastica, being a privately run English medium school has their own teaching methods, aims and objectives.

The Aims and objectives of the Project would be to co-operate the schooling process of Scholastica School through design interventions. Also, all the basic requirements of school design should be taken into consideration in the design of the school. Factors like climatic considerations like Suns Radiation, wind , rain should be taken into design considerations.

Site:

Savar, Hemayetpur, Adjacent to Dhaka-Aricha Highway
Area: 75,000sft

Site

Site entry image Taken from inside the site

Image of site towards north

Aeroplane petrol pump, an iconic sturucture located opposite to the site
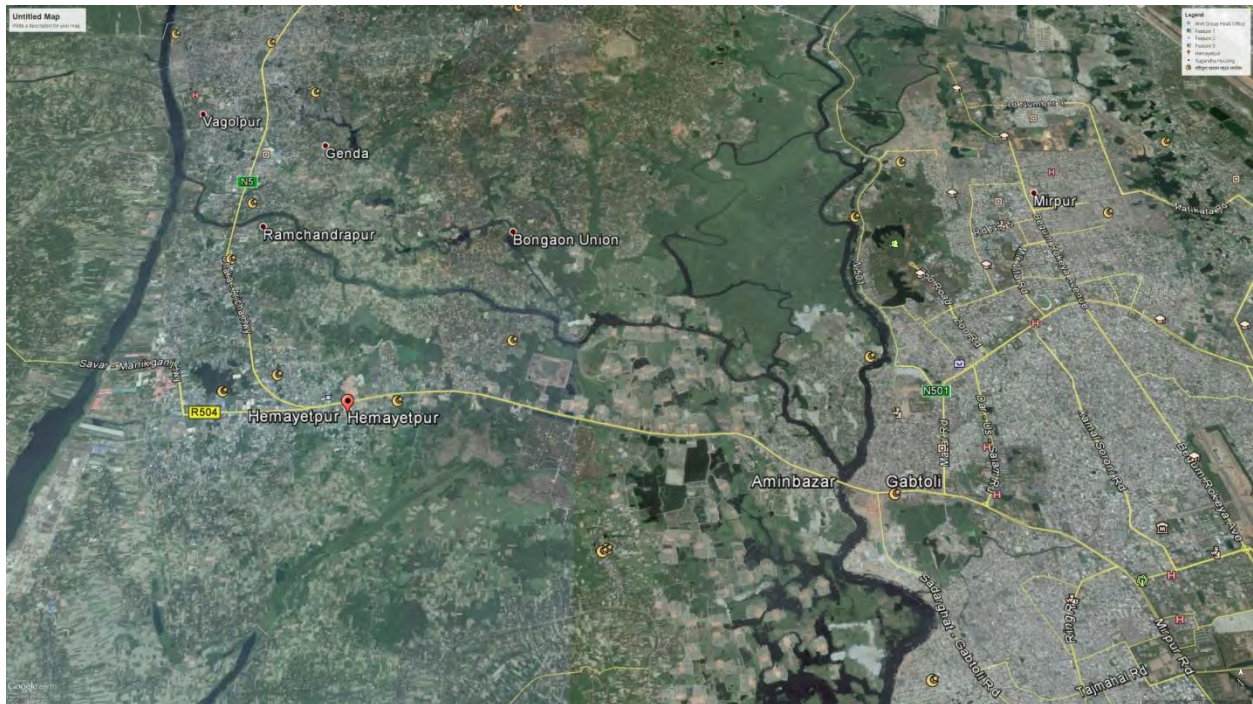

Site

Dhaka Aricha Highway

Hemayetpur

CHAPTER 02 : SITE APPRAISAL:

2.1Existing Land Use: the site is owned by the Scholastica School Authority and is currently undeveloped, There is a small single storey structure in the site, which is used as the guard room and office room.

2.2Adjacent Land Use:

The Site is located in the Dhaka-Aricha Highway in between Alam Nagar and Hemayetpur. The Site adjacent land use is mostly undeveloped. the north side of the site is land filled area and has significant lowland. There are several petrol and CNG filling station in the highway within a certain region of the site. Located just opposite of the School site, a petrol pump with an iconic concrete aero plane is located. The east side adjacent to the site contains a pesticide factory. The area contains significant number of textile and ceramics industries, also significant agricultural lands.

2.3ROAD NETWORK: The site is adjacent to the Dhaka Aricha Highway, the site ajacent bus stand from dhaka is located in Alam Nagar. Scholastica has its own transport system to pic students from differents pickup locations of Dhaka to the school.

2.4Topography: The topography is a flat land with no significant elevation variation.

2.5SWOT ANALYSIS:

Strength: The site is located outside Dhaka city in a less densely populated area, it would decrease the traffic congestion in school hours within Dhaka City.

Weakness: The north side of the site is filled land.

Opportunity: The site is located in a relative quiet place suitable for school with fewer population density and traffic congestion and other sources of noise pollution.

Threat: The East adjacent side of the site is a pesticide factory which might cause threat to the environments of the site.

CHAPTER 3 : LITERATURE REVIEW

3.1A Brief History of Education

When we see that children everywhere are required by law to go to school, that almost all schools are structured in the same way, and that our society goes to a great deal of trouble and expense to provide such schools, we tend naturally to assume that there must be some good, logical reason for all this. Perhaps if we didn't force children to go to school, or if schools operated much differently, children would not grow up to be competent adults. Perhaps some really smart people have figured all this out and have proven it in some way, or perhaps alternative ways of thinking about child development and education have been tested and have failed.

Sudbury Valley School, where for 40 years children have been educating themselves in a setting that operates on assumptions that are opposite to those of traditional schooling. Studies of the school and its graduates show that normal, average children become educated through their own play and exploration, without adult direction or prodding, and go on to be fulfilled, effective adults in the larger culture. Instead of providing direction and prodding, the school provides a rich setting within which to play, explore, and experience democracy first hand; and it does that at lower expense and with less trouble for all involved than is required to operate standard schools. So why aren't most schools like that?

If we want to understand why standard schools are what they are, we have to abandon the idea that they are products of logical necessity or scientific insight. They are, instead, products of history. Schooling, as it exists today, only makes sense if we view it from a historical perspective. And so, as a first step toward explaining why schools are what they are, I present here, in a nutshell, an outline of the history of education, from the beginning of humankind until now. Most scholars of educational history would use different terms than I use here, but I doubt that they would deny the overall accuracy of the sketch. In fact, I have used the writings of such scholars to help me develop the sketch.

In the beginning, for hundreds of thousands of years, children educated themselves through self-directed play and exploration.

In relation to the biological history of our species, schools are very recent institutions. For hundreds of thousands of years, before the advent of agriculture, we lived as hunter-gatherers. In my August 2 posting, I summarized the evidence from anthropology that children in hunter-gatherer cultures learned what they needed to know to become effective adults through their own play and exploration. The strong drives in children to play and explore presumably came about, during our evolution as hunter-gatherers, to serve the needs of education. Adults in hunter-gatherer cultures allowed children almost unlimited freedom to play and explore on their own because they recognized that those activities are children's natural ways of learning.

With the rise of agriculture, and later of industry, children became forced laborers. Play and exploration were suppressed. Willfulness, which had been a virtue, became a vice that had to be beaten out of children.

The invention of agriculture, beginning 10,000 years ago in some parts of the world and later in other parts, set in motion a whirlwind of change in people's ways of living. The hunter-gatherer way of life had been skill-intensive and knowledge-intensive, but not labor-intensive. To be effective hunters and gatherers, people had to acquire a vast knowledge of the plants and animals on which they depended and of the landscapes within which they foraged. They also had to develop great skill in crafting and using the tools of hunting and gathering. They had to be able to take initiative and be creative in finding foods and tracking game. However, they did not have to work long hours; and the work they did was exciting, not dreary. Anthropologists have reported that the hunter-gatherer groups they studied did not distinguish between work and play--essentially all of life was understood as play.

Agriculture gradually changed all that. With agriculture, people could produce more food, which allowed them to have more children. Agriculture also allowed people (or forced people) to live in permanent dwellings, where their crops were planted, rather than live a nomadic life, and this in turn allowed people to accumulate property. But these changes occurred at a great cost in labor. While hunter-gatherers skillfully harvested what nature had grown, farmers had to plow, plant, cultivate, tend their flocks, and so on. Successful farming required long hours of relatively

unskilled, repetitive labor, much of which could be done by children. With larger families, children had to work in the fields to help feed their younger siblings, or they had to work at home to help care for those siblings. Children's lives changed gradually from the free pursuit of their own interests to increasingly more time spent at work that was required to serve the rest of the family.

Agriculture and the associated ownership of land and accumulation of property also created, for the first time in history, clear status differences. People who did not own land became dependent on those who did. Also, landowners discovered that they could increase their own wealth by getting other people to work for them. Systems of slavery and other forms of servitude developed. Those with wealth could become even wealthier with the help of others who depended on them for survival. All this culminated with feudalism in the Middle Ages, when society became steeply hierarchical, with a few kings and lords at the top and masses of slaves and serfs at the bottom. Now the lot of most people, children included, was servitude. The principal lessons that children had to learn were obedience, suppression of their own will, and the show of reverence toward lords and masters. A rebellious spirit could well result in death.

In the Middle Ages, lords and masters had no qualms about physically beating children into submission. For example, in one document from the late 14th or early 15th century, a French count advised that nobles' huntsmen should "choose a boy servant as young as seven or eight" and that "...this boy should be beaten until he has a proper dread of failing to carry out his masters orders."[1] The document went on to list a prodigious number of chores that the boy would perform daily and noted that he would <u>sleep</u> in a loft above the hounds at night in order to attend to the dogs' needs.

With the rise of industry and of a new bourgeoisie class, feudalism gradually subsided, but this did not immediately improve the lives of most children. Business owners, like landowners, needed laborers and could profit by extracting as much work from them as possible with as little compensation as possible. Everyone knows of the exploitation that followed and still exists in many parts of the world. People, including young children, worked most of their waking hours, seven days a week, in beastly conditions, just to survive. The labor of children was moved from fields, where there had at least been sunshine, fresh air, and some opportunities to play, into dark, crowded, dirty factories. In England, overseers of the poor commonly farmed out paupers'

children to factories, where they were treated as slaves. Many thousand of them died each year of diseases, starvation, and exhaustion. Not until the 19th century did England pass laws limiting child labor. In 1883, for example, new legislation forbade textile manufacturers from employing children under the age of 9 and limited the maximum weekly work hours to 48 for 10- to 12-year-olds and to 69 for 13- to 17-year-olds [2].

In sum, for several thousand years after the advent of agriculture, the education of children was, to a considerable degree, a matter squashing their willfulness in order to make them good laborers. A good child was an obedient child, who suppressed his or her urge to play and explore and dutifully carried out the orders of adult masters. Such education, fortunately, was never fully successful. The human instincts to play and explore are so powerful that they can never be fully beaten out of a child. But certainly the philosophy of education throughout that period, to the degree that it could be articulated, was the opposite of the philosophy that hunter-gatherers had held for hundreds of thousands of years earlier.

For various reasons, some religious and some secular, the idea of universal, compulsory education arose and gradually spread. Education was understood as inculcation.

As industry progressed and became somewhat more automated, the need for child labor declined in some parts of the world. The idea began to spread that childhood should be a time for learning, and schools for children were developed as places of learning. The idea and practice of universal, compulsory public education developed gradually in Europe, from the early 16th century on into the 19th. It was an idea that had many supporters, who all had their own agendas concerning the lessons that children should learn.

Much of the impetus for universal education came from the emerging Protestant religions. Martin Luther declared that salvation depends on each person's own reading of the Scriptures. A corollary, not lost on Luther, was that each person must learn to read and must also learn that the Scriptures represent absolute truths and that salvation depends on understanding those truths. Luther and other leaders of the Reformation promoted public education as Christian duty, to save souls from eternal damnation. By the end of the 17th century, Germany, which was the leader in the development of schooling, had laws in most of its states requiring that children attend school; but the Lutheran church, not the state, ran the schools [3].

In America, in the mid 17th century, Massachusetts became the first colony to mandate schooling, the clearly stated purpose of which was to turn children into good Puritans. Beginning in 1690, children in Massachusetts and adjacent colonies learned to read from the New England Primer, known colloquially as "The Little Bible of New England" [4]. It included a set of short rhymes to help children learn the alphabet, beginning with, "In**A**dam's Fall, We sinned all," and ending with, "**Z**accheus he, Did climb the tree, His Lord to see." The Primer also included the Lord's Prayer, the Creed, the Ten Commandments, and various lessons designed to instill in children a <u>fear</u> of God and a sense of duty to their elders.

Employers in industry saw schooling as a way to create better workers. To them, the most crucial lessons were punctuality, following directions, tolerance for long hours of tedious work, and a minimal ability to read and write. From their point of view (though they may not have put it this way), the duller the subjects taught in schools the better.

As nations gelled and became more centralized, national leaders saw schooling as means of creating good patriots and future soldiers. To them, the crucial lessons were about the glories of the fatherland, the wondrous achievements and <u>moral</u> virtues of the nation's founders and leaders, and the necessity to defend the nation from evil forces elsewhere.

Into this mix we must add reformers who truly cared about children, whose messages may ring sympathetically in our ears today. These are people who saw schools as places for protecting children from the damaging forces of the outside world and for providing children with the moral and intellectual grounding needed to develop into upstanding, competent adults. But they too had their agenda for what children should learn. Children should learn moral lessons and disciplines, such as Latin and mathematics, that would exercise their minds and turn them into scholars.

So, everyone involved in the founding and support of schools had a clear view about what lessons children should learn in school. Quite correctly, nobody believed that children left to their own devices, even in a rich setting for learning, would all learn just exactly the lessons that they (the adults) deemed to be so important. All of them saw schooling as inculcation, the implanting of certain truths and ways of thinking into children's minds. The only known method

of inculcation, then as well as now, is forced repetition and testing for memory of what was repeated.

With the rise of schooling, people began to think of learning as children's work. The same power-assertive methods that had been used to make children work in fields and factories were quite naturally transferred to the classroom.

Repetition and memorization of lessons is tedious work for children, whose instincts urge them constantly to play freely and explore the world on their own. Just as children did not adapt readily to laboring in fields and factories, they did not adapt readily to schooling. This was no surprise to the adults involved. By this point in history, the idea that children's own willfulness had any value was pretty well forgotten. Everyone assumed that to make children learn in school the children's willfulness would have to be beaten out of them. Punishments of all sorts were understood as intrinsic to the educational process. In some schools children were permitted certain periods of play (recess), to allow them to let off steam; but play was not considered to be a vehicle of learning. In the classroom, play was the enemy of learning.

A prominent attitude of eighteenth century school authorities toward play is reflected in John Wesley's rules for Wesleyan schools, which included the statement: "As we have no play days, so neither do we allow any time for play on any day; for he that plays as a child will play as a man."[5]

The brute force methods long used to keep children on task on the farm or in the factory were transported into schools to make children learn. Some of the underpaid, ill-prepared schoolmasters were clearly sadistic. One master in Germany kept records of the punishments he meted out in 51 years of teaching, a partial list of which included: "911,527 blows with a rod, 124,010 blows with a cane, 20,989 taps with a ruler, 136,715 blows with the hand, 10,235 blows to the mouth, 7,905 boxes on the ear, and 1,118,800 blows on the head"[6]. Clearly, that master was proud of all the educating he had done.

In his autobiography, John Bernard, a prominent eighteenth-century Massachusetts minister, described approvingly how he himself, as a child, was beaten regularly by his schoolmaster [7]. He was beaten because of his irresistible drive to play; he was beaten when he failed to learn;

he was even beaten when his classmates failed to learn. Because he was a bright boy, he was put in charge of helping the others learn, and when they failed to recite a lesson properly he was beaten for that. His only complaint was that one classmate deliberately flubbed his lessons in order to see him beaten. He solved that problem, finally, by giving the classmate "a good drubbing" when the school day was over and threatening more drubbings in the future. Those were the good old days.

In recent times, the methods of schooling have become less harsh, but basic assumptions have not changed. Learning continues to be defined as children's work, and power assertive means are used to make children do that work.

In the 19th and 20th centuries, public schooling gradually evolved toward what we all recognize today as conventional schooling. The methods of discipline became more humane, or at least less corporal; the lessons became more secular; the curriculum expanded, as knowledge expanded, to include an ever-growing list of subjects; and the number of hours, days, and years of compulsory schooling increased continuously. School gradually replaced fieldwork, factory work, and domestic chores as the child's primary job. Just as adults put in their 8-hour day at their place of employment, children today put in their 6-hour day at school, plus another hour or more of homework, and often more hours of lessons outside of school. Over time, children's lives have become increasingly defined and structured by the school curriculum. Children now are almost universally identified by their grade in school, much as adults are identified by their job or career.

Schools today are much less harsh than they were, but certain premises about the nature of learning remain unchanged: Learning is hard work; it is something that children must be forced to do, not something that will happen naturally through children's self-chosen activities. The specific lessons that children must learn are determined by professional educators, not by children, so education today is still, as much as ever, a matter of inculcation (though educators tend to avoid that term and use, falsely, terms like "discovery").

Clever educators today might use "play" as a tool to get children to enjoy some of their lessons, and children might be allowed some free playtime at recess (though even this is decreasing in very recent times), but children's own play is certainly understood as inadequate as a

foundation for education. Children whose drive to play is so strong that they can't sit still for lessons are no longer beaten; instead, they are medicated.

School today is the place where all children learn the distinction that hunter-gatherers never knew--the distinction between work and play. The teacher says, "you must do your work and then you can play." Clearly, according to this message, work, which encompasses all of school learning, is something that one does not want to do but must; and play, which is everything that one wants to do, has relatively little value. That, perhaps, is the leading lesson of our method of schooling. If children learn nothing else in school, they learn the difference between work and play and that learning is work, not play.

In this posting I have tried to explain how the history of humanity has led to the development of schools as we know them today. In my next posting I will discuss some reasons why modern attempts to reform schools in basic ways have been so ineffective.

The concept of schooling is necessary in this twentieth century, for developing citizens competent enough to this era, but the gap between work and play in formal education can be minimized or mitigated. If a child is given that opportunity to pursue his career according to his field of interest, or the scope of learning in school according to his or her interest, he might not feel the difference between work and play any more , just hunter gatherer era. School can provide the students that environment for learning through self directed play and exploration. Also, through a routine of courses, they can develop themselves as competent international citizens.

3.2 A BRIEF UNDERSTANDING OF CHILD PSYCHOLOGY "Since they were born, children begin a marvelous path of development in many dimensions: cognitively, socially, emotionally and physically "--Linda Cain Ruth Historically, children were often viewed simply as smaller versions of adults. When Jean Piaget suggested that children actually think differently than adults, Albert Einstein proclaimed that the discovery was "so simple that only a genius could have thought of it." Today, psychologists recognize that child psychology is unique and complex, but many differ in terms of the unique perspective they take when approaching development. Experts also differ in their responses to some of the bigger questions in child psychology, such as whether early experiences matter more than later ones or whether nature or nurture plays a greater role in certain aspects of development. Child psychology focuses on the mind and behavior of children from prenatal development through adolescence. Child psychology deals not only with how children grow physically, but with their mental, emotional and social development as well.

3.2.1Some of the major contexts that we should consider in understanding child psychology include: -The Social Context: Relationships with peers and adults have an effect on how children think, learn and develop. Families, schools and peer groups all make up an important part of the social context. - The Cultural Context: The culture a child lives in contributes a set of values, customs, shared assumptions and ways of living that influence development throughout the lifespan. Culture may play a role in how children relate to their parents, the type of education they receive and the type of child care that is provided. -The Socioeconomic Context: Social class can also play a major role in child development. Socioeconomic status is based upon a number of different factors including how much education people have, how much money they earn, the job they hold and where they live. Children raised in households with a high socioeconomic status tend to have greater access to opportunity, while those from households with lower socioeconomic status may have less access to such things as health care, quality nutrition and education. Such factors can have a major impact on child psychology. All three of these contexts are constantly interacting. While a child may have fewer opportunities due to a low socioeconomic status, enriching social relationships and strong cultural ties may help correct this imbalance.

3.2.2ENVIRONMENT: ITS INFLUENCE AND RELATIONSHIP WITH CHILDREN *"„Adults admire their environment; they can remember it and think about it – but a child absorbs it. The things he sees are not just remembered; they form part of his soul."* --Maria Montessori Creating environments suitable for children requires focusing on children, understanding their interests and likes, listening to their hearts and grasping the nature of their cognition. It also means that the environments are free from both physical and social barriers. Children respond differently, based on the design of the environment in which they live. An effectively designed classroom has the potential for positively influencing all areas of children's development: physical, social, emotional, and cognitive. Language and learning are nurtured in an environment that values and plans appropriate opportunities. The environment can support the development of behaviors that are valued in our society, such as cooperation and persistence. An aesthetically pleasing space can develop a child's appreciation for the

beautiful world around them. Most importantly, quality environment can provide a home like setting that "feels" like a good place to be. **Children need age-appropriate and developmentally appropriate physical** environments that support promote and include child-directed and child initiated play and learning. Active, creative play and exploration is central to normal child development. The physical environment can either contribute to children's development and support learning and exploration or become a permanent impediment to the above stated goals. The design and layout of the physical environment which includes the building, interior finishes, outdoor spaces, room arrangement and selection of equipment has a profound impact on children's behavior. Quite unlike adults, children figure out how to behave in most situations through instantaneously reading the environment. Children also read the environment differently than adults, not as background but as something to interact with.

3.2.3 THE IMPORTANCE OF PLAY

All children need to play. All children have the right to play. When children play they are not just filling in time, they are learning to interpret their world. Play facilitates the learning of life skills, and for this reason, the provision of quality outdoor play spaces is vital in local communities. Play is a vehicle for self-expression and social interaction. It is often described as active, spontaneous, free, self

-generating, purposeful, voluntary, fun, exploratory, and intrinsically motivated. It provides important motivation for children to become active, engage with others, extend themselves and adapt and learn skills. It is a critical part of growth and learning, and provides the opportunity for a child to reach their individual potential. Through play children develop the qualities necessary in adulthood, such as:

-Problem solving

-Independence

 -Self awareness

-Creativity

 -Resilience -Spatial knowledge -Flexibility and ability to deal with change Quality play spaces should offer:

-An accessible environment which supports inclusion and participation.

 -Choices in the types of activities that interest children of a range of ages and developmental stages.

-Cognitive and imaginative play opportunities as well as physically active play.

-Opportunities for people to meet and play together -Sensory qualities which provide interest to children. -A comfortable physical environment (shade, possibly shelter, winter sun). -Risk and challenge, as well as a reasonable degree of safety.

-Combination of built and natural elements (i.e. cubbies amongst vegetation, sand, logs), and

spatial qualities which enhance activities (i.e. partial enclosure, or a sense of elevation).

3.2.4 DESIGNING FOR ALL CHILDREN

Designing spaces for children requires an awareness of and sensitivity to the uniqueness of the child as a user within the space. The concept of designing for all children is based upon the tenets of child development which recognizes that each child is unique and passes through a series of recognizable stages of development, which are different for each child including children with disabilities. Designing for all children means, creating an environment, usable by all children without the need for their adaptation and creating spaces that are free from social barriers. Spaces, indoors and outdoors, must allow for positive interpersonal interaction and socialization between children with different abilities and of both genders. Spaces must be available for small groups, solitude, quiet play, large groups and active play. Appropriate space will create opportunities for the development of self-confidence and social skills.
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10 Designing for equitable use is creating a design that is functional to a wide variety of users. And one that allows for socialization between all children. Equitable use also means creating a design that works for all types of users and does not exclude any intended users. Not only should the design work for the child with disabilities but it must work also for the non-disabled child as well. Immediately from birth, children reply on touching, feeling and using their senses to provide information. We should create spaces that are rich for exploration through the senses of touch, taste, sight, sound and smell. The environment should foster independence, for a child of any age. A developmental task of childhood is to move from total dependence on adults to a more mature independent stage. Independence can best be achieved by creating spaces that can be used by children with a wide range of individual preferences and abilities. One must understand that children come in a variety of sizes which is sometimes not directly related to chronological age. (Ruth, 2000) In summary, designing for all children requires us to examine our values and beliefs more closely. As much as we may be different, we are all alike in many ways. Designing for all children finds a way to support and encourage each child's abilities, similarities, and uniqueness. (Ruth, 2000)

3.2.5 SCALE

It is essential to provide children with sensitively designed spaces that will allow them a degree of understanding and sense of control over their surroundings. The most easily addressed issue is that of physical size and scale. An environment, whose elements are scaled to the size of the children, the primary user group, speaks that the needs, and therefore the children themselves, were important in the design of the space. Windows that can be seen out of and lavatory handles that can be reached without standing on stools is indeed an environment that has adapted to them, instead of forcing them to adapt to an environment. Not only does a child-scaled environment help to generate children"s sense of control and comfort, it also reduces their need to stretch awkwardly, to reach objects or to stand perilously on the edge of furnishings. Children also use space differently and therefore require the designer to know measurements that are not typically required. For example, the floor in most children"s areas becomes a main activity area. Children will often be found sitting with their legs straight out in front of them.

3.2.6 COLOR AND TEXTURE

Color Color is an important factor in the physical learning environment and is a major element in interior design that impacts student achievement, as well as teacher effectiveness and staff efficiency. Research has demonstrated that specific colors and patterns directly influence the health, morale, emotions, behavior, and performance of learners, depending on the individual"s culture, age, gender, and developmental level, the subject being studied, and the activity being conducted. (Olds, 2001) It is important to approach color choices from a functional aspect, rather than solely from the standpoint of aesthetics. Functional color focuses on using color to achieve an end result such as increased attention span and lower levels of eye fatigue. Color schemes are not measured by criteria of beauty but rather by tangible evidence. Furthermore, color psychologists have linked color with brain development and the human transition from child to adult. Color in the learning environment provides an unthreatening environment that improves visual processing, reduces stress, and challenges brain development through visual stimulation. Color variety reduces boredom and passivity. Therefore, various activity areas should incorporate a variety of colors (based on age, gender, subject and activity) to reduce monotony and visually refresh perception. However, overuse of color, using more than six colors in a learning environment, strains the mind"s cognitive abilities. (Gale, 1933) Young children are attracted by warm, bright colors. As the child matures, preferences change from tints and pastels (elementary school) to bright mediumcool colors such as greens, blues, and green-blues (middle school) to darker colors (high school) such as burgundy, gray, navy, dark green, deep turquoise, and violet (Gale 1933). Similarly, as children mature into adolescence, there is less preference for large areas of primary color, which they tend to associate with immaturity. Color in architecture has multiple aesthetic and functional applications. Warm colors can be used to reduce the scale and size of large spaces, making them `

12 more intimate. Cool colors visually enlarge a space, making it less confining. Color can be used to differentiate, contain, unite, equalize, and emphasize the design elements of a space. Color can be used to modulate a building"s appearance to bring it into harmony with its surroundings, make a building appear pleasant or oppressive, correct proportions, eliminate monotony, and establish individuality among like buildings or building elements. Pattern is the repetition of shapes or forms and is an immediate concomitant of color.

Color Recommendations Color   **Represents**

Drama	orange, indigo, blue, violet, red, white	Passion
Art	green, violet, red, peach, pink, light yellow	Creativity
Music	Green, violet	Talent
Dance	orange, purple, violet, yellow	Creativity
Language	sea green, blue, green	Communication
Computer lab	medium colors provide visual relief	Encouragement
Gymnasium	red, red-orange, light orange, warm yellow, apricot, orange, lime, medium green	Activity
Library	green, blue, brown, earth tones	Knowledge
Auditorium	violet, black, dark green, navy, warm neutrals, purple, burgundy	Dignity
Corridors and Hallways	green, blue, magenta, bright colors	Life
Cafeteria	orange, red, green, lime, yellow	Nutrition

Color Recommendation (Source: SCRI Research Report, 2009)

TEXTURE Through research it has been found that people normally perceive two types of environments with distinct features from one another: natural (soft) elements, such as flowers, plants, grass and water; and obtrusive built (hard) elements, such as intense land use, buildings and busy traffic. Studies of specific features have revealed the preference of naturalness and a decrease in the prominence of built. features. Built features enable people to identify or create order. They are visually rewarding simultaneously possessing diversity and unity. „Soft" textures animate landscapes, and enable children to connect with what they experience with their sense of touch when it comes to varying texture. Texture can be manipulated in scale from course to fine and can be used in juxtaposition or in gradients from rough to smooth. Research indicates that the quality of life, in institutions designed for children, is much enhanced when an abundance of useable outdoor space is present (Dudok, 2005). The variety can add to the aesthetic appeal of places, which is enhanced as environmental conditions change with the seasons. There are also many practical applications such as: -Encouraging children"s interest in thinking and asking -Promoting the goals of recreational activities -Enhancing physical and cognitive development -Encouraging imaginative play and stimulating empathy. Covered areas can be looked at as a transition spaces from inside to the outside, from an enclosed space to natural openness. Weather-protected transition spaces include porches and decks a minimum of two meters in depth that can serve as learning and playing spaces. The covered area between the inside and outside is always one of the children"s favorite places. At present, many outdoor spaces in schools and other facilities are dominated by play sets, such as climbing frames, turning pars, balance beams or overhead ladders. Early childhood educators and children are less likely to take ownership of these standardized play space. While many outdoor play spaces are characterized by concrete, incorporating materials like sand, dirt, gravel, mud, plants, pathways and water in the play areas makes it more welcoming and interesting. Varied outdoor elements offer more developmental and play opportunities than spaces that did not contain these elements. They easily allow children to exert control over their play space and change their 16 surroundings to suit their needs. Children want to play with responsive materials that can be carried, collected, damned, dug, floated, filled, scooped, sifted, spilled, sprinkled, and thrown. (Olds, 2001)

3.2.7SPATIAL CONFIGURATION

The Indoor Activity Area Activity settings are defined by the following: physical location, visible boundaries, work and sitting surfaces, materials storage and display, a mood or personality. Activity settings should be delineated by a combination of fixed and movable elements. Fixed

elements include changes in level, ceiling height, materials, room corners, partial walls, special windows. Movable elements include movable and hung partitions, bookcases, storage units and furniture. Where changes in level are employed, ramps should be used. (Childcare design guidelines, 1993) Activity settings should include places to observe, to play alone, to play alongside, and to play together. Retreat points should be provided adjacent to activity areas and should be visually monitor able by staff in the in the main activity area.

The main activity room should be the largest of the program spaces. It should include a mixture of open spaces and smaller alcove type spaces and be designed to accommodate a variety of different activities. The design should emphasize on flexibility by utilizing movable elements to define spaces. An irregular square with alcoves and nooks is recommended. Long and narrow rooms should be avoided. The plan should direct children from one activity to the next and delineate, protect and support activities in each setting. The activity zone itself should have different zones, so that noisy and quiet, intense and calm and messy (or wet) and tidy activities are separated. Wet and messy zones should be designed for art activities should be located adjacent to the outdoor play area so that on sunny days doors can be open and activities can flow between indoor and outdoor areas.

Circulation within an activity room should be clear and straightforward, but not overly simplified and uninteresting. Circulation path that snake through the building, overlooking each activity is recommendable. "Shopping" among activities is itself an activity. Circulation paths should respect the boundaries of activity areas by meandering around but not by passing through the activity settings. Sufficient spaces for children engaged in activities to play uninterrupted by others passing by them should be provided. A Quiet Zone should be provided for toddlers and preschool groups. The Quiet Zone should be a separate room with a door, which can be used for quiet activities involving one staff and up to three children. There should be enough space for a small table, chairs and some storage. A quiet room fulfills a number of other useful functions: a space where children can be quiet and escape briefly from the hustle and bustle of the activity zone, a room for the use of professionals working with children on a one-to-one basis, and a place where sick children can rest while waiting for parents to pick them up. Storage is a key factor in providing good childcare. Three categories of storage should be provided for:

- Active storage

- accessible to children from activity setting

- Semi-active storage shelves and cabinets accessible to staff above or near activity settings; and

- A storage room for longer-term storage and larger equipment. Storage includes open and closed, fixed and movable, multi use and specialized storage. Dedicated built in storage for, personal storage, a variety of wall cabinets and shelves, floor units and open visible storage

should be provided. The storage room for long term storage may be shared by the groups within the facility.

3.2.8 THE OUTDOOR ACTIVITY AREA A high quality and sufficiently large outdoor play area is necessary to provide opportunities for adventure, challenge and wonder in as natural an environment as possible. All children spend some time outdoors every day regardless of the weather. The more time children spend out of doors the lower the incidence rate of sickness. The outdoor play space should have a favorable microclimate (i.e. wind protection and direct sunlight), have a rich range of materials and settings including contact with the living natural world, and be safe and secure. The outdoor play space should include a covered area and an uncovered area to accommodate the various outdoor activities. Between 1/3 and 1/2 of the outdoor area should be clear space for group activities and physical movement. A paved path or route for should wind around other activity areas. Children should be free to move from activity to activity outdoors as they are indoors without disrupting activities in activity zones. The outdoor space should be acoustically buffered from traffic and parking and other disruptive noises, fumes and odors. Particular attention should be given to the building's mechanical equipment and vents. Wind effects are one of the major drawbacks on terraces and roof gardens, designed for outdoor play. These impacts can usually be mitigated through design techniques such as fences, screens and deflectors. Vegetation and play equipment should be selected and installed to be wind-resistant. If the outdoor play space is located on a roof, the play space should be free of skylights, roof vents or other mechanical equipment. The roof structure must be designed to carry the weight of landscaping and play equipment. Large play equipment and planters or massed plantings may have to be specially placed. Sunlight should penetrate into the outdoor area for a minimum of three hours per day at the winter solstice, two hours of which should occur during the typical playtimes of 9:30 to 11:30 or 1:30 to 4:00. This is especially important in infant and toddler programs. Sunlight access should be protected by design techniques such as glazing in south-facing fences or parapets. Northfacing sites are problematic if sun cannot reach the transition zone between indoor and outdoor space. Non-glare surfaces should be used on highly-exposed sun areas. Some shading should be provided for a portion of the outdoor play area to offer a retreat on hot days. Outdoor space should be organized to offer specific activity zones for exploration by the children. It is recommended that the outdoor play area be divided into play zones, as follows:

- Covered Play Area This is a transition zone from the indoors to the outside and should be located adjacent to the entry. This zone is intended for quiet or concentrated activities such as painting or art, clay or water table, outdoor meals and for active play on rainy days.

-Creative Zone This should be located near the indoors and may be part of covered area. Activities in this zone may include art projects that are messy or other noisy activities.

- Social Zone This area should provide a quiet place to sit, tell and listen to stories, talk with staff or friends in a central location which is shady in summer and sunny in winter.

- Dramatic Zone A place to play "house" and dress-up should be provided. This zone provides for symbolic and parallel play and for associative and co-operative activities. Space should be provided for a house setting, props and utensils, large blocks and interlocking construction toys. It is appropriate for the wheeled toy route to extend into this area.

- Physical Zone An area with stationary equipment for balancing, climbing, sliding and swaying is recommended. Equipment should be designed to provide graduated challenges to the appropriate age group. This zone should be located away from quieter zones but adjacent to the Dramatic Zone. Physical development can also be promoted through the use of mounds, boulder clusters, paths or wheeled toys and other features throughout the outdoor setting.

Natural Element Zone Natural elements should be included everywhere to provide an experience of nature including vegetable plots, fragrant flowers, soil for digging, sand, water, trees and shrubs, and wind toys such as sails or banners. (Source: Design Guideline, 1993)

Significant areas of soft landscaping should be provided in all outdoor play yards whether above grade or on grade. Natural features and vegetation are important. This should include grassed areas, shrubs, massed planting, trees and planters. Plants with thorns should also be avoided in or near areas where children will play. In all cases, the outdoor space should offer a variety of surfaces and terrains. If the outdoor play space is located on a roof structure, it is critical that the roof should be designed to permit substantial areas of landscaping to be supported. Provision should be made for adequate support of lawn areas with sufficient soil depth for healthy growth of grass. A resilient fall surface should be provided at all places where children can climb, slide, or fall. Assume that children will climb everywhere possible. Loose materials such as pea gravel and wood chips can be contained with curbs or planters, surrounds of wooden decking or other edging solutions. Areas of loose materials should be separated from the entry to indoors by an expanse of paving which can be swept clean periodically. The boundaries of the outdoor space should be secure from many vantage points within the space. Fences should be provided of sufficient height and material strength to prevent children from getting out of the yard and strangers from reaching or climbing into the yard. It is also desirable for the outdoor play space to be visible from indoors within the primary activity space. Outdoor space should be at the same level as the indoor space (plus or minus .5 m) and visual link with it. The two areas should be planned together. Ramps for wheeled equipment should be provided when a level change exists. A strong visual connection should exist between the indoor and outdoor activity areas.

3.2.9 FUNCTIONAL ASPECTS

Day lighting Good natural light helps to create a sense of physical and mental comfort, and its benefits seem to be more far reaching than merely being an aid to sight. Low ceilings and deep classrooms can cause children to experience an ominous feeling due to the discrepancy in light levels. It is best to use natural lighting as the main light source as much as possible, rather depending on artificial lighting. Overall, the essential requirements for the effective day lighting in children"s spaces can be summarized as follows -Orientation: The building is best elongated along an East-West axis. Spaces, such as the library and art rooms, where only diffuse daylight is desirable, should be located towards the North while the main learning and teaching activity areas can be to the South. The learning spaces should be designed to enable a minimum of 2 hours of day light.

-The absence of glare: Bringing in daylight from two different directions reduces the chances of uncomfortable glare. Necessary shading control is needed which can be easily adjusted by occupants.
-Windows: Large full height windows, touching the ceiling is desirable. Large windows and windows placed high in the wall such as clerestory windows optimize daylight distribution and bring light deeper into the space.
-Location: No obstruction is around because it may cast too much shadow in the daytime.

3.2.10 SETBACK AND SPAICING REQUIRMENT:

When I will plan the layout of school, certain minimum building setback as BNBC rules, required providing noise buffer and privacy for adjoining users.

TYPES OF SPACE: The gross area of school building comprises of teaching area and non-teaching area. Other facilities for non-school, such as community areas, may also be included. As a general rule, school should be aiming for a 60:40 split between area and nonteaching area, although existing site constrains can sometimes make this difficult. In nursery provision small mainstream school and all special school, it is likely to be nearer a 50:50 split.

CIRCULATION: This includes corridors , stairs, bowyers and defined circulation routes in open-plan teaching areas, as well as the area of internal walls, can take up a quarter of the gross area of the school, depending on the plan. It is therefore worth trying to make effective use of corridor spaces by making them „double-loaded" where possible and ensuring that open areas off corridors are designed such that they can be used for small groups, social areas or display without interfering with the natural traffic flow.

CLASSROOM: The classroom layout represent a standard size room with a recessed corridor door and seating arrangement recommended classroom sizes for elementary school range from 850-1150sft. High school classrooms may range from 750-900sft. In some instances where large group teaching is taking place, double classrooms may be desirable. In other instances, regular classrooms may be divided by use of a folding partition which has a satisfactory acoustical separation. In recent years, areas of the classroom are increasing and it is found that square classrooms have been proving more satisfactory than rectangular ones. General requirements for classroom design: 1. Sufficient space is needed near the front of the room for sitting up audio-visual equipments, such as projection screens. Light from windows should, if possible come over a pupil"s left shoulder. No teacher should be required to face the windows while addressing the class. 3. Ceiling should be maximum of 9.5ft high. 4. Ceiling and walls should be acoustically treated. 5. Floors should have cushioning material.

MULTIPURPOSE ROOM: The room is located at the main entrance to the building, with a combined corridor and lounge. The room is opened up to the two wide corridors- an arrangement that allows overflow seating during special assemblies and public performances. The openings can be closed with drapes when desired. The openness reduces traffic congestion and disciple problems.

LOCATION: The classroom should have as quiet a location as possible, away from noisy outdoor areas. Ease of access to specialized facilities outside the academic unit should be ensured.

LIBRARY: School dining rooms most often are double as study halls and lecture rooms; they are multi-purpose and must include functional aspects which are in compatible with dinning atmosphere. Wile by words like washable, easily maintained, movable, durable and economic do and must prevail in selecting furnishings and finishes, the call for character and creativity must then come on stronger. Color, plan, arrangement, the whole feel of the room must have a sense of order and sureness, some pronominal theme.

SCIENCE FACILITIES: Science rooms and biology laboratories should be located on the first floor, with windows facing south or south west, a door opening into the preparation room and a door opening onto the campus so that classes may take place outdoors without passing through the building. There should be chalk board and projection screen at the front of the room. Chalk board should be 4 ft wide and counters with sinks, outlet for gas and electricity should be installed along two sides of the room.

MUSIC ROOM: The music class should be part of the music suites and readily accessible to the corridor and office. It should have sound-tight doors, natural lighting and lavatory, necessary

equipment should be provided. Provision should be made foe projection, television and a high-fidelity   sound   system.

STORAGE AND PREPARATION ROOM: This room should be adjacent to the labs. These rooms are used for teacher"s preparation, storage of bulk-supplies, conferences and office. The area should be lined with storage space for equipments and materials. There should be provision of teacher"s records and professional books. Access windows should open into the labs.

ART AND CRAFT ROOM: Art and craft room should be located near the auditorium stage. Location should facilitate delivery of supplies. There should provide good light and be high enough for storage and counter space underneath. The space should be arranged with sufficient imagination, so that it is flexible and allows the teacher to vary the curriculum.

WAITING AREA: The waiting area is provided as a reception area, as an information collecting area, and as a place for student and other to wait for their appointment with the counselors. This room should be large enough to provide space for the receptionist, student and parents or teacher,   who   might   be   accompanying   the   student.

COUNSELOR'S OFFICE: The counselor"s office is the setting for the interview. The interview usually involves the counselor and the student but may also include a teacher, parents or other professional worker. Since the interview is confidential, the room should offer privacy and should   be   sound   proof.

ADMINISTRATIVE AREA: The administrative area is the control center for the school and the contact point for parents, student and teacher. Her school records are kept and reviewed and counseling and discipline are meted out. It is the contract point and is always placed near the entrance.

RECREATIONAL FACILITIES: Special attention should be given to the need for large open space for field games with adjacent existing green area to provide shade, oxygen and windbreak. In dense urban area, where open space is scarce, such facilities can be provided don roof tops and terrace.

CHAPTER 4:Contextual Analysis

4.1 A Brief History of Savar : Savar (Bengali: সাভার Savar or Shabhar) is an Upazila of Dhaka District in the Division of Dhaka, Bangladesh.[1] It is located at a distance of about 24 kilometres (15 mi) to the northwest of Dhaka city. Savar is mostly famous for Jatiyo Smriti Soudho, the National Monument for the Martyrs of the Liberation War of Bangladesh.

It is bounded by Kaliakair and Gazipur Sadar upazilas on the north, Keraniganj upazila on the south, Mirpur, Mohammadpur, Pallabi and Uttara thanas of Dhaka City on the east, and Dhamrai and Singair upazilas on the west.

The southern part of the upazila is composed of the alluvium soil of the Bangshi and Dhalashwari rivers. Main rivers are Bangshi, Turag, Buriganga and Karnatali. The Bangshi River has become polluted due to industrial waste.

As of the 2011 Bangladesh census, Savar Upazila had a population of 1,387,426. Males constituted 54.20% of the population, and females 45.80%. This Upazila's eighteen-up population was 207,401. Savar had an average literacy rate of 58.16% (7+ years), and the national average of 54.4% literate. Male literacy was 64% and female was 51%. The religious breakdown was Muslim 88.59%, Hindu 10.41%, Christian 0.93%, Buddhist 0.03% and others 0.04%, and ethnic minority group nationals numbered 319 including Buno, Garo, Chakma (Sangma), and Burman. The main occupations are Agriculture 24.34%, agricultural labourer 12.84%, wage labourer 4.44%, cattle breeding, forestry and fishing 1.90%, industry 1.37%, commerce 17.35%, service 20.68%, construction 1.66%, transport 3.96% and others 11.46%.

Agriculture and manufacturing are the two major economic sectors in Savar. The main crops grown here are Paddy, Jute, peanut, onion, garlic, chilli and other vegetables. The extinct or nearly extinct crops in the region are Aus paddy, Asha Kumari paddy, sesame, linseed, kali mator, randhuni saj, mitha saj, kaun and mas kalai. The main fruits cultivated here are Jackfruit, mango, olive, papaya, guava, kamranga, berry and banana. There are 181 combined fisheries, dairies and poultries Dairy, 5 hatcheries, 209 poultries, and 1319 fisheries. Manufacturing facilities include Ceramic industry, beverage industry, press and publication, garments industry, foot ware, jute mills, textile mills, printing and dying factory, transformer industry, automobile industry, biscuit and bread factory, pharmaceutical industry, soap factory, brick field, cold storage, welding, plant nursery, etc. Bangladesh Export Processing Zone is located in this upazila. The Cottage industry includes 8 Weaving, 100 goldsmith and 29 others workshops. The main exports are Jackfruit, papaya, flower, sapling, dairy products, meat, transformer, fabrics, dye, medicine, ready made garments, electronics and electric goods, shoe, brick, sweetmeat etc.

There are 14 regular Hats and bazars here. Noted bazars are Savar, Nabinagar, Amin Bazar, Balibhadra and Bagbari Bazar. Noted hats include Ashulia, Savar, Shimulia, Kathgara, Sadullapur, Nayar hat (with adjoined bazar), and Vhakurar Hat. Prominent fairs include Darogali

Bayati Mela (Nayarhat), Bahattar Prahar mela (Savar), Ghora Pirer Mela (Nalam), Muharram Mela (Katlapur) and Pawsh Mela (Dhamsona).

Savar is the home of Jahangirnagar University, a Public University of Bangladesh and only University for full student residence facilities which is famous for its scenic beauty and as a prime destination for Siberian migratory birds during winter.[10]

The nation's one and only specialised rehabilitation hospital, the CRP-Bangladesh centre for the rehabilitation of the paralysed,[11] is located in Savar, about 1 kilometre (0.62 mi) from Savar Bazar.

There are many other important institutions in Savar. The 9th Division Army Savar Cantonment is located here. There is a military rirm and government dairy firm beside Jahangirnagar University. BPATC training center is the only training centre for the public service commissioned officers in Bangladesh. Radio Bangladesh (Bangladesh Betar) employers Residence and The Transmission Zone with huge Transmission Setup. (HPT-1; high power transmission, HPT-2 etc.).

The two Largest entertainment theme parks of Bangladesh namely "Fantasy Kingdom" and "Nondon Park" are also located here. Fantasy Kingdom is situated in Jamgora Bazar and Nondon Park is situated in Jirani. Bangladesh Krira Shiksha Pratisthan (BKSP), the only national sports institute of Bangladesh is also situated in Jirani Bazar. Dhaka Export Processing Zone, DEPZ is also situated in this upazila.

There are 318 Mosques, 8 churches and 68 other religious institutions, most noted of which are Jahangirnagar University and Savar Dairy Farm Mosques, Savar Baptist Church, Savar Daskinpara Harir Akhra Temple and Panchabati Ashram Temple.

Atomic Energy Research Establishment, Satellite Ground Receiving Station (Talibabad), National Institute of Biotechnology, Bangladesh Livestock Research Institute, Savar Youth Training Centre.[12]

The locally published newspapers and periodicals are Jagrata Kantha, Savar Barta, Saf Katha, Savar Kantha and Ganabhasa.

The officially registered cultural and social organisations here include 81 Co-operative societies, 1 children's organisation, 3 film societies, 5 cinema halls, 5 theatre groups, 1 theatre stage, 3

music centre, 5 orphanages, 1 opera party (an indigenous travelling theater troup), 3 women's club, 1 chapter of Bangladesh Mohila Parishad, 2 Amnesty organisations, 1 golf club, 2 entertainment parks. There are numerous other unofficial organizations as well.

The operationally important NGOs are brac, asa, proshika, grameen bank, Ganasastha Kendra, World Vision, Swanirvor Bangladesh, VERC, Palli Mangal Karmasuchi, CDD, Adesh, Mother Vision Society of Bangladesh (AID FOR EYE DISABLE) etc.

The health centres in Savar include 1 Upazila health complex, a combined military hospital (Savar Cantonment), the Korea Bangladesh Friendship Hospital, 7 family planning centres, 2 satellite clinics, and 21 private clinics.

The Gono University or Gono Biswobidyaloy is a private university in Savar. It was established on 14 July 1998 and is popular for its extraordinary non-smoking rule for students, teachers and staff. It was one of 11 universities that went operational without University Grants Commission (UGC) approval which was made a necessity under the Private University Act (1992). It also introduced new academic courses without UGC approval along with a number of other private universities.

The site of the school is located in Savar, in Dhaka-Aricha highway, opposite to the Aeroplane petrol pump. The school 'scholastica' being a privately owned english medium school will serve the higher income people of the society. The main target students of the school would be mostly from the residents of Dhaka city. The students would have to come to Dhaka city from Savar by any means of transportation. The school thus located in Savar would serve the citizens of Dhaka city but for the residents of Savar, it is like a foreign particle placed within its boundary. Thus, an alternative solution to this disparity can be that the school can have alternative uses or multiple uses after the regular school hour or the after the school goes to sleep mode.

CHAPTER 5

5.1CASE STUDY: Gammel Hellerup High School

project info:

type: commission
client: gammel hellerup high school
collaborators: ekj, cg jensen, jens lindhe, midconsult i herning, bent nygaard sørensen, grontmij
size: 2,500 sqm
location: hellerup, denmark
status: completed

partners in charge: bjarke ingels, finn nørkjær

project leaders (multi-use hall & gymnasium): ole schrøder, ole elkjær-larsen, frederik lyng
team (multi-use hall & gymnasium): ana merino, anders hjortnæs, christian alvarez, dennis rasmussen, gül ertekin, henrick poulsen, hjalti gestsson, jan magasanik, jakob lange, jacob thomsen, jeppe ecklon, ji-young yoon, michael schønemann, narisara schröder, riccardo mariano, rune hansen, snorre nash, thomas juul-jensen, vincent he, xu li

project manager (master plan & education building): ole elkjær-larsen
project leader (master plan & education building): tobias hjortdal
team (master plan & education building): agnete jukneviciute, ambra chiesa, brigitta gulyás, dennis rasmussen, enea michelesio, greta krenciute, høgni laksáfoss, isabella eriksson, jan magasanik, mikkel marcker stubgaard, jeppe ecklon, kamilla heskje, michael schønemann, narisara schröder, thomas juul-jensen

project leader (landscape): ole elkjær-larsen
team (landscape): brigitta gulyás, enea michelesio, mikkel marcker stubgaard, narisara schröder, tobias hjortdal

The 1100 m2 multi-purpose hall and the latest two-level addition to Gammel Hellerup High School just north of Copenhagen, provides existing students with generous spaces for social and creative unfolding, while increasing the capacity of the school in response to its growing popularity.

Originally a building adjacent to the campus, the gymnasium facilities became insufficient; Gammel Hellerup High School lacked a large multi-functional space for physical activities,

graduation ceremonies and social gatherings. In response, BIG designed a multi-purpose hall for the physical education and social development of the students, drawing its signature curve from the physics of a handball being thrown. Placed 16.5 feet (5 meters) below ground in the school"s courtyard, the hall is passively temperature controlled and does not impose on its context. Above ground, the hall"s softlycurved roof is an informal meeting place. The edge of the roof is designed as a long social bench, perforated with small windows to provide natural daylighting below. The shape of the roof is based on the formula for a ballistic arc. Form follows formula!

During the construction of the hall, the school planned a new building, located between the school"s multi-purpose hall and adjacent football fields. This new arts building seeks to connect the sports areas with the gymnasium"s existing educational facilities in one continuous flow. By placing parts of the new building beneath the football fields, the students are able to walk through the sunken sports hall at the center of the school´s courtyard, to the classrooms, cafeteria, and out to the main entrance at street level. Additionally, the new facilities situated underground form the roof of the new arts building, extending the football fields into a green carpet for informal activity and to serve as informal seating overlooking future sporting events.

Construction materials and finishes known from the multi-purpose hall are integrated in reverse - where the sports hall is a sandwich of wood above and below with walls of concrete, the classrooms are the opposite - wooden walls spanning between concrete surfaces above and below. The continuity and repetition of the materials creates a coherent visual identity for the school

Fig 1.the new arts building connects the sports areas with the gymnasium's existing educational facilities.

Fig2.parts of the new building are placed beneath the football pitch.

Fig3.wooden walls span the length of the building, complemented with concrete ceilings and floors
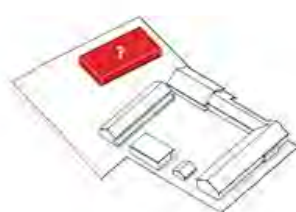
Fig4.more intimate areas of seating

Fig5.the scheme increases the capacity of the school in response to its growing popularity

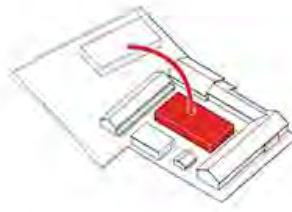Fig6.the rooftop serves as an extension of the playing field

Fig7.the direct connection between the football field and the new building

Fig8.inside the existing gymnasium

Fig9.the view from the top of the expansion

GYMNASIUM COURTYARD

CENTRALIZATION

BELOW GROUND

ROOF & CONNECTIONS
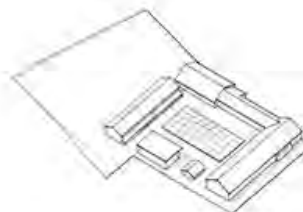
ROOF ABOVE GROUND
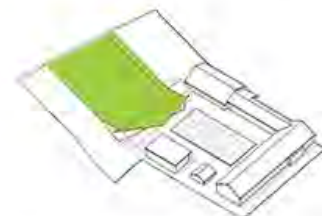
GREEN FOOTBALL FIELD & NEW CLASSROOMS
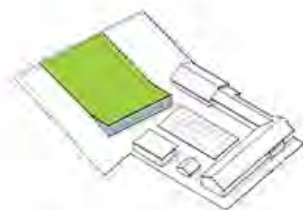
GREEN FOOTBALL FIELD & CLASSROOMS
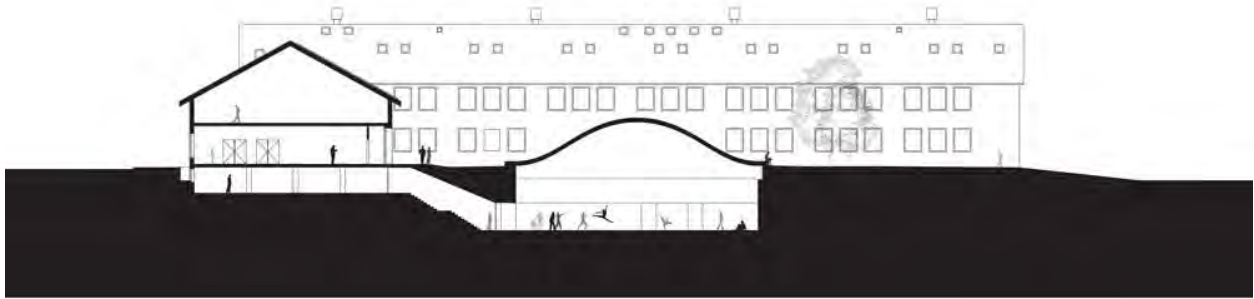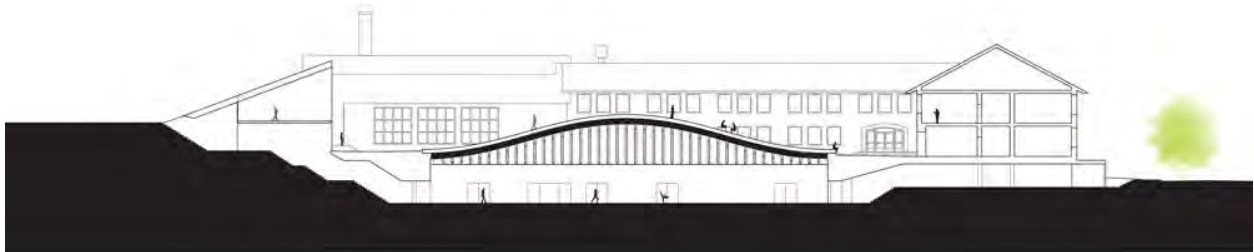
SECTION 1

SECTION 2

CASE STUDY 2: Dalian School / Debbas Architecture

Architects: Debbas Architecture

Location: Dalian, Liaoning, China

Architects: Debbas Architecture

Client: YIDA Group

Project Year: 2010

Photographs: Shu He Photographer

From the architect. Located in Dalian China and designed by Debbas Architecture, this project took reference from the most successful examples of kindergartens worldwide.   A unique project, the school benefits from the collaborative expertise and design criteria from two early childcare professionals: the International Child Resource Institute (ICRI) based in the United States and Kinderland based in Singapore. Combining the highest standards in the world with the complex local requirements of China, the program and resulting architecture offers children one of the most unique and comprehensive environments for learning and subsequently flourishing as individuals.

The Dalian School was commissioned by a Chinese development agency (YIDA Group) through the U.S.-based International Child Resource Institute (ICRI), it is a project that aspires to provide nothing less than a world-leading environment for early childcare and education.

Conceptually, the design establishes a dynamic, fluid language that responds to both climatic conditions as well as progressive educational goals. The design endeavors to provide a unique, youthful and stimulating environment that marks a significant, independent shift from existing kindergarten models.

The school consists of nine classrooms with sleeping lofts, full baths with showers, a full kitchen and dining room, a computer room, a science room, a library, a multi-purpose room, a ballet room, a music studio and performance space, a lecture room/auditorium, separate teachers and parents lounges, private administrative areas, individual class playgrounds, a roof terrace and two full size playgrounds with bicycle/tricycle paths.

Response to the local climate was an integral part of the initial schematic design. Both the shape and location of the large, bow-shaped concrete façade of the administration wing serve to deflect cold, winter winds around the school while the classrooms are open at the south and east to take advantage of the sun forEach classroom is contained inside a classroom "pod" that consists of two split-level classrooms as well as a dedicated ground floor educational room adjacent to the main hall. The pod concept takes its inspiration from flowering seedpods that gently release their fragile sheltered seeds allowing the wind to carry them to eventually take root, blossom and renew the cycle of life. daylighting and passive heat gain on colder days.

The main hallway also serves as a multi-purpose gallery and impromptu meeting area between each classroom pod. This area can be used to effectively spread the school‟s educational functions as well as display student artwork for parents and visitors to enjoy outside of each classroom. Between the administrative wing and the classroom wing, is a fully glazed four-story atrium where air circulation vents will interact with floor to ceiling fabric ribbons to dance, creating a dynamic, playful „forest‟ within which children can play and loosen up before heading to class in the morning.

Exterior materials consist mainly of architecturally form-worked concrete, pre-finished wood composite wall panels and boards, tempered tension-mounted insulated glass curtain walls and a sculptural zinc-coated steel roof over the administration wing. Interiors are to be warm, with most floor and ceiling surfaces finished in natural woods. Composite materials will be used in wet areas while carpet will be used in more intimate and sound-sensitive areas.

Overall, our concept was to create a fluid and spiritual environment distant from the more mechanistic, rigid and prosaic late-modern designs that have come before it. We want to allow the architecture to invigorate a child‟s sense of wonder and generate unique memories without resorting to theatrical stage design or applied nostalgic detailing.

GROUND FLOOR

METERS

0   10   20   30   40   50

北

METERS

0   10   20   30   40   50

北

METERS

0   10   20   30   40   50

北
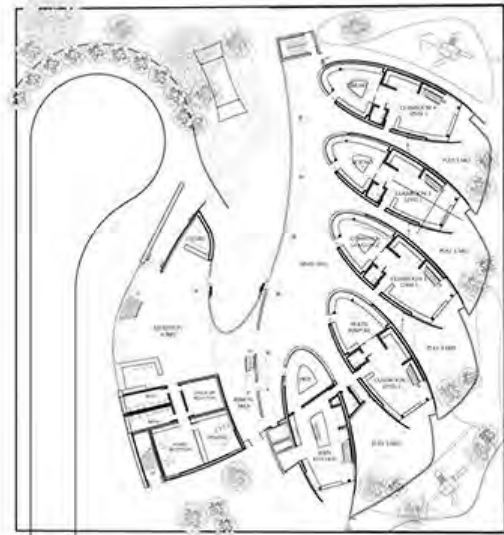
CHAPTER 6: PROGRAM ANALYSIS:
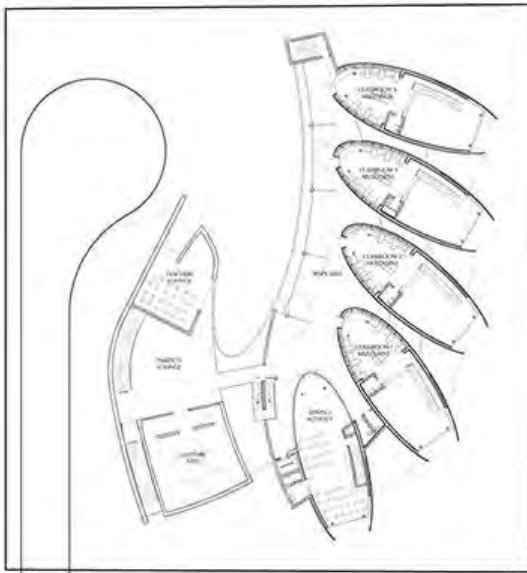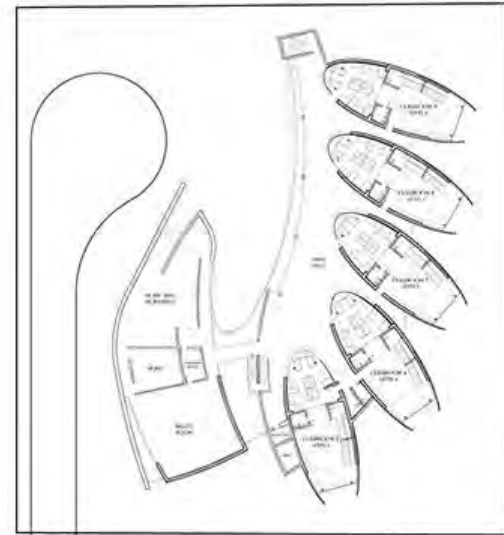
Description of function	Users/unit	Area/unit Sq ft	No of units	Total area Sq ft	Rationale
CLASSROOMS:					
Classrooms (Kintergarden)	25	1000	16(4class x 4sections)	16 x 1000 =16000	Fig: given below
General Classroom	25	750	12class x 7 sections= 84	750 x 84 =63000	Each classroom has 30 students and each class has 7 sections therefore there are a total of 84 classes and through study it has been found that 750sq ft is sufficient for each class.
Washroom(male)	12	250	12	12 X 250 = 3000	
Washroom (female)	12	250	12	12X 250 = 3000	
				==85000==	
LABORATORIES:					
Computer lab	30	1000	8	8000	Approx. 60 sq ft is allocated for per computer station and through that study the area of the lab is allocated
Instructors room		200	8	1600	
Store room		200	8	1600	
				==11200==	
Chemistry					The laboratories have 30 students each and according to timesaver standard 2000 sq ft is enough for laboratories.
Laboratory	30	1000	8	8000	
Prep space		300	8	2400	
Lecture space		300	8	2400	
Instructors Rooms		200	8	1600	
Storage		200	8	1600	
				==16000==	
Physics					
Laboratory	30	1000	8	8000	
Prep space		300	8	2400	
Lecture space		300	8	2400	
Instructors Rooms		200	8	1600	

Storage		200	8	1600	
				16000	

Description of function	Users/unit	Area/unit Sq ft	No of units	Total area Sq ft	Rationale
Teachers Area:					
Workstations	40	1500	5	7500	
Lockers	25	50	8	400	
Meeting Room	12	250	8	2000	
Washroom (Male)	6	100	4	400	
Washroom (Female)	6	100	4	400	
				10700	
COMMON FACILITIES:					
Library					According to the timesaver standards a school library for 5000 books needs 4000 sq ft of space and through study of other connected facilities the total area has been found. **A bigger library requires more space and the space requirement can vary according to the design.**
Prep room		200	1	200	
Library for 5000 books		4000		4000	
Librarians		1	250	250	
Issuing section				200	
storage				200	
				4850	

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Description of function	Users/unit	Area/unit Sq ft	No of units	Total area Sq ft	Rationale
Multipurpose hall					
Entrance Lobby	100	1000	1	1000	
Washroom(male)	8	300	1	300	
Washroom (female)	8	300	1	300	
Hall	500	5000	1	5000	
Greenroom	20	400	2	800	
Washroom for performers(male)	3	30	1	30	
Washroom for performers (female)	3	30	1	30	
Storage		300	1	300	
				<mark>7760</mark>	
Cafeteria					The cafeteria area has been found according to timesavers standard and occupancy **Seperate cafeterias can be given in junior, middle and senior sections according to design and other considerations.Inf act, the cafe can be extended in size according to requirement.**
Hall	300	3600	1	3600	
Handwash	8	200	2	400	
Executive Dining	40	350	1	350	
Washroom (male)	4	150	1	150	
Washroom (female)	4	150	1	150	
Kitchen manager office	1	150	1	150	
Food prep and cooking Area		1000	1	1000	
washing		200	1	200	
Employee locker	20	300	1	300	
Employee washroom	2	100	2	200	
				<mark>6500</mark>	
OTHER FACILITIES:					
Common Rooms		800	4	3200	
Music Room	25	900	3	2700	
Dance Room	25	900	3	2700	
Drama Room	25	900	3	2700	
Art Room	30	500	3	1500	
Washroom	8	200	4	800	
				<mark>13600</mark>	

Description of function	Users/ unit	Area/unit Sq ft	No of units	Total area Sq ft	Rationale
					The basketball court area and gym area has been found according to timesavers standard and occupancy
SPORTS FACILITIES					
Basketball court		84' X 54'	2	9072	
Changing and shower (girls)	20	600	1	600	
Changing and shower (boys)	20	600	1	600	
Gym		4000	1	4000	
Games coordinator		400	1	400	
Mechanical room		500	1	500	
storage					
Field					
Indoor Games					
				15172	
Executive office Facilities					
Principles office	1	500	1	500	The administration office has been allocated according to rank and position. Each officer has been given a separate cubicle and office and there are two reception areas one for the front office and the other for the directors and principals
Attached toilet	1	40	1	40	
Secretary	1	150	1	150	
Vice Principles Office	1	400	1	400	
Attached toilet	1	40	1	40	
Secretary	1	150	1	150	
Academic Directors Office	1	400	1	400	
Board Room	1	400	1	400	
Admin Staff Office	10	400	1	400	
Washroom (male)	4	250	1	250	
Washroom (female)	4	250	1	250	
Reception Area		100	1	100	
Break Room		100	1	100	
				3180	
Administration Office					
Front office	2	200	1	200	
Visitors Lounge	2	200	1	200	
Security	2	200	2	400	
Student Service Office	3	200	6	1200	
Support Staff Office	10	250	4	1000	
Maintenance office	2	200	1	200	
Storage	1	200	1	200	
Support Staff Washroom (male)	4	200	1	200	
Support Staff Washroom (female)	4	200	1	200	

				3800	

Description of function	Users/unit	Area/unit Sq ft	No of units	Total area Sq ft	Rationale
Bus Office					A small bus office has been allocated beside the bus parking for the supervision of drivers and a sitting area
Officer	2	100	1	100	
Drivers Area	5	150	1	150	
Wash Room	8	200	1	200	
				450	
Hospital Wing					
Doctors room	1	100	1	100	
Check up room	1	150	1	150	
Recovery room	4	200	1	200	
Washroom (male)	1	30	1	30	
Washroom (female)	1	30	1	30	
				510	
Prayer Hall					
Prayer space(male)	50	500	1	500	
Prayer Space (female)	50	500	1	500	
Wazu Space	50	250	1	250	
				1250	
Bookshop		30' X 20' =600	1	600	
				600	
Ancillary Facilities					
Substation		400	1	400	
Generator Room		400	1	400	
Water reservoir		1000	1	1000	
Caretaker resdence				1000	
Guardian waiting	50	1000	2	2000	
				4800	
Parking					

				249204	
			30%circulation	74761	
			TOTAL	323965	

SCHOLASTICA SCHOOL COMPLEX

Hemayetpur, Savar.

WASEQUE SHAKIL

ID: 11108028

ARC 512- Seminar 2

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