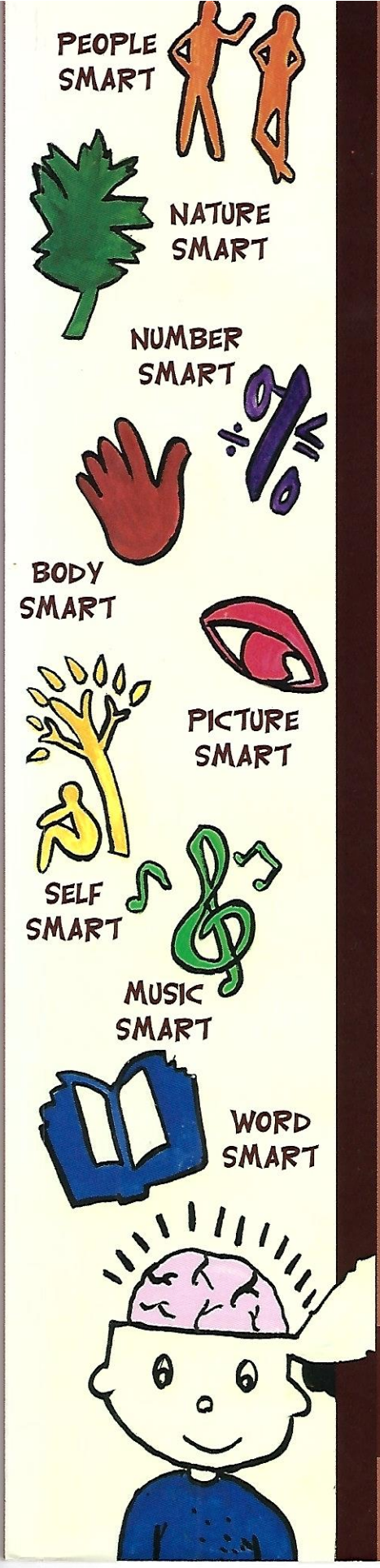

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- Multiple Intelligences: Unique Capabilities
- Thinking Classrooms: Multi Skill Development
- Exploration: An Exclusive outcome
- Bloom's Taxonomy Versus Multiple Intelligences

MULTIPLE INTELLIGENCES: A HOLISTIC DEVELOPMENT

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Interest Centres: A Talent Development Programme

Renita Handa

Abstract

The theory of Multiple intelligences presents that each one of us possesses a spectrum of eight intelligences, which we use in different ways to solve problems. This means that the entire spectrum of intelligences of the children should be explored, exercised and strengthened through a school's programme. At the end of schooling, children should be ready to choose their own career paths based on their unique interests, talents and skills. To this end, Redbricks School has designed and implemented a unique extra-curricular programme, the "Interest Centres" programme, which provides opportunities to young children to strengthen their multiple intelligences through planned environment and meaningful experiences. It helps to achieve multiple objectives related to enhancing children's motivation, helping them discover their interests and strengths, identifying their weaknesses and overall enhancement of their multiple intelligences. This paper gives a theoretical background of the programme and its design as it is implemented in the early years age group at Redbricks.

"Perhaps, indeed, there are no truly universal ethics: or to put it more precisely, the ways in which ethical principles are interpreted will inevitably differ across cultures and eras. Yet, these differences arise chiefly at the margins. All known societies embrace the virtues of truthfulness, integrity, loyalty, fairness; none explicitly endorse falsehood, dishonesty, disloyalty, gross inequity"

- Howard Gardner, Five Minds for the Future

Background of the 'Interest Centres' Programme

Each child comes to school equipped with all the eight intelligences in varying degrees. The experiences that a child undergoes throughout his/her schooling, plays a nurturing role in shaping the intelligence profile, interests and strengths. Ultimately, the child's career decisions are based on the spectrum of

intelligences that he/she has been able to develop. To this end, Redbricks School has designed and implemented a unique extra-curricular programme, the "Interest Centres" programme, which provides young children opportunities to strengthen their multiple intelligences through planned environment and meaningful experiences.

It is important to understand that any profession or field will require the use of more than one intelligence. For example, in order to be a good teacher, you may need strong interpersonal, intrapersonal, logical and linguistic intelligences. Other intelligences like visual-spatial, bodily kinesthetic, naturalistic and musical are also employed in the teaching profession, but maybe in a lesser degree than the previously mentioned four intelligences. Hence, it is important that the school provides a variety of meaningful experiences, through which children can explore, exercise and strengthen all of their eight intelligences.

The outcome should be that children have opportunities to explore and use their multiple intelligences in a variety of ways, combinations and contexts

- Susan Baum

Multiple intelligences theory is not a learning theory nor a curricular model, so it does not come with a prescription or set of directions for practice (Susan Baum). Different educators across the world have adapted the theory in their own ways to enhance classroom practice. However, many educators have developed and presented various tools and models for its effective implementation in the schools. The interest centres programme at Redbricks School draws from the following models and supporting theories:

The Pathways Model

The Pathways model is an approach that links MI theory to a set of five educational purposes. The five pathways are named to align with the purposes they serve: Exploration, Bridging, Understanding, Authentic Problems and Talent Development (Susan Baum). The Interest centres programme at Redbricks relates to the three pathways:

Exploration Pathway:

This pathway focuses on offering children access to diverse learning experiences, which can help them explore all the eight intelligences. *"The outcome should be that children have opportunities to explore and use their multiple intelligences in a variety of ways, combinations and contexts" (Susan Baum).* There are two approaches that can be adopted for this purpose. The first approach is to enhance the core curriculum by integrating activities that cater to all of the intelligences. However, this approach may not be entirely possible due to constraints like teachers' reliance on particular

teaching styles, lack of time to cover all the subject-matter content etc. The second approach is to provide such exploratory activities outside the regular curriculum. Interest centres cater to the second approach, where certain time beyond core subjects is devoted for children to explore discovery centres related to various intelligences. The centres contain different tools and materials that children can explore and engage in. Children are provided with free choice in the selection of materials and methods of engagement with them. The teacher's role is that of a guide, observer and a documenter, which helps her to plan further learning experiences for the students based on their preferences and intelligence profiles.

Multiple intelligences theory is not a learning theory nor a curricular model, so it does not come with a prescription or set of directions for practice.

-Susan Baum

Authentic Problems Pathway:

This pathway focuses on implementing authentic, problem-based learning experiences with children. Real-world experiences related to various intelligences are brought to action in the classroom by providing real or realistic problems to solve. Children assume the role of professionals and use authentic means to solve problems and develop products related to a particular field. In the solving of each authentic problem, children are required to use more than one intelligence, in different combinations. This approach makes learning relevant and basic skills are developed in authentic situations (Susan Baum). Interest centres involve such activities, which are geared towards authentic-problem

Outdoor play

solving and that may be outside the core curriculum. Children can pursue different authentic challenges related to various intelligences, as per the specific interests of the particular student group. For example, as a part of linguistic intelligence interest centre, children decide to become poets and compose a common school song for the entire school.

Talent Development Pathway:

This pathway focuses on developing programs in the school that identify and nurture the talents of the children. It goes beyond age or grade-level expectations by providing challenges as per the learner's interest and readiness ***(Refer Exhibit 1).*** As teachers, we often recognize special talents in our children. But due to lack of time, resources and our own expertise, most of the times, we are not in a position to help children develop in the areas of their talent. "Talent development refers to the journey from novice to expert, on which an individual travels in his/her area of talent" (Susan Baum). The first step of talent development is 'Talent Identification'. Through the Interest centres program, it is possible to observe and identify the children's strengths and intelligence profiles. Such information is then used to provide children with further opportunities to develop in their areas of talent. For example- School-wide enrichment clusters can be created which are "non-graded groups of children who share common interests and come together during specially designed time blocks to pursue these interests" with adult expert mentors (Reis). This concept is similar to the concept of 'clubs', followed in schools to offer extra-curricular activities in areas such as robotics, writing, dramatics etc. However, since it is embedded in the MI framework, the clusters are a more scientific way of planning club activities, as per children's talents across the eight intelligences.

Exhibit 1: Continuum of Services for Talent Development (Susan Baum)

Service	Implementation	Sample opportunities for Talent Development	Entrance Requirements
Exposure & Enrichment activities (offered to all students)	Classroom exploration activities within and outside of the regular curriculum	• Exploration activities • Differentiation based on interests and strengths	• Informal observations • Choice
	Enrichment opportunities outside of the regular classroom	• Speakers, mini-courses • Enrichment clusters	• Interests, strenghts • Nominations, self-selection

Talent Development Programmes (offered to some students who show readiness for advanced opportunities)	Modification of the regular curriculum	• Individual or small -group investigation of a real-world problem	• Student's in-depth interest
	Rigorous talent development within a domain	• Advanced placement classes • Talent development classes taught by professionals within the domain • Mentorships and apprenticeships • Specialized schools	• Formal assessment of talent within a domain

The Flow Theory

Flow is an idea identified by Mihaly Csikszentmihalyi where an individual becomes so involved in an activity that he loses track of time (Chen, Moran and Gardner).

The best moments usually occur when a person's body or mind is stretched to its limits in a voluntary effort to achieve something difficult and worthwhile. Optimal experience (Flow) is thus something that we make happen. For a child, it could be placing with trembling fingers the last block on a tower she has built, higher than any she has built so far; for a swimmer, it could be trying to beat his own record; for a violinist, mastering an intricate musical passage. For each person, there are thousands of opportunities, challenges to expand ourselves.

-Csikszentmihalyi

In 'Interest Centres' Classes, children freely explore their intelligences through challenging activities and materials, while the teacher is an observer and documenter of their choices and strengths. Through such a process, children develop a sense of intrinsic motivation and completely immerse themselves in exercising that particular intelligence, experiencing a sense of 'flow.'

Design of the 'Interest Centres' Programme at Redbricks School

The 'Interest Centres' programme at the Redbricks School has been designed for all the classes right from playgroup to class twelve. The school has classes up to class five until now and hence it has been implemented only upto that level. The progression of the programme is planned to be age-appropriate from pre-school to high school ***(Refer Exhibit 2).***

The basis of the 'Interest Centres' programme design can be shown as-

Planned Environment → **Flow Experiences** → **Multiple Intelligences Enhancement**

Exhibit 2: Design of the Interest Centres- Talent Development Programme at Redbricks School

Level	Type of the Program	Grade	Design
Pre-school	**Free Exploration of Interest Centres**	Playgroup	Part of the regular curriculum
		Nursery	Indoor free play time with interest centres exploration- thirty minutes everyday
		Jr. KG	
		Sr. KG	Single age group in each class
Primary School	**Free Exploration of Interest Centres & Authentic Problem-Solving Projects**	Class I & II	An extra-curricular programme
			One session every week, one hour per session
		Class III & IV	Mixed-age groups engage in authentic problem-solving projects and free interest centre explorations
Middle School	**Specialized Interest Centre Clubs**	Class V to VIII	An Extra-curricular programme, one hour every week
			Each year, school to offer choices of eight interest centre clubs related to each intelligence
			Mixed- age groups; each student can specialize in two Interest Centre Clubs per year

High School	**Apprenticeships**	Class IX to Class XII	Apprenticeship in any one area every year by each child (Forty hours per year)
			Expert mentors visit at school campus related to domains under each intelligence
			Mixed age groups assigned to mentors as per child's interest

Pre-school Years Programme (Playgroup to Senior KG)

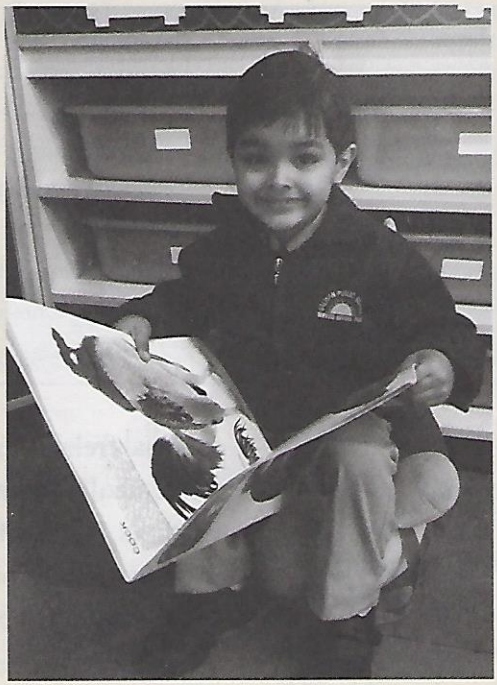
At this age, from one and a half year to five and a half years, children should be given as much free play and exploration as possible. Hence, the interest centres are introducted in these years through a daily indoor free play period as a part of the core curriculum. About thirty minutes everyday from the pre-school classes, timetable is devoted to this free exploration.

Each classroom is set up into five 'Indoor Free Play Centres' related to the concept of multiple intelligences- Books and literacy centre (linguistic intelligence), Pretend play centre (intrapersonal and interpersonal intelligences), Manipulative centre (logical-mathematical intelligence), Science centre (naturalistic intelligence) and Blocks centre (bodily-kinesthetic and spatial Intelligences) for the indoor free play session. Each of the corners has selected materials related to the particular intelligence strategically planned and displayed by the teachers. These materials are planned to be in progression from simple to complex and related to the topics, concepts and skills that are being introduced in the curriculum. Every week, few materials are changed with the introduction of some new materials. For example- the book centre has theme-related books, storybooks, language kits etc the science centre has sensorial material, indigenous material, simple scientific tools, etc.

The experiences that a child undergoes throughout his/her schooling, plays a nurturing role in shaping the intelligence profile, interests and strengths

Children are free to explore these corners as they want and choose to. They make choices related to the selection of materials to play with, whether to play individually or with someone. Teachers may guide children to move across corners and help them to interact with the materials as a play partner if required. They record keen observations about each child, which are later analysed to understand the child's preferences as well as evidences

of stronger and weaker intelligence areas. Children enjoy this session the most as they experience a sense of freedom and flow while exercising their different intelligences.



My favourite story book

Primary Years Programme (Class I - IV)

In this age group of five and a half years to nine and a half years, children still get opportunities for free explorations of Interest centres. However, they also engage in authentic problem solving activities related to the different intelligences. It is now planned to be a part of the extra-curricular program and a one-hour period every week is devoted to this program. Children come to the Interest centre sessions in mixed-age groups:

Group A: Classes I - II

Group B: Classes III - IV.

The 'Interest Centres' Programme in the primary years has two main elements:

Free Exploration of Interest Centres: Similar to the pre-school program, eight interest centres are created in the room related to the eight intelligences. Teachers strategically plan these spaces with different materials which may or may not relate to the core curriculum. These materials are such that evoke and exercise children's particular intelligences, some examples are given below:

- Linguistic centre (books, language kits, papers, pens, pencils for written expression etc.)
- Logical-mathematical centre (puzzles, math kits, games)
- Naturalistic centre (simple experiment kits, natural materials, scientific tools)
- Visual-spatial centre (paints, brushes, craft, indigenous materials)
- Musical centre (musical instruments, jal tarang, indigenous tools that can create music and rhythm like dry leaves, twigs, glasses, spoons)
- Bodily-kinesthetic centre (blocks,

legos, materials to build things, building related materials, skipping rope, exercise tools)

- Intrapersonal centre (writing tools for self-expression, reflective exercise tools, pretend play materials)
- Interpersonal centre (pretend play materials, interactive board games, team challenges to solve)

Children are brought to these centres in multiage groups and are given an hour of free exploration of these materials. Teachers as facilitators join children in their journey to explore these spaces. Again, preferences, interests, strengths and dislikes of children related to the multiple intelligences are observed and documented by the teachers.

Authentic Problem-Solving Projects- Children are now also given realistic opportunities to conduct in-depth explorations related to each of the eight intelligences. Every year, teachers choose three or four intelligences for planning such explorations. Each intelligence is taken up for two to three months and a particular topic is decided within each. The topic may be decided by the teachers based on the interests of the children or can be planned in consultation with them. Children assume the roles of professionals in a field related to the chosen intelligence. For example- As a part of the logical-mathematical intelligence, teachers decided to take 'Shapes and Tessallations' as a topic based on the student interest shown in the Maths class for shapes. Children became product designers to use shape tessallations into creating various beautiful and useful products.

The two to three month project is further divided into three phases. Refer ***Exhibit 3*** for the project planning template -

Exhibit 3: Authentic Problem Solving Projects- Planning Template for Facilitators

A. Module Focus:

A1. To be decided by facilitators before the project

Classes: I - II

Name of the Intelligence Centre:	Linguistic Interest Centre
Duration:	11 sessions
Dates:	July 2 to September 25
Project Topic:	Communication Materials
Objectives:	Students will be able to: 1. 2. 3.

A2. To be decided by facilitators & children during phase 1 of the project

Project Focus:

- **Authentic Task/Product Challenge:** *Role-You are the school's newspaper editor. Product Challenge- You need to prepare a school newspaper informing the parent community about the activities done by children. Design the process of preparing this newspaper and create a newspaper for the last one quarter.*
- **Major Intelligence:** *Linguistic Intelligence*
- **Related Intelligences in this module:** *Visual-Spatial, Interpersonal, Logical-Mathematical*

B. Module Implementation Plan: Session Plan

Phase 1

- Exploration Phase(Sessions 1 and 2- Entry Event to the project)

During phase 1 of the project, facilitators will gauge children's understanding and interest focus related to the project theme. Through open ended explorations and discussions, they will help children to arrive at an 'Authentic Task/Product Challenge' which will then drive the exploration of the remaining project and give a purpose to it. The question/task/ product challenge has to be feasible & achievable within the boundaries of interest centre timings and easily available/closest resources.

Phase 2

- Investigation and Field Work Phase(Sessions 3 to 7)

Strategies like reading, research, interviewing people in school/home, field work in and around school, visiting experts in class, in-class exercises/simulations, representations in various ways like drawings, models etc., will be employed in this phase during which students will gather information related to the focus of the project and record/represent the information in various ways.

Phase 3

- Culmination, Presentation and Reflection Phase (Sessions 8 to 10)

Children will use the gathered information to prepare a product or performance based on their new knowledge related to the driving question or solving the authentic task/product challenge.

It is also a time for reflection at the end of the project as a whole group. Students will

also individually self-assess themselves on their work through out the project against a rubric related to the product/performance and the skills involved throughout the course of the project. Rubric to be prepared by facilitators based on the specific project.

Every child is SMART! It is the job of teachers to help children discover their strengths and learn through the intelligence they are strong in

Phase 1: Exploration

During this phase, children are given opportunities to explore various materials related to the topic. Teachers also conduct group disussions to understand children's pre-existing knowledge, their interests, questions, etc., related to the topic. Based on these discussions, teachers and children develop a project focus and define an authentic problem task/challenge to pursue in the next phase. This is spread over two to three sessions, of one hour each.

Phase 2: Investigation and Field work

In the second phase, children plan for and engage in activities which will help them to solve their authentic problem task or challenge. Teachers guide the children in the process by providing resources, inviting experts, suggesting field work places, asking questions, etc. Children may work individually, in small groups and in large groups for different activities as per the need. They take the lead in planning for task distribution, research methods and seek help from the teachers. Intrapersonal and interpersonal intelligences are highly exercised for each child during this phase due to the colloborative work that is generated. For example in a project on 'Creating a School Newsletter' as a part of linguistic intelligence module, children are divided into small groups as per their strengths in idea generation, research, writing, designing, etc. This phase is spread over three to seven sessions, of one hour each.

Phase 3: Culmination, Presentation and Reflection

During this phase, children consolidate their learnings, findings and work done into a final product or presentation. This product or

Our kitchen corner

presentation is then shared with children of other classes and parents to share the journey of their projects. Children also fill up a self-reflection sheet to reflect and document their experiences and learnings related to that particular intelligence. Teachers also document the observations of children's inclination and performance related to the targetted intelligence. This phase is spread over three to four sessions, of one hour each.

Middle School Years Programme (Classes V - VIII)

During the middle school years, the programme is designed to take the form of specialized interest centre clubs. Having been exposed to exploratory activities across all eight intelligences in the primary years, the middle school children now clearly exhibit preferences and talents towards specific intelligences and fields. Based on this understanding, children can choose to specialize in certain intelligences by pursuing related skill-building activities. Every year, the school offers atleast one club related to each of the eight intelligences. For example- Robotics club under logical-mathematical intelligence, literary club under linguistic intelligence, etc. Children choose to join upto two clubs every year for acquiring further skills in that intelligence.

Puzzle time

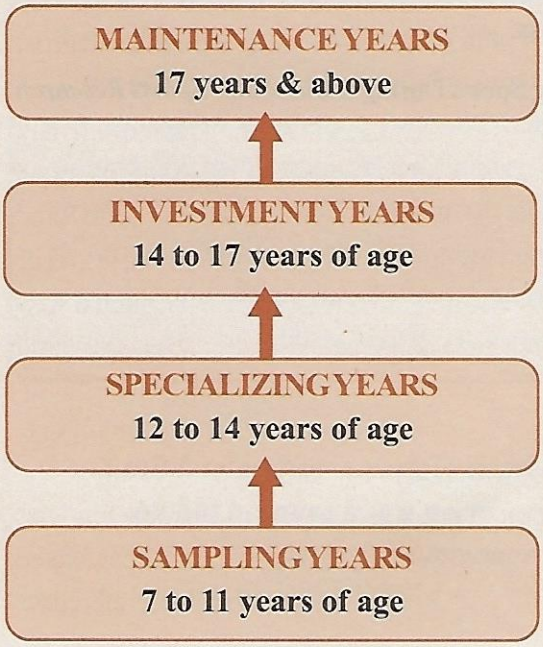
High School Years Programme (Classes IX - XII)

During the high school years, children become more clear about their careers in relation to the particular fields or professions that they want to pursue. The school thus focuses on giving real-life work experience related to the intelligence that they are inclined towards. This is done in the form of "Apprenticeships" with expert mentors. The apprenticeship may be pursued at campus or off-campus and a total of about forty hours per year is devoted to the same. The school may offer apprenticeship opportunities in such a way that each of the eight intelligences is covered every year. For example- For visual-spatial intelligence, the school may offer apprentice. Children can be assigned to each of the mentors as apprentices based on their preferences and talents.

With such a programme, children will be ready to choose their vocations, having explored the whole gamut of

intelligences and possibilities throughout their schooling years. Talent development will happen in a planned progression- from sampling years in pre-school and primary school, specializing years in middle school to investment years in high School (Cote, Horton and McDonald) ***(Refer Exhibit 4).***

Exhibit 4: Stages of Talent Development (Cote, Horton and McDonald)



Conclusion and Consideration

This article has made an atttempt to share the theoretical background and programme design of the Interest Centres programme at Redbricks School. Through our experience with its implementation, we have seen many benefits and also faced many challenges.

Benefits like an increase in child motivation, confidence enhancement, better understanding of their strengths and weaknesses, improvement in their intelligence profiles, holistic assessment reporting of the children's intelligence profiles and talent development customized to their specific needs, are some of the many benefits that we have experienced.

Challenges related to time scheduling in already packed timetables, the availability of intelligence-specific expert facilitators, teachers' understanding to implement this programme, extensive documentation of children's observations and its analysis, parent understanding and partnership, availability of resources etc, are what we have encountered over the past two years of implementing this program.

However, we are prepared to tackle these challenges as our next learning curve, due to the immense benefits that we have observed from this programme in regard to learning by the children, talent identification and development at the school.

It is important that the school provides a variety of meaningful experiences, through which children can explore, exercise and strengthen all of their eight intelligences

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