

The Abacus Curriculum Enrichment Programme  
An Evaluation

- A Summary Report -

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## CHAPTER ONE

### Introduction

Taking a broad view of education, the stated aim of the Abacus Curriculum Enrichment Programme is to empower children to develop a comprehensive view of the world, the starting point being their immediate reality. This is to be achieved through the development and implementation of an enrichment curriculum. The Abacus curriculum is currently being field tested, using the available space, in the existing formal school structure. This study is a critical appraisal of this curriculum enrichment programme, the recipients of which are children of one class belonging to a Hindi medium municipal school located near the Mahalaxmi Temple, Bombay. The programme was initiated in June 1990 with children of class III. At the time of the evaluation process during January-April 1995, most of this group of children were in class VI. Some of course had left and some new children had joined. The original group of nineteen children who have participated throughout, is the focus of special attention in this study. We refer to it as the "core group".

### I. OBJECTIVES OF THE EVALUATION STUDY AND METHODOLOGY

Broadly speaking, the present evaluation study has a twofold objective : (1) to critically assess the prototype curriculum that has been developed in terms of its professed goals and objectives and (2) to assess the impact of the Abacus project on the learners and the educational environment of the school in which the experiment was carried out.

More specifically stated, the objectives of the study are :

- (1) to ascertain the philosophical, ideological and theoretical foundations underlying the ABACUS educational project and the definition of its goals and objectives.
- (2) to examine the development and organization of the curriculum and learning material with a view to assessing both the relevance of the content to the project goals and its uniqueness (difference from the general school curriculum).
- (3) to examine the modalities of implementation.
- (4) to evaluate the suitability and effectiveness of the teaching methodology and material in terms of the stated pedagogic objectives.
- (5) to examine the content and process of value transmission and attitude building in the curriculum and whether and how the professed values and attitudes are actually imbibed by the learners.

In this report, we describe some important aspects of the study and highlight the major findings.

### Methodology

In a study of this nature which involves a multifaceted appraisal of difficult, sensitive and at times intangible areas, we felt the need to adopt a fairly flexible approach to designing the study. The approach basically involves a deep and wide ranging examination and observation of the programme, identifying strengths and weaknesses. Methodologically, the study could be described as primarily qualitative in nature, based on interpretation of data collected through intensive observations and interviews.

Indepth Interview has been a primary source and method of data collection. Totally about twelve interested and motivated individuals have been associated on a more or less sustained basis, with the Abacus programme. Of these, five key persons who are closely connected with the conceptualisation, organization, development and implementation of the programme were interviewed regarding several crucial aspects.

Indepth Interviews of a duration of 1-2 hours were held with the "Abacus children". We delved into children's thoughts, ideas and perceptions of what is being taught, how it is being taught and what they have gained from the programme. A few interviews with "non-Abacus" children currently in class VII of the same municipal school were held to get a comparative view. Informal conversations were held with children from other classes, class-teacher of std. VI and std. VII, the Vice-principal of the school and other teachers and staff. In the course of the visits to children's homes, we talked with many parents, especially mothers.

Evaluating the Curriculum Prototype : The basic method involved a thorough perusal of the curricular material and detailed discussions on the same by the evaluation team and experts who were consulted. All available material, related to curriculum planning and development, research sources, research notes, research plans, training materials and teachers manuals, related to each of the learning areas was critically examined. Selection of content and selection of the individual topics were assessed

in terms of their importance, relevance and organization. All the teaching - learning aids that were used and information on method of using the aids were also carefully scrutinized for suitability, appropriateness and necessity for a more effective communication of topic.

**Observation** : Observation was a major tool used to collect data relevant to all major objectives of the study. Since "curriculum-in-process" viz the delivery of the curriculum in the classroom was crucial to assess impact, classroom processes were systematically observed. Several sessions related to the learning area VI viz. "Alternate Models of Development", which was ongoing at the time of data collection, were observed. The sessions were observed by a minimum of 2 observers. An educational expert was also invited to observe a couple of sessions and to seek her expert advice on the content and methodology of observation.

The following areas and aspects related to classroom process were identified as important for observation.

1. **Content** - Specific topics covered; organisation; linkages; explanations.
2. **Methodology** - Methods(s) used; pace, language use; teaching aids.
3. **Student Response** - attention span; participation levels; non-verbal expression and behaviour.
4. **Teacher-Student Interaction.**

Home Visits : An attempt was made to visit the home of each child of the Abacus core group. The purpose was to gain first hand knowledge about the socio-cultural milieu and living conditions of the children in the context of which we could assess the meaningfulness and appropriateness of the Abacus Curriculum. It also enabled us to view children in their "natural" settings and in different situations, which was important from the point of view of assessing impact.

## II. THE ABACUS CURRICULUM -- A CRITICAL APPRAISAL

The Abacus curriculum was critically examined from the point of view of its philosophical basis and goals, knowledge (content) selection and organisation, selection and transmission of values, attitudes and skills and assessment procedures. The programme is in essence a Curriculum Enrichment programme. The curriculum is the heart of the programme. As revealed during the course of our various conversations with the Abacus team, they feel that the regular school curriculum is not only heavy, it is also illsuited to meet the varied educational needs of the children and society. Furthermore, it is a fragmented curriculum. The Abacus Curriculum aims at establishing the connections between different realms of knowledge and redefining some aspects of the main school curriculum.

The evaluation team conducted a careful perusal of available research material, learning areas and session plans. The eight learning areas constitute the core of the Abacus Curriculum. A brief description of the content would be in order at this point.



### The Learning Areas :

The curriculum's first learning area is the identification and exploration of the basic human needs of food, clothing, shelter, water and air and an understanding of the processes and means by which these needs are satisfied. Health, education, work, leisure are the other set of basic needs. The exploration shows how societies have met these needs in complex and diverse ways. The second learning area discusses earth's resources, how human's constitute a part of the web of life, how resources are unevenly distributed and how we need to share them amongst us and with other forms of life. Learning area three focuses on the process of production through which humans transformed earth's resources for use, and how different technologies developed by humans have drastically changed social organisation and people's ways of life. The special focus of learning area four is the over-use and depletion of earth's resources and upsetting of the ecological balance. Learning area five is "change and progress". Here, attention is drawn to specific changes in social relationships and social institutions such as family, caste, state, economy and to value change. The problem of coping with change is an important component. Learning area six questions current models of development and considers alternate models of development. Identifying problems, finding solutions and redefining values and goals constitute crucial components of this area.

The last two learning areas VII and VIII entitled 'Rhythm of Life' and "Who Am I" respectively were under preparation at the time of data collection for this study. We have not seen the contents of the same and have not therefore commented on them.

On the basis of our detailed examination of and discussion on the content and session plans of the learning areas I to VI, examination of the linkage between the regular school curriculum and Abacus Curriculum and observations of learning area VI, we have the following comments to offer in the specified areas.

#### **The Goals of the Curriculum, its Philosophical Basis and Content**

In accordance with the broadview that it takes of education, the curricular goals of Abacus are wide ranging. As drawn from its own documents, the objectives of the Abacus Curriculum are :

- 1) Empowering children to develop a comprehensive view of the world seeking linkages between formal learning and everyday experience, the starting point being their immediate reality.
- 2) Helping children to evolve a framework of values and learning strategies to cope creatively with the rapidly expanding world of knowledge.
- 3) Making children aware of themselves, their environment and the relationship between the two.
- 4) Enabling the child to appreciate the worlds of nature and culture, diversity of cultures and to live together with others in understanding and not in cultural confrontation.
- 5) Making children aware of changes taking place in the world today.
- 6) Helping children understand the varied dimensions of the critical problem facing the world today.

7) Equipping children to cope with the task of resolving problems they will inherit and to shape a better future for their children.

8) Enabling children to learn at their own pace and levels.

**Comments :** Obviously, the stated goals of Abacus derive out of the frequently voiced concern about making education relevant to the society and world around it. As against the traditional emphasis on intellectual and cognitive development, the curriculum is progressive in that its main emphasis is on providing a framework of values in the context of which children develop capacities to function effectively as human beings in society and become equipped to solve problems. This is not to deny that the main school curriculum is also one which aims at attitudes and appreciations apart from knowledge and skill building. For Abacus, however, the former constitutes its primary purpose. It incorporates, what would be described in educational philosophy as a "Reconstructionist philosophy", which seeks to envisage schools as institutions that would help to remake society. A limitation of the Abacus Curriculum however is that it has not operationalized, in realizable terms the broad goals. General objectives have not been broken down into more specific ones.

An examination of the core content - viz the eight learning areas reveals that the philosophical basis of the curriculum lies in the upheld by our Constitution. The curriculum reflects the values and ideals of liberty, fraternity, equality, social justice and secularism.

~~development~~  
~~background~~  
~~part~~ Another distinctive feature of Abacus is that it has for a valid and significant content. The curriculum ~~comes from~~ a wide range of natural and social sciences. In view of its basic thrust, there are several themes that seek to ~~provide~~ understanding of social structures and cultures and which ~~reflect~~ socio-political concerns and pressures of contemporary ~~times~~ - such as the social organisation of labour, social institutions such as education, caste, family, changing political structures and technology. The curriculum is also heavily influenced by critiques of western capitalist models of development, themes and issues related to their social and ecological impact and current thinking on 'alternative development'. While one would scarcely disagree with the need to impress upon young minds the enormous significance of these themes and issues, we felt there was an unnecessary overemphasis on some of these areas given the immediate social context of implementation viz - underprivileged municipal school children (many of whom are starved of the basic necessities of life). In our overall assessment however, these are critically important areas which should find place in all school curricula, in particular in schools catering to upper and middle class children.

The tremendous amount of research work done by the Abacus team to lay a comprehensive foundation for curriculum building task is commendable. The vast amount of interdisciplinary information that the team has gathered on a wide array of subjects would be of great use for schools interested in

**developing** curriculum in related areas and also for preparing **background** material for teachers.

### **Contents on the Organisation of Content :**

The content is divided into the eight learning areas **described** earlier. It is well organised in terms of logical **development** - each area leading logically to the next. A major **feature** of the curriculum is the integration of topics and **subjects** in a manner that these different areas of knowledge and **connections** between them would make greater sense to the child. **This** is a major departure from the way knowledge is organised in **the** regular school curriculum which is usually categorized within **subjects** and subject fields.

Under the regular curriculum, for example, one would learn **where** certain foods are grown and under what soil and climatic **conditions** they grow in the geography class; why we eat, is **discussed** in science; a balanced diet in environmental studies **etc.** These are neat little compartments of knowledge as a result **of** which a child never forms any kind of an overview, nor **establishes** any linkages. One imbibes a lot of information in **bits** and pieces which cannot be used in a cohesive way. In the **Abacus** curriculum instead an attempt is made to give an **integrated** understanding of "Food". The first session discusses 'why we eat' (physiological necessity); the second session gives an understanding of 'how our body needs food' (the balanced diet); the third session describes "what foods are available" (climatic factors - the link between environment and food); in **the** fourth session, 'taste' is discussed and the different ways

'to cook food' (6 tastes and 6 basic ways of cooking), implying the variety that human beings have produced. This session is followed by a discussion on "how culturally food has always played a part in our lives and how it functions the world over." The fifth session consists of a discussion on "how food has become a crucial part of our existence - our social relationships revolve around food; different foods for birthdays, festivals, events, illness etc". Hence the socio-cultural aspects of food are discussed as it becomes a part of social interaction. And finally, in the last session "how food comes to you" is discussed at length-through the chain of labour that is involved in the production of food. After examining all the learning areas we could conclude that they are internally coherent and logically related.

Organization of content in terms of weightage given to the different learning areas and to different sessions and topics within learning areas, is somewhat problematic. For example, the sessions on 'food', though well conceived<sup>and</sup> organized are allotted too much time. Within this subarea, too much space is allotted to explaining 'tastes' (with the use of teaching aids), something which is not too difficult to explain. Similarly, space allotted to diversity of food, clothing etc. could be cut down. Instead, a slower coverage of key scientific concepts and themes in the sub-areas of, 'Air', 'Water' etc and complex science and social science concepts in the areas of 'change and progress' and 'Alternate Models of Development' should be aimed at. This would also serve to clarify and reinforce what is taught in the main curriculum.

Linkages with the regular school curriculum are not consciously established. The children would have gained more from a curriculum that would attempt concrete linkages (whenever possible) with content and topics of the regular school curriculum. This is not done despite overlap in subject matter and topics. This would enhance the basic capacities of children and develop skills, learning opportunities which are not adequately provided in the course of the regular curriculum instruction.

One type of linkage envisaged by Abacus with the existing school curriculum is through the class teacher who would eventually conduct the Abacus session along with the regular curriculum.

It is not clear to us how the class teacher would integrate the Abacus sessions with the existing school curriculum. There are ample opportunities to integrate the two which should be clearly worked out in order to not only facilitate the teacher but also for achieving the objective of "enrichment" of the curriculum.

For example, the learning area "Food" is covered in the IIIrd standard under the curriculum plan<sup>of</sup> Abacus while in the regular curriculum the same topic is carried through standards IV and V. Different aspects of food are covered in "Hamara Bhojan" in IIIrd and IVth stds and "balanced diet" is covered in the Vth std. All these themes are already covered in the IIIrd standard Abacus session. Since the IVth and Vth std teachers will not be trained in the IIIrd std Abacus session on "food", how will they



deal with the food topics that run through the curriculum during these years? Similarly Abacus covers certain sub themes in greater detail (e.g : different tastes, diversity of food habits) while the regular curriculum emphasises other sub themes within the learning area of "food" (balanced<sup>diet</sup>, diet related diseases etc). Similar problems would arise with other topics such as Air, Water, "Change and Progress" etc.

### Critical Appraisal of One Learning Area : Focus on Alternate Models of Development

We attended and observed all (except one) session related to this learning area. Exhaustive notes were made on the content as it was unfolded in the class by the facilitator and several aspects related to classroom processes. We therefore use this learning area to elaborate upon and substantiate what we have said in a general way about content selection. In this section, we concentrate on the dealing with these aspects of the content -

- 1) quantity - the amount of knowledge/information covered
- 2) quality in terms of its relevance to the curricular objectives its organisation, explanation, nature of illustrative material.

A brief outline of content, as noted by us, precedes the analysis.

Session I : a) Brief recapitulation of earlier learning area 'change and progress' b) Identification of things in society the children dislike such as Goondaism, pollution, family quarrels, riots, crookedness of politicians, noise, wars between nations etc. c) Identification of material causes of conflict d) wars and the destruction caused e) Solutions to war f) The



importance of non-violence as a principle g) International efforts such as UNO.

Session II : a) Recapitulation of types of wars b) Nuclear Bomb and its destructive effects c) Bosnian conflict d) Peace Day story.

Session III : a) Brief recapitulation of peace day story b) Story of Lal and Hari using two puppets and a toy wall made with wooden blocks, during the session. Story is about the futility of group prejudice, enmity and conflict c) Samples and discussions.

Session IV : a) Quick recapitulation, identifying various types of conflicts in Indian/immediate situation b) Causes for conflict : wealth, population, tensions of daily living c) The story of the bee : emphasising the importance of having the right attitude to life d) Narrating stories of teacher discipline from their own school experiences e) Group activity - solving a given problem without using violence or without going to the police.

Session V : a) Brief discussion on conflict b) Story of three persons. Harry, Das and Naidu representing three societies - Centralised planning of free market economy and feudalism respectively c) Corruption.

Session VI : Not attended by us.

Session VII : a) Recapitulation of Fukuwoka and drought in Bengal b) Agricultural techniques for conservation of nature c) Water-distribution of land and water on Earth d) Water crisis e) Uses of water f) Conservation of water g) Examples of alternative models of agricultural development: Ralegan Siddhi - Hira Khat, Saat Phasalwala Talaab.



**Session VIII** : a) Conservation of water      b) Uses of water  
c) Water pollution      d) cleaning/purifying water      e) Air pollution  
f) Energy resources - renewable and non-renewable  
g) Types and conservation of energy resources      h) Group activity : suggest new ways by which different energies can be optiamally utilized.

**Session IX** : a) Producing/generating energy from water      b) Wind as a energy source      c) Human energy      d) Nuclear energy  
e) Conservation of energy, recycling energy      f) recycling water  
g) Self-assessment questionnaire (25 questions).

**Session X** : a) Change and the link between past and present  
b) Need for planned change      c) Noise pollution, environmental pollution, destruction of trees  
d) Conservation of energy  
e) Recapitulation of Harry Das and Naidu story and their societies  
f) How to reduce poverty      g) what troubles human society today (discussion)  
h) Need for greenery - how to grow home plants  
i) discussion on childrens' village homes.

**Session XI** : Group activity : division of class into six groups; each group assigned a different geographical area - 1) Konkan 2) desert 3) plateau 4) hilly region 5) plain 6) Kerala type region. Each area has (a) one concrete road (b) one electric connection (c) one telephone exchange (d) one television tower (e) one computer centre (fax, xerox facility). Children were assigned the task of managing 100 families, given the geographical region. Activity goal : To find out whether and how children could apply the information received in earlier sessions of this learning area, to a problem-solving task. Group discussions.

**Session XII** : Continuation of session IX. Presentation by group leaders of the results of their group discussions.

Comments :

1. This learning area is firmly rooted in the current concerns of escalating crisis and impending disasters in the social, political, cultural, ecological and environmental realms of life in global and national contexts. Themes and issues related to the preservation and conservation of ecology and environment, understanding and analysing the complexities of social life, understanding and combating ethnic strife and conflict etc have rightly been placed on the educational agenda of Abacus. Apart from components in Learning Areas and this entire learning area has been devoted to critically analysing these vital issues. The need for finding community - based solutions and changing individual actions and attitudes is also driven home.
2. A vast amount of information - at times from rare and not readily available sources has been collected by Abacus on many new and currently evolving areas and themes. A valuable fund of new knowledge has been gathered. A lot of painstaking work has gone into the development and logical organisation of this body of knowledge which deserves appreciation.
3. This learning area has a strong value orientation. A perusal of learning content and classroom process has revealed the emphasis on cultivating following values which are important in the current national social situation. They include (1) appreciation of diverse cultures (2)

tolerance and goodwill towards all irrespective of community, religion and caste (3) gender equality and gender justice (4) appreciation of nature and natural resources (5) conservation of resources, rejection of a wasteful way of life (6) independence and rationality in decision-making (7) peace, harmony and non-violence.

4. While the content selection is appropriate from the point of view of knowledge and values development, the sessions could do with some reduction and restructuring of content. Each session is packed with a variety of vast and rapidly moving content. The fast pace and at times inadequate sequencing appeared to create confusion.

### III. THE ABACUS METHODOLOGY :

In accordance with the philosophy and objectives of the programme, Abacus adopts a free open, participatory approach to teaching methodology. As far as the learner objectives are concerned, skills of analysis, thinking and problem solving are to be developed. The methodological approach is operationalized in the Abacus documents. Subgroups are formed in each class at the outset with a view to (1) attending to each child's need (2) attending to slow learners through a small group's mutual cooperation (3) developing a feeling of affinity and cooperation (4) developing the capacity to work together, to share responsibilities and experiences.

Each learning session is structured as follows :

1. **Introduction** of the day's topic through a game, a discussion of everyday experience, demonstration, role play or some other device to focus attention.
2. **Structured Core** - The typical lecture method is replaced by imparting the substantive content and new information through interactive, stimulating media such as flash cards, flip charts, show box, and other visual aids.
3. **Discussion** - A special discussion slot is provided as an integral part of each session with a view to enabling better assimilation and internalization and expression of responses and to encourage listening to others' opinions.
4. **Associate Activity** - These are planned with a view to provide learners with opportunities to discover their own medium of expression and learn the necessary skills. Different media such as painting, clay modeling, dramatics, story telling, singing, dancing, writing, painting etc. are provided to the children so that they may express their response to the knowledge inputs imparted. Assimilation, cognition, internalization and meaningful expression are to be facilitated through these experiences.
5. **Presentations** of childrens' work before the whole class are organised to help children become articulate and self - confident.
6. **Summing up and Evaluation** is done by the teacher. Evaluation avoids comparisons between children.

Comments :

Our comments on methodology are confined to the learning sessions pertaining to the learning area "Alternate Models of Development" of which we observed eleven out of the twelve sessions. A description of the sessions has been given earlier in Section II.

As the outline shows, the sessions that we observed had significant components of substantive content. The lecture-cum-discussion method was used predominantly in most of the sessions. Teaching aids in the form of charts, book pictures, were used in these sessions. Group activity formed a part of sessions IV, VIII, XI and XII : Two sessions (XI and XII) were entirely devoted to group activity.

In terms of the teaching methodology and classroom participation of children, we observed the following :

1. The initial discussion evokes a good response; The recapitulation of the substantive content of the earlier session evokes a response from only some students - "the regulars".
2. Certain topics and discussion of certain issues such as water problems, agricultural developments, war and fights, communal tensions and riots, evoke a high degree of participation, particularly when children's own responses are invited.
3. Story sessions usually generate a lot of interest and enthusiasm among the children.

4. The communication skills of the facilitator are a definite asset. They are particularly effective during the narration of stories, events, experiences, episodes. Children are immediately enlivened and engrossed during such narrations.
5. Sessions with very heavy content and which contain abstract and difficult ideas are found boring and most children, except the older ones and "the regulars" lose interest.
6. Linked to the above is the observation that sometimes key and difficult concepts and ideas remain unexplained or superficially explained. Given the wide range that exists among these children in terms of basic skill development - and aptitudes one needs to operate at differing levels by which all children can benefit. (Example Session IX).
7. At times, however, the delivery of content proceeds at a very fast pace, making it difficult for many children to clearly grasp what is being said. (Examples : Session II and VII).
8. There are some children - about eight to ten - who do not participate at all or participate very rarely in the central discussion. They make their comments/ responses very softly or to each other. The facilitator fails to involve them effectively.
9. Group activity formed an important component of methodology in this learning area. The children enjoyed breaking into groups and working on the assigned activity. As one would expect, some children took the leadership positions. Of the rest, some were active and the rest relatively passive



participants. A few did not seem to have any interest in the activity and chose to talk or do something allotted.

Discussion on the activity generally evoked a lot of participation.

10. Teaching Aids, books, pictures are colourful and attractive and generate a lot of interest. However, this area required the use of more teaching aids. Also, more time should be allotted for their use so that children can well absorb the content and messages. They must also be encouraged to handle the aids, books and other material should be made available for use.

#### Classroom Atmosphere and Childrens' Responses to Abacus Class

The instructional programme is carried out in a non-threatening, free, open atmosphere. The children appreciate the facilitators and seem to find them friendly and approachable. The children are free to enter class a little late and free to leave the class (for toilet, drinking water etc.) whenever they need to. In the course of the interviews the facilitators said that they do not adopt any strict disciplinary measures to engage the attention of children. We observed that the facilitator resorted to occasional scolding of children who talked loud enough to distract the class.

In the course of the interviews, most children said that they liked the Abacus Sessions very much because, "many new things are taught", "interesting information is given", "the approach is friendly", and "there are no tests and exams". The facilitators have developed a good rapport with the students.

#### **IV IMPACT ON CHILDREN :-**

An evaluation of an educational programme is essentially an evaluation of what has been achieved in terms of its stated objective with reference to that important group towards whom the programme is geared - the learners. As has been made amply clear in the foregoing pages, the central concerns of the Abacus programme are not those of the regular curriculum - mastering basic skills language, memorizing substantive content etc. The desired learning outcomes of Abacus are different. They include the development of rational and independent thinking abilities, critical - analytical abilities and assimilation of the host of values implicit in the curriculum.

It was thus clear that the conventional tools of assessment such as tests and examinations, rating scales etc. were not suitable. Moreover most available tools used to evaluate values/attitude change are based on "middle class" norms of middle class school curricula. These again were not suitable given the nature of this programme and the children it worked with. It was thus decided to rely on observation of children in classroom and varied out-of-classroom and out-of-school contexts, talk to them, their parents and their friends in their natural settings.

Our observations of the children within the classroom setting revealed that barring very few exceptions, the Abacus children are on the whole, communicative, articulate, bold, confident and motivated. It appeared to us that they were in these definable ways different from the children of the other classes with whom we interacted.

With a view to objectively know whether these differences are indeed real and also with a view to raising discussions on issues relating to some important curricular values, a well known educationist who is principal of a prominent private school was invited to conduct a session with a view to evaluation of children. When she entered the school, the expert was pleasantly surprised when two children from the Abacus group began talking to her. "They began talking so openly without knowing me .... obviously situations have been created where they feel open to talk to a complete stranger .... normally one is inhibited." "There was no FEAR for breaking a rule .... obviously "space" was allowed for them to come late, making them feel "comfortable". The session conducted by the expert with the Abacus class was narration of a story with which the children were familiar. She retold it bringing in new aspects and nuances. She would seek reactions, ask questions, invite comments, especially concerning the values that were consciously interwoven in the story. All children were attentive and participated. The expert found the children very spontaneous and confident and natural in their responses. She also noted that they thought about the questions before answering them.

The same story was repeated with class VII children. They apparently had not heard it before and their total concentration and attention was on the story. In order to enable the children to participate, the expert found that she had to recapitulate events in the story at regular intervals. She noticed that the seating arrangement was also more formal and 'proper' - "the

children seemed to be serious, conscious and rather quiet-they did not talk out of turn-the experience was definitely different."

From the above observation one may infer that the children who have been exposed to ABACUS respond and react differently-they seem to be more articulate, spontaneous and confident. It is obvious that some process has taken place. Whereas the children of Std VII who had no exposure to ABACUS, were generally reticent, conscious and serious. Apart from the fact that age may be considered as a factor, it appears evident that a stimulating situation and atmosphere, when provided over a sustained period, even once a week, goes a long way in effecting some kind of positive change in articulation and thought processes.

#### **Value Inculcation and Value Change among Children**

Within the multicultural, complex and in equitous megapolis that is Bombay, the Abacus children belong to the distinctive subculture of an ethnically heterogeneous migrant slum community. Hindus and Muslims primarily from Maharashtra and U.P, but also Bangladesh, Rajasthan, Karnataka, Bihar are settled in the four slum communities. Barring a few, most of the Hindu children belong to the backward and dalit castes. Again barring a few who are relatively "better off" and have better equipped homes, (but definitely are not "middle class"), most children can be described as belonging to the "lower Stata" (low income, low occupation, low education, poor housing conditions). Some are clearly poor - coming from families who have very meager resources and belongings.

Most of the children live in four slum communities in the vicinity of the school - 1) The National Sports Club Compound, Worli 2) Raju Nagar, (Lala Lajpatrai College Compound) Haji Ali 3) M.P. Mill Compound, Janata Nagar 4) Tulsi wadi - All the areas are characterized by the typical features of a Bombay slum : congestion, narrow lanes of passage, garbage dumps lying around, lack of toilet facilities, water problems, single room dwellings which serve multiple purposes, poor ventilation and light and an "integrated" community life based equally on cooperation, friendship, conflict and quarrel !

Our enquiries into childrens' family lives, relationships and attitudes reveled that most children lived in families comprising five or six persons. Most fathers are self-employed or employed in the unorganised sector. Most U.P women and Muslim women do not work outside the home, but other women do in domestic service and petty businesses. There is a sexual division of labour within the home. However, all children, girls and boys do some amount of household work. This does not preclude gender differentiation and discrimination in other areas such as provision of facilities, freedom of movement etc. Both parents are generally keen that their children study but do not have the time or resources to seriously attend to their education. Healthwise, most children mentioned regular occurrence of fever, cough, cold. Many spoke of their mothers' chronic illness. Most children said that they were /are closer to mothers than fathers. In most homes, there is some amount of family conflict and wife abuse. The children are also exposed to and aware of many forms of crime and violence in the vicinity.

It is observed in general that children are inside their houses only at mealtimes, sleeptimes and worktimes. For the rest of the time, especially the boys are out in the open spaces. On some occasions they get together and go for a jaunt to places like Chappetty beach. Girls are fond of going for social visits and movies. T.V. watching is a top favourite activity with most children. Some of them have television sets at home. Others visit neighbours to watch their favourite programmes - which are Hindi films, Hindi serials and Hindi film song programmes. Depending on the space available they play some games. Religious festivals are enthusiastically celebrated as expressions of cultural identity and joyful moments in a mundane life.

It is in such complex social contexts and against the background of different kinds of difficult social circumstances, that urban schooling systems and curricula seek to educate children for life and for harmonious social existence. Given the daily struggle for survival, the hard effort to maintain the threadbare standards of living and the relative lack of control over seemingly unchanging life situations of disadvantaged sections of society from whom the Abacus children are drawn, it is questionable whether meaningful value change can take place and problem-solving abilities learnt in the classroom setting can be actually applied in daily life. To live and survive in their neighbourhoods and society, children use their own life experiences and practical wisdom gained therefrom to cope with their problems and situations. Our observations of children in various settings

## **V. CONCLUSIONS**

This evaluative study of the Abacus curriculum Enrichment programme has revealed that it has many strengths but also a few weaknesses. The curriculum is worthy in intent and rich, useful and significant in content. It takes a broad, comprehensive view of the educational process and educational goals.

To a great extent the eight learning areas in which the curriculum is organized provide an integrated view of the world and breaks down the artificial distinctions that are constructed





and breaks down the artificial distinctions that are constructed between different knowledge disciplines. On the whole the content is well organized in logically linked sessions. Yet there is some scope for better organization into smaller, simpler learning units, especially so in the learning areas which contain complex ideas and concepts. Many of these need to be clearly explained. The content of some of these sessions may also be slightly reduced. An effort may also be made to draw some linkages with the regular school curriculum - especially since children's learning capacities have been poorly developed by the school.

In terms of teaching methodology, the conscious effort to adopt a participative, child-oriented, open, nonthreatening methodology has had a visibly beneficial impact on children. The facilitators have developed a good rapport with children which is very essential for effective learning. Care however needs to be taken to more actively pursue the ideals of participation and child-centeredness. There is need to build a more uniform participation level, drawing out each child. Discussions and group activities should be better planned and structured and provided with sufficient time. A more uniform and reasonable method of discipline should be developed.

On the whole, one could say that the programme has had a positive impact on the children and has created a space within the formal structure to provide meaningful, enjoyable and valuable learning experiences. It is hoped that with some rethinking in certain areas which have been identified, and modifications in content organisation and classroom process along the lines suggested, the programme will serve the educational needs of more children from varied backgrounds.