

# PRASHIKA

## Eklavya's Innovative Experiment in Primary Education

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## **Eklavya's Innovative Experiment in Primary Education**

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A report by  
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with contributions from  
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## PREFACE

For a very long time now, education in general, and primary education in particular, has been a low priority item on our national agenda. The hierarchical structure in which our educational programmes are rigidly organized leave very little scope for any innovative intervention. Even when a group of people gather the courage to undertake an innovative experiment, the experiment generally flourishes for a while and then quickly disappears into oblivion. The system does not generally allow any space for such innovative experiments. The experiences and struggles of these innovative experiments, whenever they do manage to materialize, are rarely documented and made available to the subsequent groups involved in new methods of teaching.

Prashika (pronounced *Praashikaa*), the primary education programme of Eklavya, a voluntary orga-



nization working in Madhya Pradesh (Central India), is one such experiment. We have been associated with this programme right from its inception and have been a witness to its growth and development. We feel that Prashika is an extremely important and meaningful experiment in the area of primary education in rural schools. It is a sustained attempt to provide interesting, meaningful and constructive opportunities to children to acquire knowledge and to equip them with observational and analytical skills. It does not insist on any major structural changes in the school or any enhanced financial inputs. Prashika is really a symbol of a symbiotic collaboration between children, teachers, social activists, researchers and academics. The Prashika experience needs to be carefully documented for the benefit of all those who may be interested in primary education.

We feel that it is important to document the Prashika experience. The documentation was made possible by a grant from Eklavya. The Prashika documentation team plans to bring out seven monographs in English and Hindi. The first one is meant to be a kind of project narrative which would briefly outline the beginnings and development of Prashika and provide a glimpse of different aspects of the programme. A monograph each is to be devoted to assumptions and

principles, curriculum, method and materials, teacher training, evaluation and administrative aspects. The seven documents together will provide a detailed profile of Prashika, though it has been decided to make each monograph complete in itself. We are indeed very pleased to publish the first monograph in the documentation series.

An experiment like Prashika is made possible by the convergence of a variety of factors. Prashika originated in a group like Eklavya which believed in a vision that promised emergence of social justice through education, and which had a rich experience of intervening in school education through the Hoshangabad Science Teaching Programme. A large number of teachers, children and resource persons contributed significantly to the growth and development of the programme. Finally, funding agencies such as the Ministry of Human Resource Development and the Department of Science and Technology as well as active collaboration of the Madhya Pradesh state government and the State Council for Educational Research and Training (SCERT) made the Prashika vision a reality. The contribution of the Madhya Pradesh state government, particularly through its SCERT has indeed been exemplary. It is hoped that other states in the country will also provide

non-governmental organizations space for innovative programmes.

The effort that has gone into preparing this monograph is indeed very difficult to document. We carefully read through Prashika documents, materials, correspondence, etc. We attended several teacher-training camps, interacted with schoolteachers and children, interviewed Prashika members and associates and requested a large number of people to read through the earlier drafts of this document.

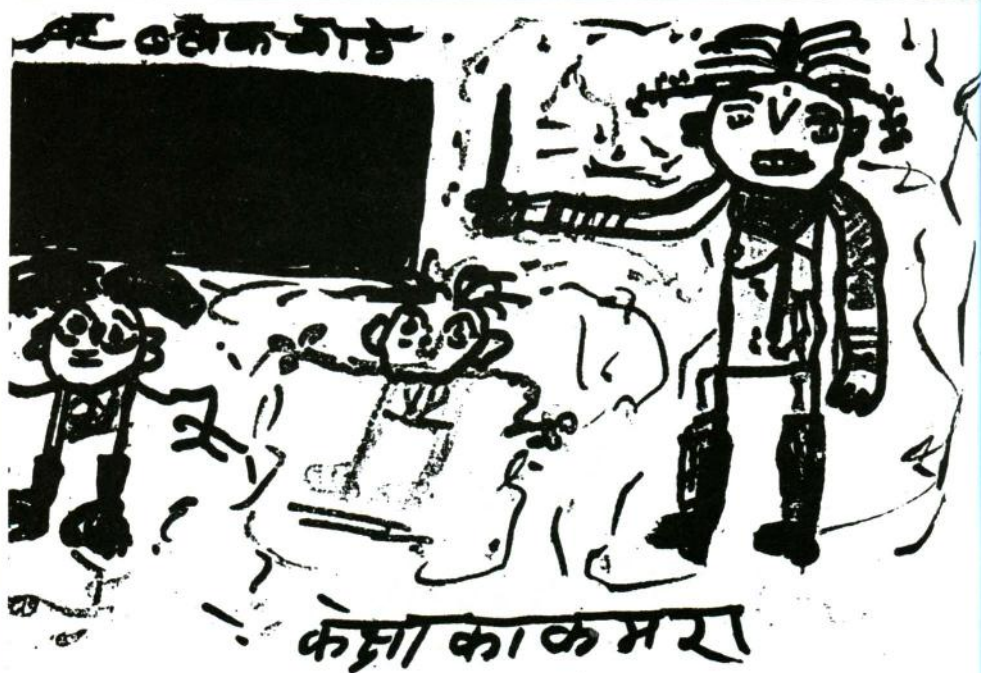
We have benefited a great deal from the comments of Vijaya Varma, Amitabh Mukherjee, Krishna Kumar, Anjali Naronah, H.K. Dewan (Hardy), Rekha Sharma, Deepa Jain, Veena and Ghanshyam Tiwari. We are particularly grateful to Vijaya Varma, Hardy and Anjali for reading through the whole document very carefully and making useful suggestions, most of which have been incorporated. Most of all, we are grateful to the Eklavya Group for not only providing the funds for this project but also for helping us in every possible way to finish this document.

AUTHORS

**THE  
BEGINNING**

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A child's view of the classroom and the teacher  
(sent to Eklavya on a postcard)

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Primary education is one of the most neglected areas of education in our country. This is despite the fact that its importance has been widely recognized. Over 70 per cent of our primary schools are understaffed and ill-equipped. There are thousands of primary schools without a teacher, blackboard, toilet or drinking water. There is no clearly formulated primary education policy. Going to primary school simply means learning to read and write, and doing some elementary arithmetic. The socio-cultural and linguistic background of the child is of no consequence to curriculum planning and classroom interaction. Classrooms are therefore characterized by a lack of activity and meaningful interaction between teachers and children. This situation is made worse by utilitarian social expectations and a highly indifferent and repressive administration. There is no space here for teachers to grow or to develop innovative programmes.

THE 1971 CENSUS OF INDIA NOTED . . .

A high order of waste occurs in the first few years of the primary stage of education, since boys and girls are drawn away to help in cultivation and shepherding . . . vacations in many places are not synchronized with the heavy agricultural seasons of sowing and harvesting. . . .

Of every 100 students who enter Class I, only 32 graduate to Class V.

The appalling socio-economic conditions in which teachers and children work severely limit innovation and creativity. Poverty forces many children to come to school on an empty stomach. They cannot attend school regularly since they are often needed at home to help with domestic chores or to add to the family income. They have no money to buy books.

Several classes are often conducted together since there is a perpetual shortage of teachers. Thus the sacred premise of a homogeneous class having at least one teacher to itself (on which the whole edifice of existing educational practices is built) just does not exist in reality. In any given class there is always a great disparity in age and levels of learning. The experiential and cultural background of children rarely

A PRASHIKA MEMBER WRITES . . .

Limited space in crumbling and sometimes unsafe buildings; an absence of materials such as chalk, textbooks and paper; a harassed and ill-motivated teacher handling more than one class simultaneously – many an innovative material and method can meet its Waterloo here.

gets reflected in school textbooks and teaching strategies. Rural life is often represented as some rare and romanticized specimen. The children coming to these schools often speak different languages, wear different dresses, eat different kinds of food, live in different geographical surroundings, and participate in different socio-cultural events. This does not inform the materials and methods used in these schools.

### **THE ORIGINS OF PRASHIKA**

The beginnings of PRASHIKA (Prāthamik Shikshā Kāryakram), the primary education programme of Eklavya, go back to the year 1983.

The programme is rooted in the initial discussions that some members of the group involved in HSTP had with some teachers and students of the Department of Linguistics in the University of Delhi. There was deep anxiety, almost a sense of frustration, regarding the levels of reading comprehension and writing abilities prevailing among middle-school children. It was clear that serious efforts would have to be made to enrich the linguistic abilities of these students. Otherwise all the efforts made at the middle-school level in teaching science and social science would not bear any fruit irrespective of the innovative methods used. The bare minimum achievement of a 12-year-



## EKLAVYA . . .

A voluntary organization in Madhya Pradesh (central India), has been engaged in innovative programmes in education for the last ten years. Eklavya's major preoccupation has been to intervene in school education with a view to providing alternative curricula and teaching methods without insisting on any major structural changes. THE HOSHANGABAD SCIENCE TEACHING PROGRAMME (HSTP), originally started in 1972 by Kishore Bharati, another voluntary organization, is indeed Eklavya's most widely known programme. It encourages children to arrive at laws and concepts through a process of observation, experimentation, analysis and discussion. It has since become an important reference point for any innovative experiment in school education. The SOCIAL SCIENCE TEACHING PROGRAMME (SSTP), started in 1981, has experimented with innovative ways of teaching history, geography, etc. to middle-school children. It places emphasis on developing skills of historical analysis, comparative studies and data elicitation, tabulation and analysis. What informs all the activities of Eklavya is the awareness that education cannot be isolated from its social context and that meaningful child-centred education can motivate people to change the conditions in which they live.

old Class VI student should be that (s)he be able to read and understand simple Hindi texts on her/his own and have the ability to adequately and coherently express herself/himself. Unfortunately, this was not the case.

It was clear that suitable teaching materials and strategies could be evolved only after the socio-cultural and linguistic background of the learners was properly understood. It was believed that the early education of the child should not be a break between the school and home environment. However, the available teaching materials in primary school appeared very distant from the environment of the child, both in terms of content and language. The teaching methods were essentially teacher-oriented and the classroom activities were centred around rote learning. This situation inevitably led to the child's alienation. (S)he was indifferent to what was being taught. (S)he was also largely silent in the learning process.

### **FIELD SURVEYS**

An attempt was made to understand the linguistic abilities of children and the patterns of language use obtaining among them through a variety of tests and sociolinguistic surveys. Studies were designed to measure the readability levels of different textbooks

available to children. A detailed observation of classroom activities was initiated at this stage. The HSTP experience had brought out the deplorable levels of mathematical abilities in middle-school children. A number of surveys were carried out in 1985-86 to

OTHER ACTIVITIES OF EKLAVYA . . .

include publication of

1. CHAKMAK, a monthly magazine for children;
2. HOSHANGABAD VIGYAN, a quarterly journal addressed to teachers, parents, educationists and people associated with different programmes of Eklavya;
3. SROTE, a weekly science news feature service catering to newspapers, radio and television;
4. some local magazines for children, often produced by them;
5. a variety of books for children; and
6. several booklets for the popularization of science.

Eklavya is also actively involved in people's science movements organizing study groups, workshops and street plays on social issues and their relationship to science and technology. It has also undertaken experiments in producing scientific and educational toys for children and has set up its own workshop for wood and metal work.

assess basic mathematical abilities such as addition, subtraction, multiplication and division in children.

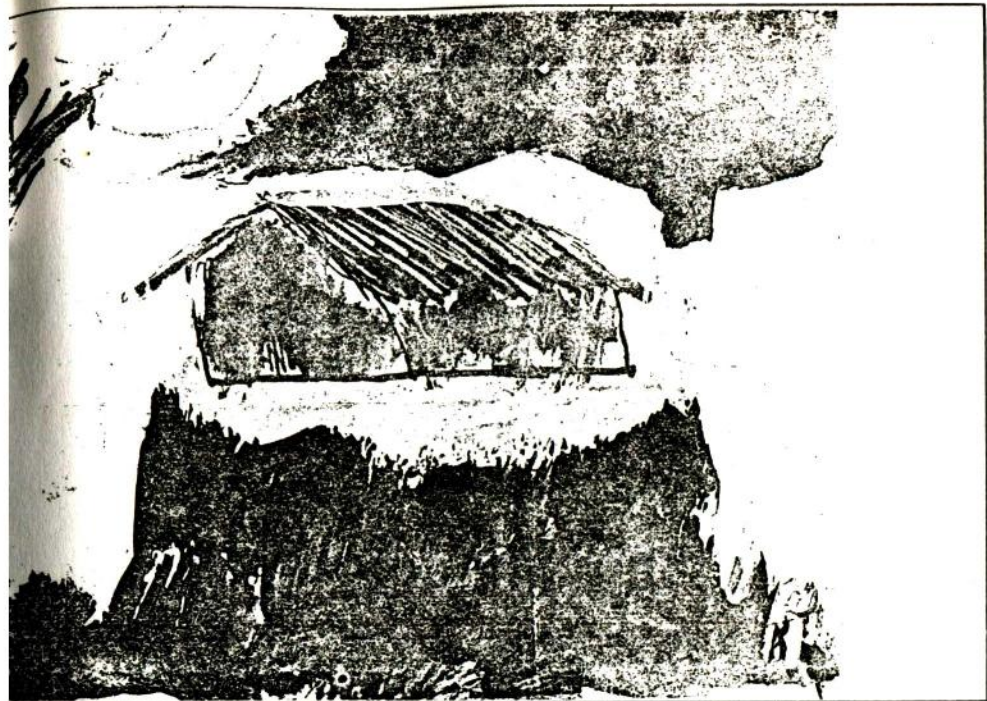
These studies helped to lay a solid foundation for the subsequent growth of the programme. First of all, they helped the group to establish an informal relationship with teachers, children, parents and the administrative authorities of the area. They also revealed the enormous heterogeneity of the linguistic and cultural background of children, contrary to the belief that they all come from Hindi-speaking backgrounds. The available school textbooks were found to be largely unreadable and a majority of the school population tested was found to be at the frustration level of understanding them. In the case of mathematics the survey showed that the performance levels of children were far below the expected levels. For example, Class I children are supposed to master numbers upto 100. The survey showed that even Class II children could not adequately handle basic operations upto 20.

It was clear that Eklavya would have to prepare its own teaching materials for both language and mathematics. Two important observations that subsequently became the backbone of the programme were: children had enormous creativity for which the existing structures did not provide any outlets, and teachers



showed great potential and eagerness to participate in evolving innovative teaching materials and methods.

At this stage a series of psychological studies were also conducted to have some understanding of the cognitive abilities of children. A series of Piagetian tasks (for example, classification, seriation and number, liquid and weight conservation) was designed to examine these abilities. Several children could not successfully perform the various conservation tasks appropriate for their age levels. Though classification and number conservation tasks were done with a fair amount of success, the seriation task surprisingly



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seemed to present serious problems. The conserva-  
 tion of liquid and weight also seemed very difficult.  
 One interesting result of these experiments was that  
 children who could not perform the tasks with unfa-

miliar objects and standardized instructions performed the tasks successfully when the language was reframed and more familiar materials were introduced.

The most significant gain of these early studies in language, mathematics, psychology and socio-linguistics was to sensitize the group to the learners, their language and environment, and their teachers.

Simultaneously, during 1983-86, the group was engaged in intensive classroom observation, discussions with teachers and parents and observation and analysis of the patterns of social and linguistic behaviour obtaining among these children. An analysis of the linguistic and mathematical abilities of children, observation of the games they played, the stories and poems they liked, and their patterns of behaviour in their peer group and in the classroom, etc. went a long way in helping the group to plan its teaching materials, methods and teacher-training camps.

During this period extensive field testing of NCERT and Eklavya teaching materials was also undertaken. As a spontaneous response to the field situation several activities and alternative teaching strategies emerged which seemed to work, i.e. they involved the learner far more actively.

Yet another strand was the exploration of the

implications of introducing written materials to learners belonging essentially to the oral tradition. The imposition of the written mode on the oral one seemed to retard the learning process. Most of the teachers themselves were first-generation learners of the written mode and were not yet trained to adapt the different written materials to the needs of their students. It was also found that several folktales and poems were shared in slightly modified forms. This laid the foundation for evolving local materials which were flexible enough for the teacher to modify according to the needs of her/his students. The mathematics surveys not only confirmed the need for change but also indicated the direction of change. The

A PRASHIKA MEMBER OBSERVED . . .

The group's understanding about language and cognitive development was clarified as it interacted more and more with linguists, psychologists and educationists.

emphasis had to be on understanding and reinforcement of different concepts through a variety of activities. The need for approaching the same mathematical concept from a multiplicity of perspectives and in



a variety of contexts became apparent. There was a need for a large number of pre-number activities centred around concrete materials.

A PRASHIKA TEACHER OBSERVED . . .

Prashika means more work for the teacher. There was no work in the old syllabus. We have to create activities and participate in them. At the same time, we have to help children to read and write.

### **CONSOLIDATION**

Until 1986 the enquiries into the linguistic and mathematical abilities of children and possible alternatives proceeded fairly independently of each other. It appeared that two independent programmes would be undertaken, one focusing on language and the other on mathematics. However, shared guiding principles underlying both language and mathematics teaching, the possibility of a common set of cognitive abilities underlying language and mathematics learning, and the imperatives of the school situation described above persuaded the language group to move towards an integrated curriculum.

Around 1986, the groups working on language and mathematics gave way to Prashika and a tentative

integrated curriculum was started in schools – one in Shahpur in Betul district and the other in Harda in Hoshangabad district.

In 1987, the state-sponsored curriculum for Class I was replaced by the Prashika curriculum in seven schools – 4 in Shahpur and 3 in Harda.

By 1989, this number had increased to 25. The state government allowed Prashika to take over these schools completely, i.e. Prashika could try out innovative teaching materials in these schools, organize teacher-training camps, change teaching strategies and evolve new methods of evaluation.

### **THE WORLD OF PRASHIKA**

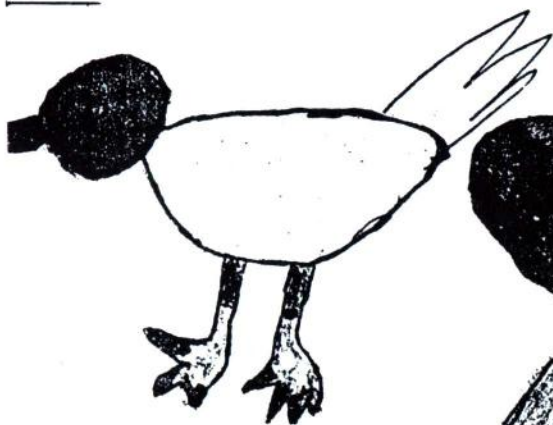
The emergence of Prashika is a rare example of an active and productive collaboration among children, teachers, social activists, university students and teachers, educationists and administrators. The above surveys and the future development of the programme were made possible only through a dynamic and sustained interaction among all these people. Though because of pressures of time and lack of manpower, the group was often forced to take ad hoc decisions and implement curricula that had not been as intensively field-trialled as Prashika would have liked it to be, it always showed remarkable perseverance and

rigour in its approach. Issues central to primary education, curriculum planning, methodology and materials preparation were regularly discussed in workshops and seminars that involved people from a variety of backgrounds in addition to being discussed with teachers in various training camps. What follows is the story of what Prashika did in these schools during 1986-1992.

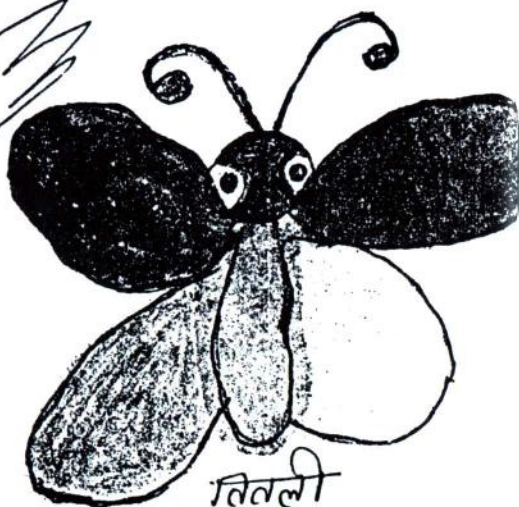
# **ASSUMPTIONS AND PRINCIPLES**

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चिड़िया



तितली

Creative modes of expression

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आइवासी  
प्राथमिक विद्यालय  
मडेदवा

जाम केगाट नाइ

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प्राथमिक विद्यालय

मडेदवा  
जिला कटरपूर (म.प्र.)

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Prashika did not start working with a clearly spelt out blueprint. As pointed in Chapter One, many decisions pertaining to the planning and implementation of the programme had to be taken in response to the exigencies of the situation. However, over a period of time certain assumptions and principles concerning the learner, curriculum, methods, materials and evaluation got crystallized.

### **THE LEARNER**

1. Every child has an infinite capacity to acquire knowledge.
2. Children come to school with substantial knowledge. This knowledge constitutes the base of all learning.
3. Productive and meaningful learning will result through a dynamic interaction between the teacher and children. It is a mistake to treat children as

A PRASHIKA MEMBER TO A RESOURCE PERSON . . .

Every group has its own dynamics. Structure and power confuse us all. Work stops. Then with stability we begin again. The work gets defined better. These days I am struggling to write a background paper on language to attract some resource people.

empty receptacles in which knowledge is to be deposited.

4. It is necessary to respect a child's identity and re-examine adult notions of what children 'should' learn and how they 'should' learn.

TWO PRASHIKA ASSOCIATES SAY . . .

Two basic needs of the learner are a sense of security and a feeling of self-worth. Learning is impossible without these. This requires a drastic change in teacher-student relations. Treat the child as a responsible person and not somebody who executes orders. We must have faith in a child's abilities and encourage cooperation among children.

5. Children can successfully organize activities leading to significant outcomes.
6. Children learn through a constructive interaction

A PRASHIKA MEMBER SAYS . . .

The Bal Melas we organized made it clear that children had infinite capacity for imaginative articulation. We just needed to create suitable contexts.

with their material environment and through reflections shared with their peer groups and teachers.

7. Learner-centred education does not spell anarchy in the classroom. It suggests active association between teachers and learners in the process of curriculum design, classroom transaction and evaluation procedures.

## NATURE OF LEARNING

1. Learning is not a linear and additive process. It is not always desirable to segment each bit of a

**A PRASHIKA MEMBER OBSERVED . . .**

It is interesting that Class III children, when asked to draw a crab, make a fairly accurate drawing on the basis of the description read earlier. But when they are asked to draw the crab's mother, they always draw a human figure.

complex whole and teach it step by step, hoping that this process will lead to an understanding of the whole.

2. A process of collective reflection, group discussions and attempts to identify rational explanations will lead to sound learning.



3. It is dangerous to expect an instant equation between input and output. The *rates* at which

A PRASHIKA ASSOCIATE TO PRASHIKA . . .

I am simply overwhelmed by the quantity and quality of work you are putting in as well as by your productive and imaginative ideas. Context is the keyword. Everything new should be introduced in a context that would make sense to the child. Activities involving identification and differentiation, role playing and matching exercises etc. are all excellent ideas and will improve not so much by theorizing as by actual practice.

children learn vary considerably; their *routes* are often shared. Each child will add her/his innovative bit to what (s)he learns.

4. Errors should be seen as necessary steps in the process of learning rather than as deviations from

A PRASHIKA ASSOCIATE SAYS . . .

The curriculum must have space for horizontal elaboration and a child's creativity. It is something that must develop continuously and should not be a package.

a norm.

5. Learning takes place in the socio-cultural milieu of the learner. Teaching should move very gradually from contextualized to decontextualized learning.

## **THE CURRICULUM**

1. The needs and aspirations of the learner are central to the process of curriculum formation.
2. There is a certain cognitive sequence in learning. The curriculum should be in consonance with the cognitive levels of children.
3. The curriculum should focus more on the process rather than the product. This will help the child to develop understanding rather than just accumulate information. It is also likely to equip the child with analytical skills.
4. Knowledge in a sense is unified. Its division into different 'subjects' is artificial. The same text can often be used for many purposes such as developing language skills, mathematical abilities or social awareness.
5. The curriculum should be dynamic. It should not be confined to the prescribed textbooks only. It must embrace the world outside the school as well as the creativity of the child and the teacher.

## **METHODS**

1. There is no one sacred method of teaching anything.

A PRASHIKA RESOURCE PERSON SAYS . . .

If you want to do something, it is not that that you should do. Secondly, you must involve a lot of people in what you are doing. Thirdly, anybody, literally anybody, can produce teaching materials. Fourthly, simple activities should be repeated in different forms. Finally, unless a teacher is herself/himself creative, the children's creativity may not develop.

2. Different methods may require different classroom structures and organizational responsibilities. Children can be great assets in handling different activities among groups of children with varying abilities.
3. Children learn what makes sense to them. Therefore, all learning must be contextualized.
4. Teaching should engage the child in problem-solving tasks which encourages a multiplicity of approaches. These tasks will reduce the learner's dependence on the teacher and motivate her/him to question, analyse and discuss.
5. A child's freedom to experiment should be res-

pected. 'Disciplined children' often lose their creativity, expressiveness and curiosity.

A PRASHIKA MEMBER NOTED . . .

We realized that if the material is exciting, spontaneous articulation follows. It is not important that a picture should be well-made. It should be striking to the child.

## **MATERIALS**

1. Teaching materials should match the cognitive level of children and provide sufficient challenge for future growth.
2. Information-based materials encourage rote-learning and hamper rather than facilitate the learning process.
3. Materials should be sensitive to the children's environment and to their history and culture. The interest and exposure of children of different areas

A PRASHIKA ASSOCIATE TO PRASHIKA . . .

I am convinced that we should complete the survey of existing materials before we move on to Class II. The long-term results of delaying this exercise may be disastrous.

may vary considerably and the materials should be adaptable to this variability.

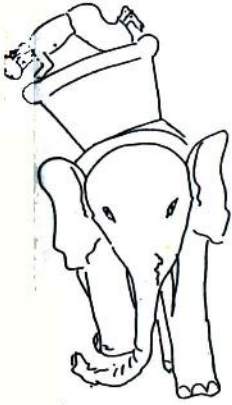
4. The world of fantasy, humour and word play is important in learning and it should not be stigmatized in the process of creating learning materials.
5. It is necessary to use naturally available materials such as pebbles, seeds, twigs, sand, water, etc. Similarly, poems, stories, puzzles, proverbs, etc., always peculiar to a particular community, can also be used. Whatever new materials are introduced they should be inexpensive, easily accessible, flexible and reusable.

**A RESOURCE PERSON WRITES TO PRASHIKA ...**

We would like to produce low-cost teaching aids from locally available materials. We intend to create a network of teacher volunteers in the non-formal and formal streams through whom the materials would be tried out. Collaboration with grassroot-level voluntary agencies is a must.

6. The potential of a given set of material should be carefully explored. A variety of objectives can be achieved through the same set of materials.
7. Materials should have considerable in-built flexibility providing multiple entry points for children

## हौदा हाथी



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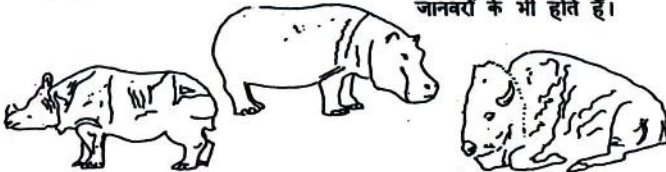
- बहुत सारे कीड़ों की पतली सी सूड होती है।

- चीटी अपने जबड़ों (दांतों) से खुद के वजन की तुलना में कई गुना ज्यादा वजन उठा सकती है।



- अगर चूहे चीजे कुतर-कुतर कर अपने दांतों को घिसे नहीं तो २-३ फीट लंबे हो जाएं।

- हाथी से बड़े जानवर भी होते हैं। बड़ी मूड वाले। सबे जैसे पाव इ जानवरों के भी होते हैं।



with different abilities. Looping will help children revisit simple and basic concepts.

A PRASHIKA MEMBER REMARKED . . .

We felt it was absolutely necessary to get some local persons to observe and analyse the conversations, games, stories, activities, etc. that were a part of children's lives.

## **THE TEACHER**

1. Teachers, if given an opportunity, can be surprisingly innovative and creative. They should not be rigidly bound by a preplanned programme.
2. The teacher's contribution to all issues pertaining to education should be actively elicited and respected. They should have a hand in planning the curriculum, teaching materials and methods.
3. Interactive and participatory training is essential to acquaint teachers with new ideas, methods and materials as well as to learn from their experience.
4. A teacher's role should essentially be that of a facilitator.

## **EVALUATION**

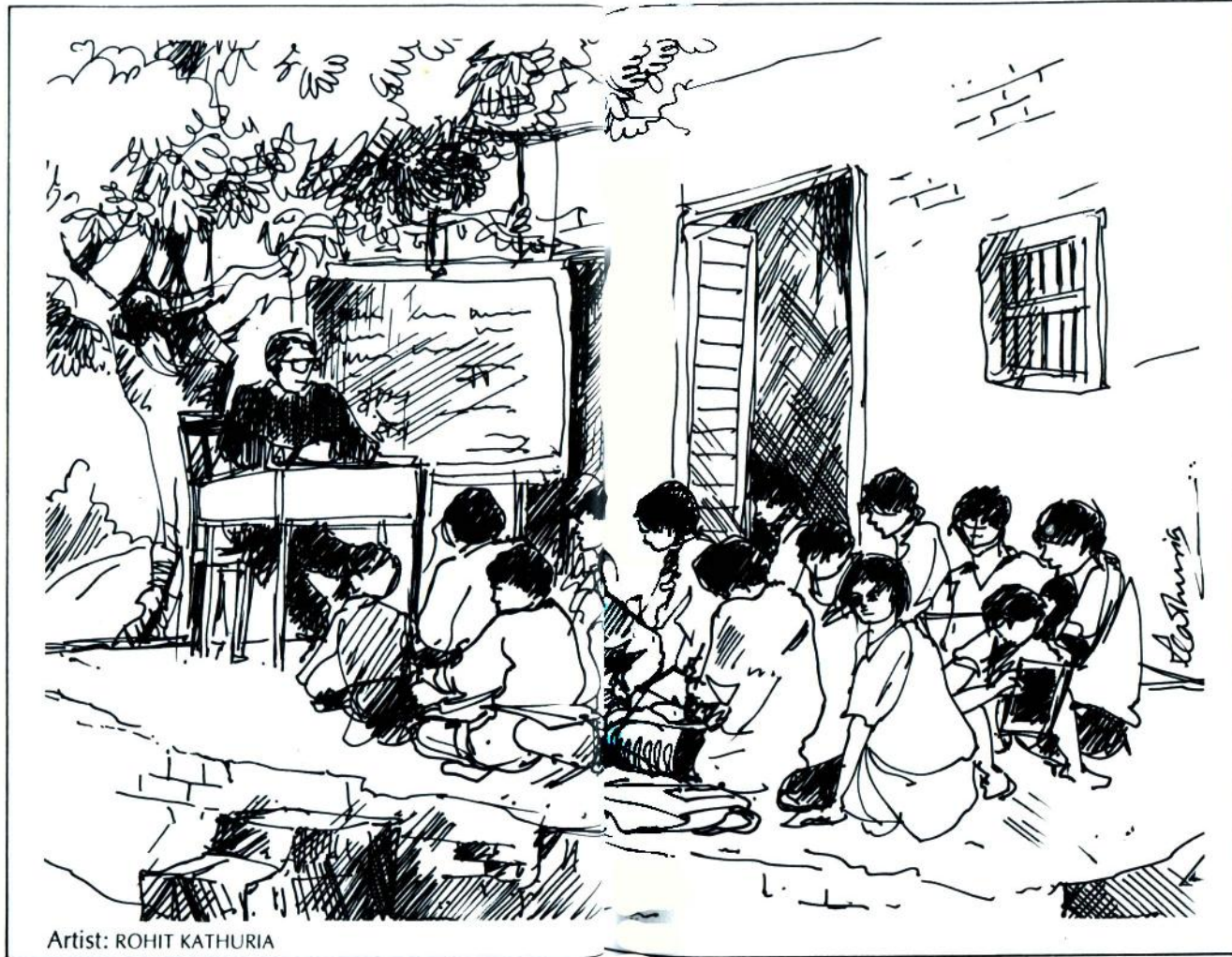
1. Evaluation or assessment should be comprehensive in nature. It involves all aspects of the teach-

- ing-learning situation and not just the learner.
2. Evaluation should help us to understand both the strengths and weaknesses of the learners and teachers, and plan teaching materials and programmes.
  3. Evaluation should not pose any threat to the learner. (S)he should be given enough opportunity to defend herself/himself. Rather than being traumatic for the child, assessment procedures should be pleasant and friendly.
  4. A one-shot annual examination system inevitably becomes a threat. A variety of normal activities, group discussions, take-home tasks, etc. over a period of time should constitute the basis of evaluation.
  5. Evaluation should not be used to filter children. Continuous assessment constitutes essential feed-

A PRASHIKA MEMBER WRITES . . .

The problem is that once you get into this business of changing education, one has to face so much antipathy and criticism, often unjustified, that one acquires an aggressive stance to defend the change. The unfortunate part is that in the process one begins to discard internal self-criticism. And that is indeed dangerous.





Artist: ROHIT KATHURIA

A typical rural school

back into the curriculum.

6. A child should not always be assessed in terms of an external criterion but in relation to her/his past performance and the performance of the whole class.
7. Children who seem to be 'weak' in one aspect may prove to be very strong in another aspect. One child may be very good in solving problems while the other may be equally good in drawing and story-telling.
8. Activities chosen for evaluation should always be new but never vastly different in nature and level from those usually done in the class.

## **INTERVENTION**

1. It is necessary to intervene in the state education system if the above assumptions are to constitute the foundation of an innovative primary education programme.
2. The intention is not to create islands but to introduce innovation within the existing constraints evolving micro-level models that can be potentially expanded at the macro level.

# CURRICULUM



सीता देवी चौकी पंचपुर  
सीतापुर

Aspects of rural life

पता -  
सीता देवी  
D/o Sdya चौरी लालकमा  
ग्राम - पंचपुर  
पोस्ट - उरदौली  
जिला - सीतापुर  
(उ०प्र०)  
261141

पते में  
पिन कोड लिखें  
WRITE PIN CODE  
IN ADDRESS



एकलव्य,  
ई-1/2008  
अरेरा कांलीजी  
भोपाल

462016

The Prashika curriculum forms the core around which the other aspects of the programme have been built. The process of curriculum formation took into account the physical conditions of the school, the annual cycle of seasons, agricultural and forestry work, and festivals, the cultural and socio-economic background of the children and the teachers, and the inevitable presence of the administration and government. The other inputs into the curriculum were in the form of current thought on various aspects of education: child development, language learning, mathematics, etc.

Between the years 1986 and 1992, Prashika evolved a class-wise curriculum for Classes I to V. This falls into 2 distinct parts, with the curriculum of Classes I and II forming the first part, and that of Classes III, IV and V comprising the second. Both these parts have been conceptualized differently, and the materials used in the two parts are different, too, in terms of their content and form. Perhaps the most complex problem that Prashika faced was the designing of the curriculum in terms of skill areas on the one hand, and relating them to establishing discrete disciplines on the other. Though there is undoubtedly a set of fundamental skills that cut across subject boundaries, each subject also has its own specific paradigm to

understand its universe.

## **CLASSES I AND II CURRICULA**

The central problem in the development of a curriculum for Classes I and II is to isolate skills and abilities that would lead to the development of specific concepts.

The basic objectives in these classes are

1. to help children overcome their inhibitions and encourage them to actively participate in the classroom activities;
2. to make all possible efforts to enhance their levels of understanding;
3. to develop skills and concepts that form the basis of basic language and mathematics skills; and
4. to provide rich exposure to the language used in teaching poems, stories, role play, puzzles, etc.

The curricula for the two classes is designed phase-wise; Class I has three phases and Class II has two. These phases are sequential and are loosely based on a hierarchy derived from a Piagetian framework of the development of logical and mathematical abilities. It was clear that the child will move only gradually to the formal operational stage through a variety of interactions with concrete materials.

Some of the basic tenets were:

1. self-discovery approach;
2. learning by doing and experiencing;
3. working from the familiar to the unfamiliar; and
4. sequencing of basic knowledge structures.

There are certain abilities which must precede the acquisition of such abstract skills as reading and arithmetic. Before a child can begin to read and write meaningfully he needs to be exposed to a great deal of linguistic material which he finds interesting and which motivates him to use it in its spoken form to interact with his classmates. Similarly, the acquisition of preconditions for logico-mathematical thought such as sorting and comparison, one-to-one correspondence, classification on the basis of one or more attributes, the concept of 'one more' and conservation of number, length etc. must precede the learning of such abstract operations as addition, multiplication etc. If information is stored without any comprehension, it will be difficult for the learner to draw any useful generalization since he will not be able to relate different bits of information that he has stored.

Initially conceived in a month-wise format, the curriculum was then spaced out into phases in order to allow a more flexible implementation. Thus the curriculum is only a skeleton, to be fleshed out by the teacher according to the circumstances in his school

and the needs of his students. In this context, it is possible for a village and a town school to have different aspects emphasized at different times, according to their circumstances.

In addition, the first phase of Class I specifically addresses the issue that 'school' and attending school is new to the community where the programme seeks to intervene; that there are no strong external motivations to ensure that children attend school regularly. The curriculum itself therefore attempts to provide such motivations. There is also a recognition of the fact that the mores and requirements of participating in school activities require a level of socialization not already available in the community. Therefore, in the first phase of Class I, the intention is to help the child develop an interest in coming to school regularly,

A PRASHIKA ASSOCIATE OBSERVES . . .

The whole programme is designed to work in harmony with the world of the child and the community by, for example, including drawing, pictures, songs, stories and riddles of and by the local people and by encouraging the child to relate the content of the text to the environment often involving activities that would necessitate observation and analysis of the environment.



understand the classroom framework and reach a situation where s(he) can take part in classroom activities.

The curriculum lists a number of activities ranging from fine motor control over hands to using concrete objects to add/subtract, or to relate with written material.

A major aspect of this effort is to discourage cognitive overloading of the learner. Curriculum goals have been kept at a level that can reasonably be achieved rather than what we feel children should achieve. Hence, it is not really expected that Class I children will go beyond 20 in counting. Nor are they expected to be able to learn to read in Class I.

Apart from concrete, oral and observational activities there is also a workbook called *Khushi-Khushi*. However, it is not used till nearly half of Class I is over. In fact there is an attempt to undermine the primacy of the textbook and the printed medium in initial schooling so that skills other than reading, writing and arithmetic also get incorporated into the early school curriculum.

### **CURRICULUM FOR CLASSES III TO V**

The alternative conceptualization becomes more apparent in the second part of the programme – for

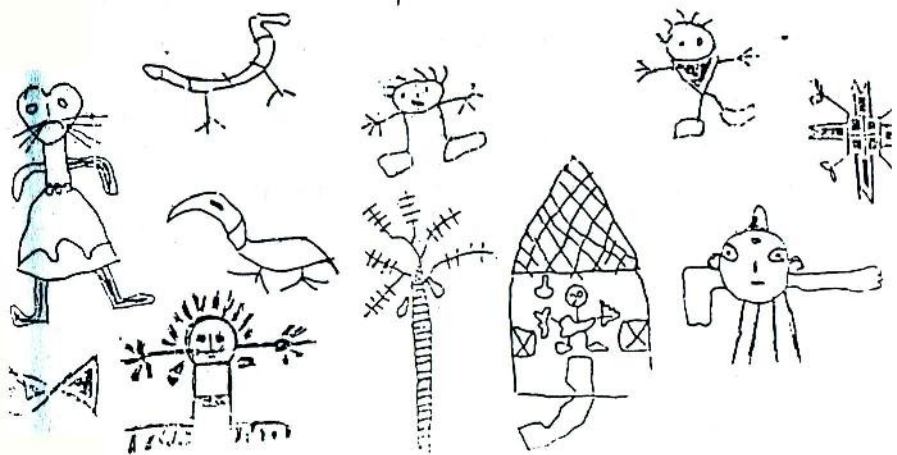
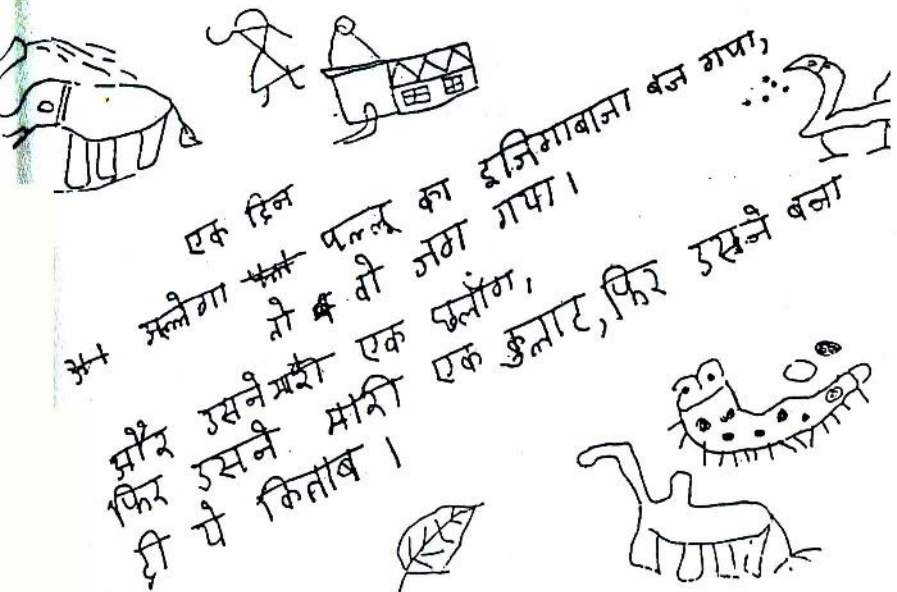
Classes III, IV and V. This is defined in terms of skills rather than subjects. They are

1. comprehension,
2. expression and recording,
3. observation,
4. problem solving and analytical ability,
5. spatial skills,
6. creativity,
7. mathematical skills,
8. social skills, and
9. manual skills.

In this skill-based curriculum it is expected that all these skills would have been 'practised' by the time the child is at the end of Class V. End-levels, too, are presented as *processes*, and *activities* rather than as items of information or 'knowledge'. In fact there is no expectation that children "will know that . . .".

A PRASHIKA MEMBER WRITES . . .

What we have done is to follow a curriculum that is not categorized according to information to be acquired by the child but one that concentrates on the skills to be developed. Skills that would help the child to continue learning through observation, classification, analysis and reflection.



परमप्रेम शासन के आदेश क्रमांक एफ. ३००२/एम/पी-३/२०, दिनांक ७ जून, १९९९  
 तहत परमप्रेम शासन की कृपया परमप्रेम द्वारा तैयार यह शैक्षिक सामग्री, परमप्रेम  
 पुस्तक विभाग द्वारा प्रकाशित एवं सततकालीन ऑफिसर, भोपाल द्वारा मुद्रित।  
 इस सामग्री को बेकार करने में कोई फिलियों की मदद ली गई है। आवरण पृष्ठ  
 "परमप्रेम क्राफ्टिंग" में साक्षर।

Creative use of language and visuals  
 (Inside cover of KHUSHI-KHUSHI)

The creation of materials, training designs and implementation in schools have been informed by questions such as what is considered more 'relevant' information, how much information should come from 'outside' and how much should be 'self-generated', and whether the various methods of inquiry within specific disciplines demand specific information.

In the Prashika approach, there is a distinct bias against information for information sake. Memorized but little understood information is not seen as an index of achievement. Information and descriptions are important to the extent that they provide opportunities to sharpen skills of observation, comprehension and analysis. These abilities will also help children to pursue more abstract ideas in higher classes. They will also help those who cannot continue school after Class V to acquire more knowledge on their own. This approach also helps children to appreciate the relationship among different subjects.

In this sense, Prashika is far from being a programme for functional learning. There is an attempt to develop creative and 'non-functional' capabilities or skills, be it fantasy in stories or discovering number patterns. More importantly, the element of thought and reflection on the part of the learner is greatly emphasized,

and is subsumed in every aspect of the curriculum as well as the materials designed.

There is a shift away from 'information' and the specific bodies of knowledge as represented by traditional school 'subjects' to the skills, abilities and purposes which underlie and unify them. Thus the section on expression and articulation includes not only written language but also oral language, expression through gestures, actions, role play, acting, drawing, etc. Similarly, observation and recording may involve nature, or social phenomena or experiments/activities. It should be obvious how the nine categories given on page 50 will also accommodate 'subjects' such as language, mathematics, science and social science.

However, it must also be noted that a single unit of the workbook or an activity like observing one's surroundings may have different kinds and levels of skills, different kinds of information, as well as their interconnections, all emerging from the same source and woven together. For example, making a map of the school and its neighbourhood might include measurement of length, rudimentary concepts of scale, of representing three-dimensional reality on a two-dimensional plane, plotting the different kinds of trees, insects and other life forms around, the different

sections of society that occupy different kinds of *mohallas* in the village, the different kinds of land nearby and to whom it belongs, etc. This perhaps is the nearest we can get to Prashika's concept of integrated learning, though this is by no means the only kind of learning taking place in Prashika schools. (The specific treatment of 'subject areas' is given later.) The integration is at the following levels.

1. The boundaries between subjects are weak. With primacy being given to skills, traditional boundaries between areas of knowledge become fuzzy. For example, the abilities required to translate into sentences the parts of the process in a schematic diagram, for example, water cycle, food cycle, factory process, etc. could be regarded as language, or science, or even mathematics (flow diagrams in computing);
2. The boundaries between school knowledge and out-of-school or everyday knowledge are also weak. The skills are practised on things 'that are immediate to the child and relevant to the present context of their society'.

The Prashika curriculum for Classes III to V, then, is a skill-based and integrated one which, while refusing to give primacy to information, nevertheless, seeks to provide meaningful content to children.

# **LANGUAGE**



Observation and representation

3-2-93

सुनील टेकसटाईल क्लाथ एजेंसी

सालीमपुर अहरा, धुबान्ग जिला

पटना 800003

गोपाल कुमार अग्रवाल पटना



As already pointed out, Eklavya's experience in the Hoshangabad Science Teaching Programme clearly indicated the low levels of both receptive and productive language skills among Class VI children. The listening and reading comprehension abilities were so low that children were often unable to follow even simple instructions in Hindi. In the case of speaking and writing the situation was worse. Children were generally shy and hesitant to speak in the class. Prashika felt that teachers were often playing the 'guess-what's-in-my-mind' game with children. They were not interested in listening to what children had

PROFICIENCY LEVELS OF HINDI . . .

A pilot study conducted in the Hoshangabad district of Madhya Pradesh showed that the average proficiency level of 15-year-old rural children in the comprehension of standard Hindi was about 33 per cent. Over 166 students were examined in both the Hindustani and Sanskritized styles of Hindi and it was found that over 72 per cent students needed help with reading comprehension. Schooling, seen in terms of Hindi as the medium of instruction, educational facilities available and proximity of the school to urban areas, correlated highly significantly with proficiency in Hindi.

to say. The written samples of children's work showed wide divergences from standard Hindi morphology and syntax. It must be pointed out that the above description of the linguistic abilities of children is based on keeping standard Hindi as a reference point. In situations which were not threatening and where the target was not the use of standard Hindi, children often provided lively descriptions of their experiences in their own languages, often borrowing from Hindi.

### **SOCIOLINGUISTIC SURVEYS**

Early sociolinguistic surveys showed the following.

1. The language used in textbooks and schools was highly formal and Sanskritized. It was far removed from the tribal and regional languages used by children at home and in peer group interaction.
2. The use of regional varieties of Hindi or of tribal languages was highly stigmatized in the classroom.
3. The state curriculum focused on reading, almost excluding the skills of speaking and writing.
4. The language material used in textbooks was generally uninteresting and often had strong moral undertones.

5. Teaching strategies were essentially linear starting with alphabets and words in isolation and leading on to decontextualized sentences.
6. Successful learning consisted of reproducing memorized texts and answers. There was no space for the creativity of the child.

### **NATIVE LANGUAGES VS STANDARD HINDI**

Prashika strongly felt that children should receive education in their own languages. It would not only make the task of learning easier and more enjoyable but would also help these hitherto neglected languages to grow. It was felt that no language is inherently superior or inferior and that the question of the prestige and status of a language was essentially a socio-political and not a linguistic question. Linguistically speaking, all languages were equally systematic and rule-governed and could potentially be used for all literary and scientific activities. Prashika saw language not only as a medium of communication but also as a marker of group identity and as a phenomenon that is inextricably intertwined with our thought processes.

Historically, societies have often used languages associated with elite and powerful groups for cultural domination, stigmatizing and ridiculing the languages.

associated with the poor and weak sections of society. There was thus a very strong motive in Prashika to produce language-learning materials in the native language of the children. The idea of dividing the area covered by Prashika into different language districts was seriously explored, hoping that each area would have a book written in its particular language.

Prashika tried out some materials in local lan-

PRASHIKA WRITES TO SOME RESOURCE  
PEOPLE . . .

We have been doing some exploratory studies in language and mathematics. We have got a whole lot of sentences spoken and written by children and we are trying to compare them with the corresponding sentences in standard Hindi. We really don't know how to handle the variety of linguistic behaviour we encounter here.

guages in some of its schools. It also toyed with the idea of producing a single text with multilingual glosses for various lexical items. However, it became evident that every area was essentially multilingual in character. Often the same class had children speaking different varieties of Hindi and various tribal languages.

Secondly, the members of the group had no competence in the local languages and no experience of producing teaching materials in these languages. It was also felt that knowledge of standard Hindi was essential to enable these children to participate actively and meaningfully in the mainstream life of the country.

Prashika it seems was caught on the horns of a dilemma. There were compelling socio-political and academic reasons for producing teaching material in the local languages on the one hand, and equally strong pressures on the other to use standard Hindi, notwithstanding the problem associated with producing teaching materials in the local languages. Over a

A PRASHIKA MEMBER OBSERVED . . .

Dialect variations were huge. Even a cluster of 4 or 5 villages could not be clubbed together. In fact, the same class had children speaking different languages and dialects. Writing in dialects posed a serious problem. Whole chunks could be read in standard Hindi but dialect writing was segmented and had to be read bit by bit. Dialects were not accepted in written forms. We did not feel justified in producing pedagogical arguments in favour of only one or two dialects.

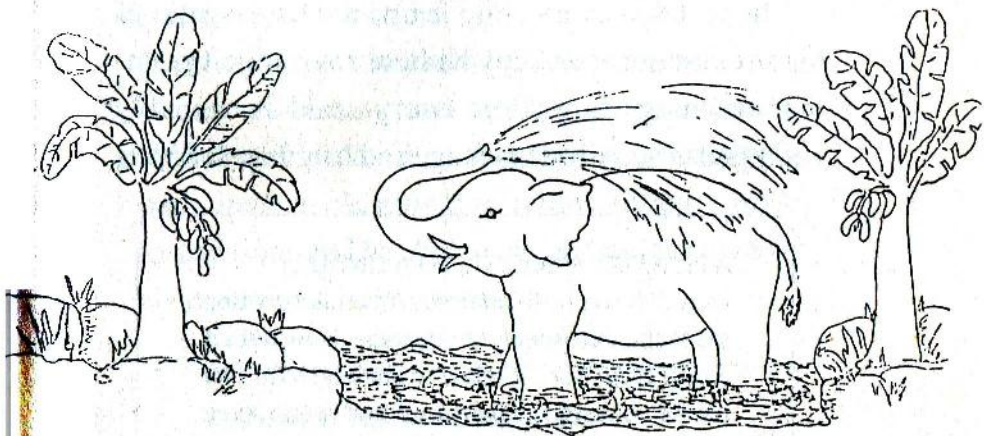
period of time Prashika evolved an understanding regarding the use of different languages in the curriculum in which the language of the children could have dignity. It was decided that the use of native languages would be encouraged in school and all possible efforts would be made to sensitize teachers to linguistic variability. It was strongly felt that multilingualism was an asset rather than a disadvantage.

It was also decided that there would be no textbook for the first six months for primary education and that the native languages of the children would be used freely for all educational purposes in this period. The Prashika books were to be written in standard Hindi but not in the highly Sanskritized formal variety that characterizes most Indian textbooks. The variety of Hindi to be used in Prashika was supposed to be simple and closer to everyday speech.

### **HOW IS A LANGUAGE LEARNT?**

For Prashika language is not merely a question of form. It is also a question of use in context. Language is seen as located in a social context where its use varies according to the people, the place and the subject involved. Even in monolingual societies different domains of activities are characterized by different linguistic vocabulary and idiom. In multi-

# हाथी



जब पानी में जाता हाथी  
 भर भर सूंड नहाता हाथी ।  
 कितने केले खाता हाथी  
 यह तो नहीं बताता हाथी ।  
 धम्मक धम्मक आता हाथी  
 धम्मक धम्मक जाता हाथी ।

जल - जाल		ज - जा
नर - नार		न - ना
जाता खाता		

हाथ - हाथी		य - धी
पान - पानी		न - नी
हाथी पानी		

lingual societies these roles may be fulfilled by different languages.

The fact that every child learns the language(s) of his environment perfectly without any explicit grammar teaching shows that every child is mentally equipped to acquire a language and language learning

A PRASHIKA ASSOCIATE TO A LINGUIST . . .

I have always been interested in understanding the technical aspects of language. How does it work? How does it relate to society? Will you please come to Hoshangabad and spend some time with us? What I really want to know is whether what I have intuitively felt about the nature of language is really true.

is essentially a matter of exposure and contextualization. It is possible that optimal language learning takes place when the focus is on anything other than the language itself. Language could not possibly be learnt by segmenting texts and arranging them in some order of hierarchical difficulty. Language learning is not a linear or additive process. Chunks of language along with their social correlates are probably internalized as wholes. It was most important, Prashika felt, to involve children in interesting and creative activities.



**OBJECTIVES**

Against this background Prashika tried to fulfil the following objectives.

1. Make the experience of language learning joyful.
2. Enhance listening and reading comprehension abilities of children so that they could actively participate in classroom activities, follow simple instructions and be able to understand the materials used in primary education.

**A RESOURCE PERSON TO PRASHIKA . . .**

We must try to make the children talk a lot. All these games should not end up as mere action and movement. We are not just teaching language structures. We are involved in a process of helping these children to articulate their joys and sorrows.

3. Enhance speaking and writing abilities so that children could express their ideas clearly, precisely and with confidence.

Prashika does not perceive language abilities as discrete skills. These skills are linked to each other in a fundamental way and the neglect of any one of them may eventually retard the overall language proficiency. Prashika also perceives language as spread



## दाईं आखर प्रेम का



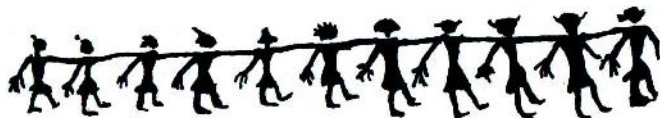
### प्रिय साधना

आपका पत्र 24.11.90 को मिला आपने पत्र जल्दी भेजने को कहा लेकिन यहां महाराष्ट्र सरकार ने पेट्रोल डीजल में कटौती कर 2150 एस.टी. बसेस कम की है। जिसकी वजह से 20-25 हजार कामगार कर्मचारियों को काम से निकाला जायेगा। और आम जनता विधार्थियों को भी बड़ी अशुविधा हो रही है। इसलिये हमने एक परच निकाला और सही मुहिम कर रहे हैं। इसी काम से लगे रहने से पत्र देने में देर हुई है। आपने होशंगाबाद विज्ञान के लिये लेख मांगा है लेकिन मैं लेख के रूप में शापद नहीं लिख पाउंगी। फिर भी कोशिश करती हूँ। मैं निर्मला स्वी मंच थनीक एक्ता ग्रुप में काम करती हूँ। वैसे मैं राजनीतिक-सामाजिक काम में 82 से जुड़ी हूँ।

मुझे तीसरी कक्षा पास करने के पहले ही स्कूल छोड़ना पड़ा उसका कारण मेरे पिताजी पुलिस में नौकरी करते थे। हम दो बहने थीं बड़ी बहन मेरे से 6-7 साल बड़ी थी। वो 7 वीं में और मैं 2 री में पड़ते थे कि पिताजी एकाएक बीमार हो गये और कुछ दिन के बीमारी के बाद चल बसे तब मैं 8 सालकी थी।

उसके बाद हम लोग पांच भां, दो बहने और दादी अमरावती जिले में मोर्रा रोड पर पिताजी के गांव रहने आये। दादी खेत में काम करके हम लोगों का पालन कर रही थी। वही मुझे 3 री में डाला गया पिताजी के जाने का दुख और बाहर दुनिया का व्यवहार मां ने कभी देखा नहीं था इसलिये वो हमेशा बीमार रहने लगी उसके इलाज के लिये गांव-गांव के ओझों के पास कोई डाक्टर के पास जाना हो तो हमारी दादी पूरे परिवार को ले जाती थीं की लड़कियों को कहाँ रखे। ऐसे में ही मां भी चल गयी उसके बाद बहन भी बीमार रहने लगी फीर से उनके इलाज में भी वही चक्कर चला और 6-8 महिने बाद वो भी चल बसी।

उसी वक्त आर्थिक तबाह भी था। पिताजी का जो थोड़ा बहुत पैसा मिला या वो दोनों मां बेटी के इलाज में खर्च होने को आया था। और ये सब घटनाओं से जुड़ी दादी और मेरे बाल मन पर बहुत बड़ा आघात था। दादी बीमार रहने के साथ-साथ मानसिक संतुलन भी खो बैठी थी। अब दोनों का पेट पालना मेरे जिम्मे था। और मैं खेत में काम करने जाती थी। ऐसे में कुछ महिने बाद दादी भी चल





बगी और मैं फिर कभी स्कूल का दरवाजा नहीं देख पाई। मुझे पढ़ने का चाव बचपन से था लेकिन पढ़ने के लिये कुछ मिल नहीं पाता था। जो बच्चे स्कूल जाते उनकी बालभारती लेके मैं उस वक्त पड़ती थी। दादी जान के बाद पिताजी के मामा नागपुर से मुझे सहारा देने आये और मैं नागपुर चली आई। यहां घरकाम के बदले दो वक्त की रोटी तो मिलती थी लेकिन पांव पड़ने के बाद भी लूल जाने को नहीं मिला। काका ये जो 11 पास थे और वो घर में मुलशन नंदा, रानू के उपन्यास लाते थे कभी जानूमी उपन्यास लाते थे। ये ही सब मैं टाइम मिलने पर पड़ती थी। आज मैं पढ़ना भुली नहीं तो इसका कारण मैं जो भी कचरा पड़ी लेकिन मैं अपनी पड़ाई उती उपन्यास के कारण जिन्दा रख पाई और न्युज पेपर जब भी मिले पड़ती थी।

काम की चीजे पढ़ने को तो 82 में संघटन से जुड़ने के बाद ही मिला और तब से ही मार्क्स-लेनिन, औरतों की पत्रिका पडने को मिली गोरखों की मां पडने से मुझे बहुत प्रेरणा मीली। बेसे साथी नीता और बाकी साथीयों ने भी प्रेरणा देने का काम हमेशा किया है।

आज मैं पड पाती हूं। उसकी मुझे खुशी है कि कोई दूसरा ब्यक्ति पढ़के सुनाये उससे खुद पढ़के समझने में ज्यादा आसानी होती है। और पढ़ना-लिखना आने से बेसक आंदोलन के काम में मदद भी होती है। मैं कभी परचा-पोस्टर भी लिखती हूं जो मजदूर साथी पढ़ नहीं

पाते तो कभी-कभी उन्हें परचा या मजदूरों सबधी कोई सहित्य है तो पढ़के सुनाती समझाती हूं। मुझे लगता है कि पढ़ना लिखना आना आंदोलन के लिये काम की बात है। आज मजदूरों में एक बात हमेशा सुने को मिलती है कि आंदोलन का नेतृत्व करने के लिये पड़ा लिखा ही ब्यक्ति होना जरुरी है।

मुझे लगता है काम चल नके इतना भी यदि मजदूर पढ़ना लिखना सीखें तो वो आंदोलन का नेतृत्व अच्छे से कर सकता है। पढ़ना याने स्कूल में रडामार पढाई की बात मैं नहीं कहूंगे। राजनैतिक, सामाजिक रोज की घटने वाना घटना से संबंधित है।

आज की स्थिति में मजदूर कहता है हमें कहां वक्त मिलता है। ये सब पढ़ने का बात कुछ हद तक सच भी है। लेकिन बहुसंख्यक निरक्षर मजदूर वर्ग रहे तो कुछ पड़े लिखे लोग ही हम पर हुकूमत करते रहेंगे और हम हमारी पीडा को समझने में भी असमर्थ रहेंगे।

महत्त्वा फुले के बारे में अपने विचार इसलिए भेज रही हूं कि उन्होंने पढ़ाई के क्षेत्र में महत्वपूर्ण कार्य किया।

धन्यवाद,

आपकी साथी  
प्यार के रूप  
निर्मला

(एक में अभिन्न भावनाओं को देखते हुए उसे बिना किसी परिवर्तन के छाना जा रहा है - संपादक)



over the whole curriculum. It is a medium through which knowledge in other disciplines is acquired; reciprocally, knowledge of other subjects enriches language proficiency. It has been Prashika's endeavour to familiarize children with different registers of a language.

Prashika feels that it is important to realize that a child comes to school with a fully developed language. It is an asset, the importance of which should never be lost sight of. The multilingual nature of the classroom can certainly be used as a resource. Two issues that Prashika has been consistently concerned with are: the difference between spoken and written language, and the role of grammar teaching in language learning.

In spoken language, we use not only words, but variations in intonation in order to convey our meaning. Intonation, pitch and speed of speech communicate a great deal. For instance, a statement can become a question simply by a rising intonation at the end. Saying something angrily or with a laugh can change the meaning. In addition, we also use non-verbal signals to communicate. Gesticulating with our hands or bodies, facial expressions and looks and the ways in which we exploit space in conversation are examples of this. Those who speak more effec-

tively take care to use variations in sound, gestures and facial expressions and a careful use of the space available to them to convey their meaning.

While learning spoken language it is necessary that a child gets the opportunity to put into use all these devices. That is why acting in poems and stories, mime, role-play, enactment, etc. is part of Prashika's curriculum.

This kind of communication, however, can take place only face to face. You cannot obviously send your gestures and intonations in a letter. Faced with written language devoid of these non-verbal cues, children experience great difficulty in understanding it. Many more words and sentences have to be included to make the context clear. However, as it would require too many sentences to make everything about the context clear, there is often much that is left to be inferred. In order to read and understand something, then, children have also to learn to infer the context and create meaning for themselves.

Similarly, in writing children need to be able to recognize what aspects are necessary to recreate the context in the reader's mind. This necessitates taking into account the interests, abilities, experience and the information level of the audience when using the written form. Then children naturally have difficulty

on first coming into contact with written material.

About the place of grammar in language teaching, the question is: Should we teach grammar explicitly? Will it accelerate the process of language learning? These questions have always worried Prashika. All children learn their first language perfectly without any exposure to its grammatical rules; the grammar is automatically abstracted from the context. But on the other hand, it is very tempting to teach explicit algorithms which may take care of several mistakes. Prashika has insisted on the principles of natural language learning. There should be as little of explicit grammar teaching as possible. On the other hand, Prashika has tried very hard to create contexts of different kinds which would creatively engage the cognitive abilities of children and encourage them to

A PRASHIKA MEMBER OBSERVED . . .

We tried to record natural conversations of children and failed miserably. We neither had the professionalism nor the necessary equipment for such a project.

arrive at generalizations based on their observations of language data. Concerning the teaching of writing, Prashika feels that children are best introduced to

writing not through a hierarchical progression from alphabets to words, sentences and paragraphs but through attempts at writing what children wish to see written. Meaningful context and active child participation were keys to both spoken and written language.

## LANGUAGE TEACHING MATERIALS AND METHODS

Keeping the above principles and objectives in mind Prashika set out to produce teaching materials and

A PRASHIKA TEACHER COMMENTS . . .

Yes, children have improved a lot. They can draw pictures, tell stories and recite poems. Their general knowledge has also improved. They can now read a newspaper. Their essays are now more original.

aids and evolve teaching methodologies that could motivate learners to participate actively in their learning activities. A very important aspect of this project was classroom observation and intense collaboration with teachers.

The first stage of the Prashika language curriculum consists of a variety of listening and speaking activi-

ties. A variety of activities involving concrete objects, picture cards, stories and poems have been created to provide opportunities to listen and speak. The activities centred round concrete objects involving discrimination, sorting, classification, shape and sound recognition, games involving the use of pictures and alphabet cards etc. also serve as pre-reading activities. The first six months of the first year are centred around these activities exclusively. The earliest written materials were based on what children were already familiar with or sometimes created on the basis of the oral text produced by children themselves. The guiding principle in producing these materials has been: their content should be interesting and meaningful to children and they should be written in a language that is comprehensible to children. In many cases the materials were tried out in different schools and were modified on the basis of the feedback from children and teachers.

One of Prashika's major achievements is the *Khushi-Khushi* series of books. *Khushi-Khushi* books are not just language teaching books. They attach equal importance to maths and social science. It was appropriate to talk about *Khushi-Khushi* here not only because the language component dominates the first two books but also because *Khushi-Khushi* books are





an effective illustration of 'language across the curriculum' principle. Though Prashika found it very difficult to evolve the language dialect controversy it seems to have succeeded admirably in breaking down the inhibition of children and providing them ample opportunities for fresh and authentic articulation.

### **ON THE NATURE OF KHUSHI-KHUSHI**

*Khushi-Khushi* books are different from traditional textbooks or workbooks. The concern in preparing these books has been to achieve a meaningful interaction between the learner, teacher and learning material. The books do not set out to impose any authoritative, conceptual and sequential framework on the children and teachers. Traditionally textbooks aim at covering a given syllabus. They are generally organized into unimaginative lessons and mechanical exercises. They in fact often end up discouraging children and teachers from being imaginative and creative. *Khushi-Khushi* has been designed in such a way that

1. it does not become the sole and authoritative educational material. Though important, it is only a part of a curriculum which includes a host of other activities and objectives. Moreover, it is based on other classroom activities in terms of

what has been done, what is being done and what is likely to be done.

2. there is something to do on every page – something that children will find interesting. For many of these activities children are not dependent on the teacher. They can do them on their own or in groups.
3. a variety of academic activities get related to a single source which in essence is very interesting to children. It could be a poem, a picture or a story. It is interesting to note how a variety of sensory-motor, cognitive, linguistic and logico-mathematical abilities can be initiated in the activities associated with a single page.
4. a sense of freedom is felt throughout the book. The teacher is free to select any page in consonance with the abilities of the learners. Children themselves may be doing different activities at the same time. Since the pages are in a certain order, there is obviously a kind of sequence which, to some extent, reflects Prashika's understanding of the ways in which children learn. It is, however, a very flexible sequence.

*Khushi-Khushi* books are designed to be a bridge between the concrete and the abstract and they do so in the following ways.

1. The books help the teacher in sequencing, linking and assessing various classroom activities. Before using a page, a number of activities might be necessary in order to reach the point where the page might be used. In this way the books bring together activities which might otherwise be discrete.
2. The books also allow the teacher to assess what has been happening in the classroom (say, on a weekly basis). For instance, if a substantial number of children are unable to do a classification activity page, he knows what to emphasize next. So even if the next activity happens to be primarily a poem or a counting exercise, he can still weave classification into it.
3. The books are often used as exercise books also where errors are not something to be abhorred. Since every page allows a variety of activities, there is plenty of chance for the child to practise and improve.
4. Apart from helping in sequencing and reinforcing, the workbooks play the important role of *introducing new elements*, and new degrees of complexity. In the movement from the concrete to the abstract, the abundant use of pictures plays an important role. Classification activities, which

were done with concrete, tangible objects, then with picture cards or objects (still physically manipulable), have now taken a different form. Classification is now done from a group of pictures printed on a page, making the activity intellectually and linguistically more challenging. Similarly, numerical and logico-mathematical concepts, too, move from concrete objects to pictures and, of course, finally to symbols.

5. In addition, there are also more specific objectives. For example, exposure to written material in script size more compatible to children's perception, even if they can't read to begin with, can serve as a tool for word recognition and hence learning reading.
6. Finally, it is hoped that these books would also serve to help children (especially those who have limited exposure to visual or written material) look upon a *book as a means of communication*. At present a book is only something to copy meaninglessly from, a symbol of authority. *Khushi-Khushi* makes the medium meaningful.

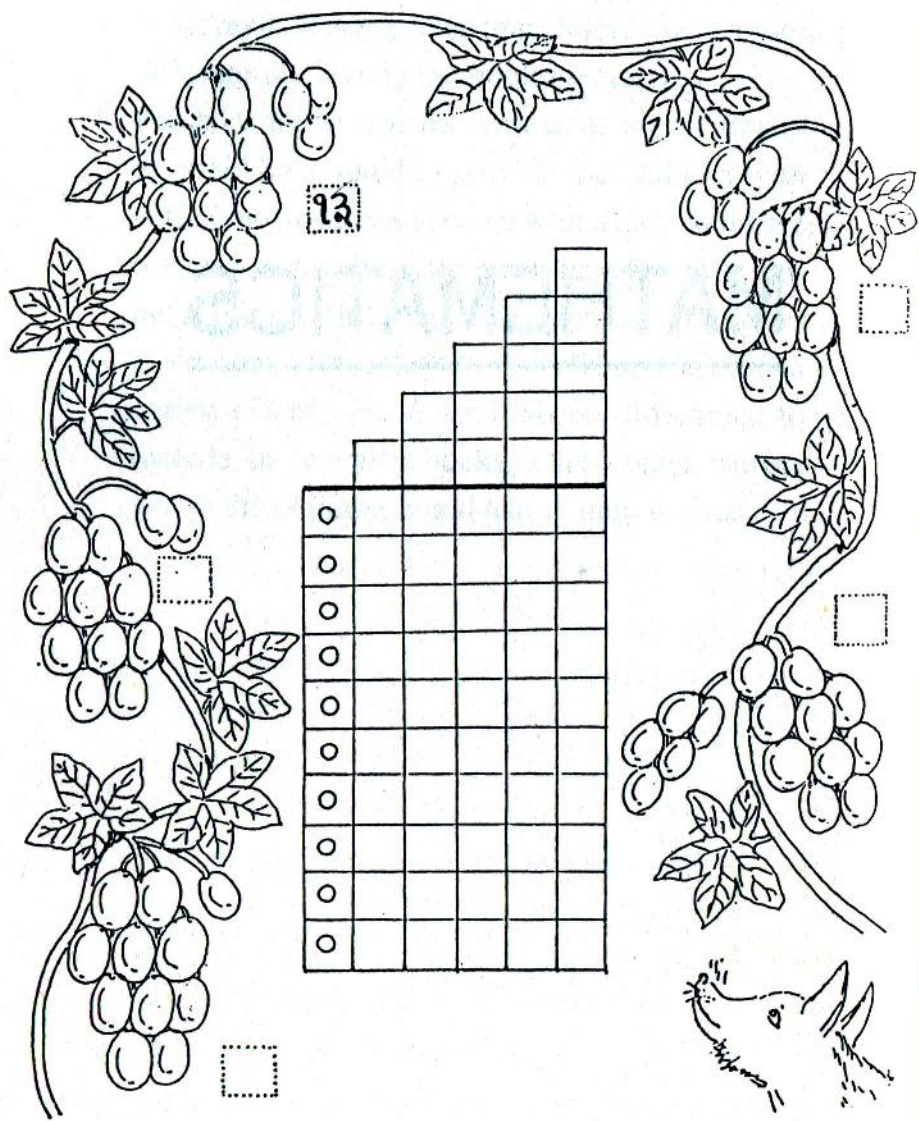
### **CONSTRAINTS ON KHUSHI-KHUSHI**

The biggest constraint on the production of the workbook has been to keep the production cost low. Since

the books had to be produced at a very low cost

1. it was not possible to have any coloured pictures in the book. It is expected that children will colour different pictures in the book themselves.
2. Prashika had to limit the number of pages. Ideally it would have liked to provide the children with sufficient quantities of paper which they could use for drawing, colouring, craft, etc. The first impulse of rural children, whose contact with paper is extremely limited, is to run wild and use it in a variety of ways. However, Prashika did manage to include in the workbooks a few blank sheets which the children could use as they wished.

# **MATHEMATICS**





## PRE-PROGRAMME TESTING

Eklavya's earlier experience in developing the middle school science curriculum had revealed the low level of mathematical skills of children coming from primary schools. Prashika decided to conduct a series of tests in maths from Class I through V to assess specific learning problems.

The tests in mathematics focused on numbers and the four basic operations as well as on spatial ideas like translating, rotating, estimating, etc. Prashika not only attempted to see whether children could do 'sums' but also whether they understood what they were doing.

The only skill that most children seemed to have mastered by Class V was simple addition of numbers upto 10. It is because of this that they could get the correct answer even in 3-digit addition which did not require carrying over. It was only when carry-over additions (where the concept of place value comes into use) were attempted by these children that it became evident that the concept of numbers beyond 10 is not clear to them. The most common error found was of the kind where each column was added independently.

Addition seemed to be so strong in the minds of children that even when asked to do division or

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5	7
7	5
<hr/>	
12	12

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multiplication, they simply added. Fewer children attempted operations presented horizontally, for example,  $65 - 23 = 42$ . Story problems and contextual problems seemed the most difficult – very few children managed to apply the right algorithm.

Skills of addition and subtraction seemed to improve from Class III onwards but understanding of number order and place value showed no change.

As for fractions and decimals, which are taught in Classes III and IV, only about 10% of the children tested could even mechanically attempt the problems. The problems on spatial skills too were rarely attempted.

To try and understand the reason for this deplorable state of affairs, the curriculum and textbooks of primary schools were reviewed and classroom teachers were observed.

## THE STATE CURRICULUM

The state curriculum for Classes I to V is extremely dense. It does not allow children any space to come back to what they have already learnt and may have forgotten. For example, in Class I children are sup-

posed to have learnt numbers from 1 to 100, all the four operations on numbers 1 to 100 and multiplication tables till 10.

The state curriculum is marked by lack of reinforcement. In Class II there are about 10 pages revising the Class I curriculum. Thereafter, the chapters move on to larger numbers (up to 1000), and newer ideas like weight and time units etc., never once returning to earlier principles and concepts, which, it was assumed, had been learnt by all the children. Intensive exploratory discussions with children showed that they were not clear about many concepts taught in the earlier classes and had never had the opportunity to re-examine these earlier concepts. It became increasingly clear that the Prashika curriculum will have space for inbuilt horizontal elaboration where children could return to the same concepts again and again.

Moreover, the approach in the textbooks is extremely mechanical. A solved example of each type is given and then a number of exercises follow. The contexts for the problem are usually unfamiliar and uninteresting. Finally, most teachers are disinterested in the subject and teach it in a very mechanical manner. Given all this it is not surprising that children develop a fright for mathematics at an early age.

## SOME BASIC PRINCIPLES

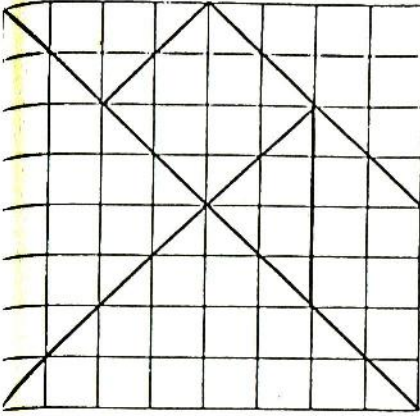
Prashika acknowledges a fundamental link at the cognitive level between language and mathematics learning. In Classes I and II especially there are many common activities which have been found to serve as building blocks for both language and mathematics learning.

The programme does not encourage meaningless memorization, especially of abstract rules and algorithms. It is believed that, given a certain experience base, children *can* understand the rules behind many aspects of mathematics.

For this it is necessary to emphasize, especially in the earlier phases, activities that involve interaction with concrete objects. In later phases, articulation of the method of doing a sum or converting problems with numbers to verbal problems could be emphasized to encourage understanding. Thus, reflection on experience rather than drill is considered the vehicle to mathematical understanding.

As part of the overall cognitive development of the child, mathematics in Prashika lays equal emphasis on the development of spatial and numerical skills. Finally, mathematics is seen as more than a subject. It is a way of looking at the world around, and understanding it in quantitative terms.

## टैनग्राम

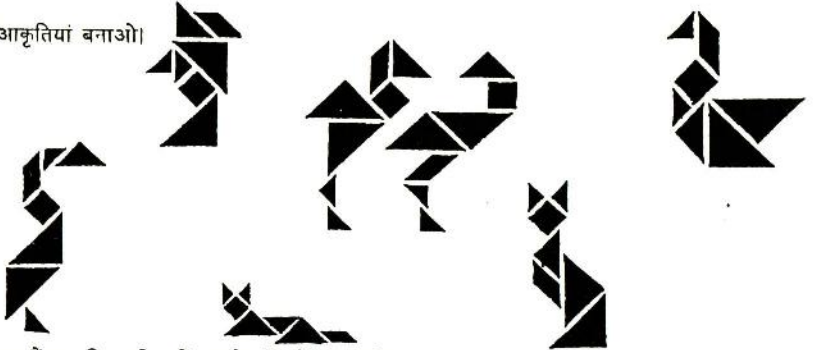


यहाँ चौखानों की एक जाली दी गई है। पृष्ठ पर दिए गए चौखाने कागज़ पर इतना ही बढ़ा एक चौकोर काट कर उसे एक पुड़े या गत्ते पर लिपका लो।

अब जाली में गहरी लाइनों से बनी आकृतियाँ अपने चौकोर में उतार लो। इन लाइनों पर काट कर सात टुकड़े बना लो। ये टुकड़े ऐसे दिखेंगे।

टैनग्राम से तुम कई तरह की आकृतियाँ बना सकते हो। 2 या 3 टुकड़ों से एक तिकोन बनाने की कोशिश करो। और कितनी तरह से तिकोन बनता है? बनाकर देखो। चतुर्भुज किस-किस तरह से बना सकते हो?

तब तुम ये आकृतियाँ बनाओ।



थोड़ी मुश्किल है पर फिर भी इन्हें बनाने की कोशिश करो।



● अब अपने मन से और आकृतियाँ बनाओ।

## THE PRASHIKA CURRICULUM

A major way in which the Prashika curriculum differs from the state curriculum is that the levels of expectations regarding numbers are pitched at a drastically lower and more realistically achievable level in earlier classes. For instance, it is not expected that children in Class I will be able to go beyond 20. At the same time the emphasis is not merely on being able to repeat the number sequence in abstraction but actually being able to count a set of objects, which is never emphasized in the state curriculum.

At the same time, mathematics right from Class I is seen as more than number work. It broadly includes

1. number,
2. space and shape,
3. other ways of handling data – maps, pictographs etc., and
4. measurement.

Keeping in mind the age and background of the children who come to Prashika schools, a long time is devoted to precounting activities like sorting, classifying, one-to-one correspondence and sequencing. Most of these are done using concrete materials from the environment.

Also, and this is particularly true in the case of numbers, there is a mathematics to be learnt in the

context of everyday life and the physical world. In addition, there is also a mathematics to be learnt in abstraction, for example, patterns and relationships between numbers or within a given system.

While Prashika accepts that the first precedes the second, and that the second derives from the first, it also believes that abstraction need not be postponed till children are much older (i.e. till middle school).

### **THE SEQUENCE OF LEARNING**

Prashika recognizes various levels of mathematical capabilities. These include

1. 'initial' or 'intuitive' mathematics; intuitive because it precedes, and can exist independently of, any formalizations, either in terms of symbolic notations or defined operations. It is linked to an operative relationship with the world.
2. An initial stage where concrete objects and visuals are necessary to explore mathematical concepts and to conceptualize.
3. A pre-logical stage in the development of mathematical cognition and the need for readiness tasks in the curriculum.

### **CONTEXTUAL ELABORATION**

Prashika makes a concerted effort not to rush children

## ACCORDING TO PRASHIKA . . .

As children who study in Prashika schools have never been to pre-school institutions, the first six months in Class I are spent in activities – without using the book at all. These include sorting, matching, ordering. . . . The book itself does not attempt to teach children 'numbers'. Number sequences are learnt orally by the child from teachers, from peers, and from the community at large. Instead, the book provides opportunities to use the number scheme repeatedly both to assess cardinality and ordinality. Often the number of objects/items to be counted exceed 10. There is a belief that initially children should deal with numbers only below or upto 10 and that their exposure to larger numbers should be graded on increasing powers of ten. However, these limits are found to have no psychological significance. The counting scheme can be exercised independently of these limits, and to some extent operations such as addition, subtraction, multiplication and even division can be successfully performed without taking any special recourse to algorithms. However Prashika does not expect children to decode numbers written above 9 or to extend these operations to larger numbers. This coincides with a psychological finding that numbers upto 6 or 7 are intuitively understood by children and that they also possess intuitive ways of dealing with such small 'visual' numbers.



through the abstract concepts of mathematics. For example, the concept of place value is explored in a variety of contexts. Some specific examples from the workbook are:

1. Class I. The base ten nature of number naming/ notation system is not even hinted at, except on the last page of *Khushi-Khushi I*, where a histogram-like picture is used to suggest that 11, 12, ... 15 may be thought of as  $10 + 1$ ,  $10 + 2$  etc. *Ikai*, *dahai* are not used at all.
2. Class II. Place value is explored in a concrete, contextualized set of activities. These activities are intended to have children redefine numbers around 10. The words for units and tens are rarely used. Children are not expected to use them in any abstract sense.
3. Class III. Here children do rewrite numbers with respect to place value in the abstract sense. The concept of 'borrowing' and 'lending', i.e. addition and subtraction algorithms are explored through a game based on exchanging 10 beads for a card.
4. Class IV. There are Units-Tens-Hundreds (UTH) exercises in contextualized and decontextualized forms. The multiplication algorithm is explored through the idea of decades. The number charts

provide enormous elaboration of base 10. Card-bead games are still used.

5. Class V. There is an attempt to explain the division algorithm on the basis of UTH. There are exercises of writing numbers in 'expanded' form etc. Decimals and how they can be regarded as an extension of the place value system to the right of the units place is also referred to.
6. Similarly the development of shapework, mapwork, and numbers as an abstraction are found to be different from the dominant ways of dealing with these areas in the usual textbooks.

## **METHODS**

Prashika believes in allowing children to experiment and to explore ideas. Children should think not only to get answers, but also to understand processes and underlying methods. Some of the basic methodological assumptions of Prashika are as follows:

1. Only if the teachers begin to enjoy mathematics will they be able to further communicate some of this enjoyment.
2. Children should get ample opportunities for concrete activities based on mathematical concepts. At the same time, Prashika recognizes the limitation of using concrete materials for abstract con-

- cepts and suggests interesting activities to explore them at an early stage.
3. Children should be given the opportunity to discuss how they are doing something in mathematics since articulation is an integral part of understanding.
  4. There should be plenty of coming back to first principles. Concepts should be reintroduced in different contexts at different steps so that children who could not catch on in the first instance have an opportunity later on.
  5. Children should get the opportunity not only to solve problems given by the teacher, but also to hypothesize and to make their own problems.
  6. Children make mistakes for a variety of reasons including the systems in transition they have made for themselves. It is therefore important to try to understand *why* they make mistakes. Talking about errors is far more important than trying to rectify errors at one stroke. Errors that are overcome through discussion and attempts at conceptual clarity are likely to disappear. Teachers must not so much emphasize the *right* procedure, but allow for expression of and exploration of other procedures.

## **MATERIALS**

As already pointed out, there is no book for the first six months of Class I. The focus is on activities with concrete materials, picture cards and outdoor activities. The activities and units in the workbook are meant as examples for the teacher so that she can create more of her own activities as and when necessary.

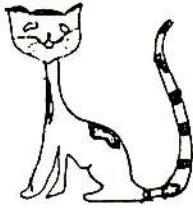
The Class I book provides opportunities for mathematical activities like counting, addition and subtraction, familiarity with shapes, etc. on nearly every page. Though there are a few pages specifically meant for mathematical activities, we encourage the teachers to create interesting contexts through stories and discussions for teaching mathematical operations.

In the later classes, stories often have questions that require the application of mathematical skills along with questions on comprehension.

Prashika tries to focus on relationships between numbers and operations, discovering patterns in numbers as well as spatial relationships. In such activities Prashika asks children to test their hypothesis about such relationships and also to make up more similar questions themselves.

Fairly simple problems of addition and subtraction

इस तरह से आकार को नियमित रूप से बराबर अनुपात में बदलने को स्केल बदलना कहते हैं। स्केल बदलने यानी पैमाना बदलने में हम तुलना का मानक बदल देते हैं। जैसे, हमने ऊपर दिए नक्शों में दिखाया है कि एक कदम का मान एक तीली, आधी तीली या एक बीज - कुछ भी हो सकता है।



उदाहरण के लिए, बैठी हुई बिल्ली की ऊंचाई 50 से.मी. (यानी डेढ़ फुट से अधिक) होती है। इस कागज पर तो इतनी बड़ी बिल्ली का चित्र बन नहीं सकता। चलो हम 50 से.मी. को 4 से.मी. के बराबर मान कर चित्र बनाए। अर्थात् इस चित्र के लिए हमारा स्केल है - 50 से.मी. = 4 से.मी.

यदि हमारा स्केल 50 से.मी. = 2 से.मी. हो तो बिल्ली और भी छोटी बनेगी।



यह मध्यप्रदेश का नक्शा है। इस नक्शे की चौड़ाई 6 से.मी. है।



अब 3 से.मी. चौड़ा मध्यप्रदेश का नक्शा बनाओ। 3 से.मी. चौड़े नक्शे में 'क ख' लम्बाई कितनी होगी? और भोपाल से इंदौर की दूरी कितनी?

SEQUENCING IN KHUSHI-KHUSHI . . .

The layout and nature of materials in the Khushi-Khushi books also indicate certain assumptions about sequencing:

1. There is a developmental agenda for cognitive structures – a certain timetable according to which they develop. Therefore not only do certain mathematical concepts need to be postponed till later, but they also need to be elaborated in a particular manner.
2. There is a logical (hierarchical) sequencing which is dictated by the discipline itself, for example, addition precedes multiplication, etc. However, this sequencing is tempered by some considerations about the nature of learning.
3. Learning is not linear – there should be looping, i.e. opportunities to return to simpler earlier concepts and operations, and also opportunities to attempt things judged to be at a higher level.
4. The rate at which new ideas, concepts and operations are introduced is also not linear: it is much slower in Classes I and II and gradually proceeds at an increasing pace later.

are continued even in Classes III and IV but they are different from those done in Classes I and II. The objective of this is both to give an opportunity to

children to re-examine earlier concepts as well as for them to discover new relationships between numbers and their operations. Children are encouraged to make word problems based on mathematical operations and their application.

Practice and horizontal elaboration are very important in mathematics. However, the books themselves have only a limited number of exercises for children to do. Prashika has tried to use other ways of generating more exercises for children by:

1. using games such as housie, snakes and ladders etc. which are open ended and can generate many problems. With slight modifications such games can also be extended to involve higher operations and concepts.
2. asking children to make up problems and quiz each other.
3. training teachers to make up more problems for children.
4. using number charts etc. where there are many possible patterns and relationships that can occupy children.
5. providing children with a challenge through statements like '*Mera dawa hai ki . . .*' (I claim etc.) so that now they have to investigate.

## THE TEACHER

In most of the primary schools teaching was found to be as mechanical and uninteresting as the curriculum and the textbooks. It is not the fault of the teacher. The amount (s)he has to teach in the limited period of a school year, with the children's attendance varying with the seasons, prohibits any imaginative teaching.

The primary school teacher has usually passed high school (often without mathematics as a subject). Sometimes (s)he has studied only upto Class VIII. Most teachers are allergic to mathematics and have never enjoyed it themselves. Nor have they been oriented properly to teach mathematics to very young children. They have never been sensitized towards children's problem in learning mathematics.

Prashika regards teacher involvement in the curriculum development process as an integral part of its programme. It constantly interacts with teachers for curriculum development and review, pedagogy, evaluation problems, etc.

During teacher-orientation sessions, flexible use of the curriculum as well as the workbooks is emphasized. Teachers suggest and exchange among themselves a number of different activities, stories etc. which can serve to fulfil a certain cognitive aim.

Another aspect emphasized during the sessions of



teacher orientation is the importance of children's contribution of their own knowledge in the learning process. In these interactions, the teacher begins to appreciate that the children are not empty vessels and that making mistakes is an essential part of the learning process. In the orientation programmes the emphasis is not on providing a readymade correct answer but to explore different paths to arrive at possible solutions. There are a number of activities during the orientation, where no one actually provides 'right' answers but only guides a discussion and different teachers contribute different points of information. It is only after a number of such orientation sessions and after the teachers have gone back to school and tried out such activities with children and seen what they can contribute, that about a third of the teachers begin to re-examine their views.

### **THE OUTCOME**

The atmosphere in the Prashika classroom now is a pleasant departure from the usual disciplined class. Children of Classes IV and V can now rattle off a number of extremely imaginative problems involving a particular operation. They can tell you how they solve a problem and why they are doing it that way. Though most Class V children cannot add and sub-

tract fractions, they can probably tell you which fraction is larger in a number of different ways.

Their spatial skills too have improved considerably. They can make and read maps, estimate area and volume, and even point out minute differences between pictures.

# **ENVIRONMENT**

मेरा शहर



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संपादक जी नमस्कार

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## **GENERAL AIMS**

For Prashika environmental studies means understanding the immediate as well as the larger, more distant, environment. It involves a study of the physical *and* the social environment, or content which would normally figure under the rubric of science and social studies.

The focus of environmental studies in Prashika is to preserve and sharpen the curiosity of the child; to allow her/him to explore and develop a feel for the environment around. It tries to create in the child a feeling of confidence and develop abilities to go deeper into the questions that arise in the mind. These include abilities that help her sort, categorize, organize and infer from observations and form new relationships. In short, the idea is to provide the child with tools that would enable her/him to learn on her/his own and not be restricted to the memorization of information.

## **SKILL AREAS**

The major skill areas of environmental studies in Prashika are:

1. acquiring information through a variety of sources and methods;
2. recording, presenting and understanding that in-

formation; and

3. interacting with that information, trying in the process to draw inferences and to evolve a dynamic understanding of environment.

To fulfil these objectives we can use

1. on-site observation of the surrounding environment;
2. stored knowledge that children already have about their environment (such as names of trees, things sold in the market around, say, March, i.e. those aspects which do not require an observation to be made then and there but for which children have the data); and
3. information about environments with which the child is not familiar.

## **ACQUIRING INFORMATION**

In order to acquire information a child should be able to

1. recognize characteristics of objects (colour, shape, size, texture, smell, sound – basically, discrimination skills);
2. recognize parts of a whole;
3. distinguish between objects and between incidents/processes;
4. classify and sort;

5. compare and contrast aspects of incidents and of social processes/activities; and
6. ask questions such as where, why, when, how. To be able to find out the answer to these questions from different sources (people, one's surroundings, books, etc.). Here, ability cannot be separated from developing/retaining curiosity in the child.

This implies that the child should be able to plan field visits, meet people and elicit information from them, conduct simple experiments using simple instruments like a scale or a lens. He should also gradually learn to locate required reading materials, be able to read line drawings and maps and gain the confidence to draw appropriate inferences from her/his observations.

## **RECORDING AND PRESENTING INFORMATION**

The child should be able to

1. describe objects and events – orally and in written form;
2. keep records by maintaining a diary, making lists and maps, etc.;
3. make models (of clay, paper etc.); and
4. make collections (as of leaves, rocks etc.)

## WORKING ON AC- QUIRED INFORMATION

Prashika tries to equip the child with skills and abilities to work creatively on the observations made and the information collected. It is hoped that the child will be able to analyse this information by

1. comparing and contrasting on qualitative and quantitative bases, for example
  - comparing another environment with one's own
  - comparing two different types of information (matching a description with a drawing, or a chart)
  - understanding, spotting change and growth
2. recognizing relationships through
  - comparison and contrast
  - part-whole relationships



- cause-effect relationships
  - form-function relationships
3. recognizing patterns, by
    - understanding the sequence
    - estimating the next step on the basis of given information
  4. analysing logically and drawing conclusions
  5. visualizing an unknown environment on the basis of sources, and acquired information.

## THE 'SCIENCE' AS- PECT

The observation/science aspect in Prashika can be approached by

1. asking the children to do an experiment and make observations on it;
2. encouraging children to



- undertake small projects and quizzing them about the conclusions they may draw;
3. creating a situation which arouses children's curiosity and motivates them to do experiments on their own.

Children's curiosity may be aroused in a variety of ways. For example, by

1. doing something which seems like a miracle (*chamatkari prayog*);
2. creating a situation where something is to happen: everyone takes a stance, tries to predict what would happen (*poorvanumaan*) after which the envisaged experiment is done;
3. making a claim which has to be proved right or wrong by finding what kind of experiment to do (*dava*). Claims should be such that they lend

ACCORDING TO PRASHIKA . . .

All the experiments at this stage should be conducted with concrete objects or with situations that make sense to the child. It is from the known that the child will move to the unknown.

themselves to be tested by easily doable experiments or activities. They should be easy to understand and the experimental observations/results

should lead to simple conclusions directly.

## THE 'SOCIAL SCIENCE' ASPECT

*Understanding space.* The ability to perceive space beyond what one can immediately see is important, just as it is important to be able to represent it. Hence the importance of beginning on maps of the classroom, of the school, of the home, and of the *mohalla*, the village and its environs. In making these it is directional placement rather than proportion or scale that may be of importance. Scale can be introduced to some extent, perhaps in Class V. Maps such as those of the *tehsil* and the district, Prashika feels, cannot be understood in terms of space and direction by primary school children – they can perhaps serve to play games of the kind where place names have to be located.

For understanding the concept of a scale, the kind of clues that are given to children are very crucial. It is only some clues that make perception of proportion possible, focus that perception and enable its representation to take place.

*Time.* Similar efforts will have to be made to establish boundaries in terms of perception of time. However, one method that does seem to have possibilities

is the use of fantasy. This enables one to move back in time and draw comparisons.

Thus, there is a story of a wondrous 111-year-old rat visiting his old environs with a few young rats, exclaiming at how human beings now live in different dwellings, *pucca* roofs and floors (not good for your claws), eat different kinds of food, wear different kinds of clothes (not good for your incisors or your digestion), have electricity in the night to catch you, store things in metal discs or use pesticides (too bad for you generally).

There is also the story of the wooden door frame which narrates its experiences on a journey from the

ACCORDING TO A PRASHIKA MEMBER . . .

We make very creative use of the existing knowledge of children. We ask them to make lists of various kinds and then explore them for a variety of relationships. Or we ask them to make a tally of the vehicles/forms of transport observed for half an hour on the main road on market day. Which vehicles? How many? What do the numbers imply? If a similar tally is made on another day what would it imply?

forest to the house, how it was transformed into what it is now and what the history of the last three

generations of the family has been.

These forms allow us to go easily into many areas that would have been inaccessible otherwise. Such forms also enable children to decentralize themselves, a crucial element in understanding things across space and time.

*Coming closer to the faraway.* Visuals often serve as interesting basis for introducing children to far-away lands or people. But it is not always easy to get good visuals, particularly in the kind of settings in which Prashika works. One has to resort to verbal descriptions.

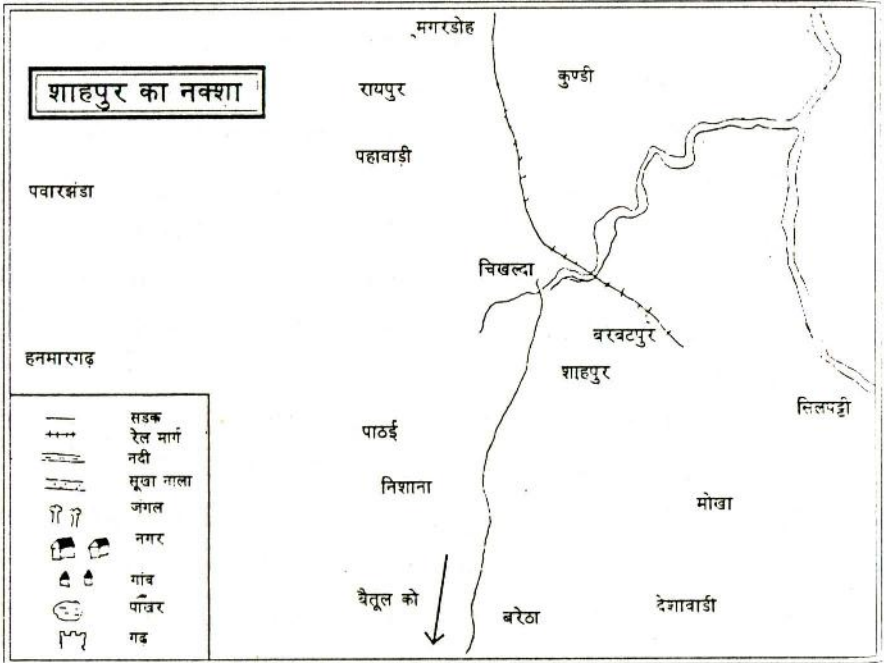
One premise is that, not having lived in that land or time, it will be difficult to give an adequate or evocative description. Thus it becomes necessary to use material that is local to target areas/periods, in that those who have actually perceived it and attempted to represent it might make a better job of it than our twice removed efforts. Such material might include fairy tales, songs, stories, jokes, poems or works of literature of *that* time or place, and which attempt to give an evocative description. Similarly children's writing or drawings might be of use.

Prashika makes use of a variety of discourses. Thus, simply giving certain information, an emo-

## नक्शे - कुछ बड़े इलाके के

इन नक्शों में हरदा और शाहपुर दिखाए गए हैं और उनके आसपास के गांव, सड़क, नदी और जंगल। पर नक्शा बनाने में बहुत सी चीजें छूट गई हैं।

- (क) अपने गांव को या इसके पास के गांव को नक्शे में डूँडो। अपने गाँव का नाम नक्शे में सही जगह पर लिख लो।
- (ख) अपने गांव के आसपास जो भी गांव है, नदी है, तालाब है, जंगल है, नक्शे में भरओ। जिनके नाम नहीं लिखे हैं, उनके नाम लिखो।
- (ग) जंगल में हरा रंग भरओ। नदी को भी पूरा करके उनमें नीला रंग भरओ।
- (घ) आसपास की पुरानी इमारतों को भी नक्शे में दिखाओ।



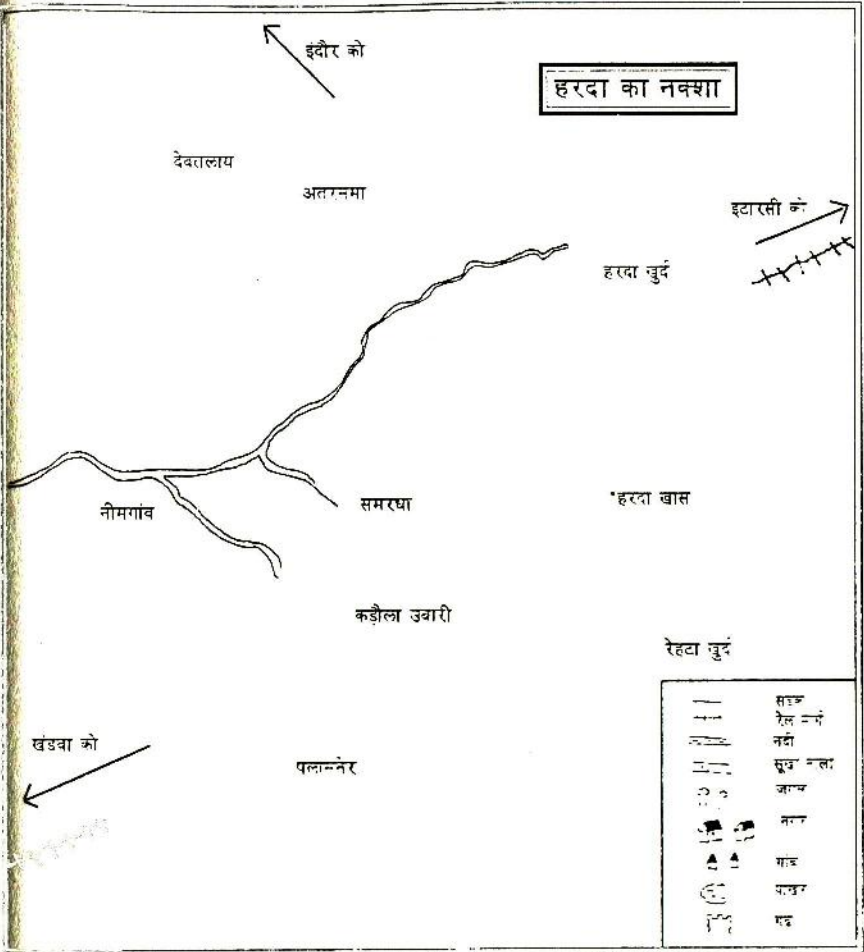
A map of Shahpur  
A page from KHUSHI-KHUSHI . . .

च) तुम्हारे गांव से हरदा/शाहपुर किस रास्ते में जाएंगे, नक्शों में उंगली कर कर बताओ।

छ) क्या नक्शों में तुम्हारे आसपास की सड़कें और रेल लाइन बनी हैं। इन्हें भी पूरा करो।

ज) अपने क्षेत्र के बारे में (शाहपुर/हरदा) ज्यादा से ज्यादा बातें पता करें।

(जैसे कौन से उद्योग हैं, बस स्टैंड, बाजार, बाहर से आने वाले चीजें, क्या कमल उगती है? आदि।



A map of Harda  
A page from KHUSHI-KHUSHI . . .

A PRASHIKA MEMBER SAYS . . .

We also attempt to create a situation where the students can, so to say, get their teeth into the material. That is to say, we have a presentation that lends itself to activity/being worked upon, for example, a detailed description of a factory worker's day is given – the time he wakes up, gets ready, what he eats for breakfast, what he wears, how he travels to work, what he does the whole day, the time he returns, what he does in the evening. . . . A similar detailed description of a farm worker in the same country is given, followed by a number of comparative exercises. Much can emerge about industry, agriculture and the people involved in it. This material is of the kind which allows students to draw out many things for themselves, rather than be given 'knowledge' about all this.

tional account of an event, a newspaper report, a tourist brochure description, a police/royal/administrative report of an incident, a dialogue, a speech, a catalogue of arms in armoury, instructions for using a consumer item and so on, all add to give a rich account of the land or time we have in mind.

Curiosity can be used very effectively as an entry point. But it should be kept in mind that curiosity is generated more easily about objects/events and/or

ACCORDING TO A PRASHIKA MEMBER . . .

Imagine a child involved in the process of recreating the details of a given period in history through the weapons that were used at that time. We begin with the process of trying to guess exactly what each part of the armour is used for. A pictorial catalogue of the weapons of the time is given, followed by multiple-choice questions about each part of the armour/weapons, special requirements of the king, fashions, etc. As the student tries to guess each application, or form-function relationship, he is free to modify his earlier answers, as the developing logic modifies the growing picture. This process of analysing a given set of data not only builds a personal bond between the child and the data but also sharpens her/his analytical abilities and provides a meaningful outlet for her/his imagination.

personalities than concepts and abstractions.

### **BASIC NATURE OF INFORMATION**

1. One aspect of information is that it should allow children to generate more information.
2. Prashika talks of information as open-ended (not rounded off or conceptually exhausted), of rules as having exceptions (as in the 'dava' format), of probability rather than certainty.
3. There should be an emphasis on a variety of



information. Our understanding of even commonplace words such as birds is built up through a variety of information and exposure that we have had over the years. For this it might be necessary to even talk of penguins. This does not mean that we can also talk of the atom by making a model and use that as a basis for comparison.

### **CHOOSING THE CONTENT**

The question of content is complicated and needs to be clarified. What has been identified for the present by Prashika is the basic focus for content and certain acceptable parameters. These parameters include

1. our understanding of children;
2. what has been done in the previous class;
3. what children 'ought' to know;
4. what lies in the experience and environment of the child. (Here Prashika also uses those areas in which our intuition conflicts with observable events, for example, things of unequal weight fall at the same time, a pendulum swinging with a larger amplitude will have a shorter period, etc.);
5. something that can be expected to generate curiosity and a sense of wonder by being extraordinary (like a lizard that runs on water, and how it manages to do so!); and

6. introducing a few ideas that would form the basis of thinking and anchoring fresh experiences.

However, the question of whether there is something that is universally acceptable as content, remains.

### **THE TEACHER AS A SOURCE OF INFORMATION**

If environmental studies classes have to remain open to fresh questions and activity and not become a packet of stale information to be stuffed into children, it is necessary that they are not bound by the limitations of the textbook. Instead they should be open to allow children and teachers to interact with each other, their environment and information resources. Can such a curriculum be formulated and implemented where the teacher, rather than the textbook, is a major source of information imparted to children? This would help in keeping the text material free of a relative overloading with attempted explanations of all the questions children may 'supposedly' ask or 'ought' to know answers to.

For this to happen, another parallel effort is needed. To help the teacher answer questions or start processes to answer questions that arise in the classroom, networks should be set up. These would answer

specific questions of specific schools or even specific children without unloading the same information on everyone.

## **ENMESHING**

Environmental studies are linked to language and mathematics in many ways. The most obvious is in terms of activities that afford the child practice in both. But the more important aspect of this relationship is the level of abstraction, decontextualizing and decentring expected from the child.

Other aspects that delimit what can be reasonably achieved in environmental studies are: the kind of complex words introduced, complex sentence structure and complexity of the ideas involved. Also, the concentration span of the child and the rate of introducing new words in the reading materials condition the possibilities of what can be done here.

It is within all this that other aspects of environment studies are enmeshed. Messages considered important and essential for children are introduced around the environmental experience of the child and not as precepts. Care is taken to avoid making the environmental studies portion too prescriptive (do this, do that, don't do this, don't do that) and/or abstract, as in dealing with concepts of the earth,

stars, nations, the world, etc.

### **SIMMERING DEBATES**

Some basic questions continue to surface again and again in Prashika debates about environmental studies. A few examples are given below.

1. The real world is not segmented into neat disciplines, and following the conventional discipline divisions is not, therefore, necessarily the most effective way to study it. Indeed it has been argued that to divide reality according to the neat and separate parts defined by conventional divisions into disciplines can give both an incomplete and a misleading picture of reality.
2. A number of skills and methods cut across several or even all of the sciences and social sciences and it is not useful to divide them into disciplines and learn them separately. Do some *concepts* also cut across all the disciplines?
3. It is impossible to study the world and society 'holistically'. If any sense has to be made of the world, its study must be split into subjects or pieces. The division could be in terms of existing disciplines or other formulations like themes. Is there any particular preference for this new arbitrary splitting compared to the conventional 'arbi-

trariness' called disciplines?

4. The existence of joint disciplines provides an effective method of sharing and communicating knowledge and ensures that each person does not have to start from square one in attempting a problem.
5. The existence of disciplines provides a way of categorization and systematization of information so that things can be critically and 'professionally' examined and detailed knowledge is made available.

# **TEACHER TRAINING**

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Prashika talks of an open and flexible curriculum. Only its broad outlines are defined. There is no particular set of exercises or specific steps laid down that will enable the child to learn reading or acquire arithmetic skills. The teacher can and must develop activities, exercises and provide informational input necessary at a given time. In a sense all the textual material is not given in the book. The expectation is that the teacher will be able to function as a partial source of information and knowledge expected to be covered through the textual materials. It is expected that the teacher will be able to plan a multiplicity of activities, observe carefully their implementation and analyse the feedback to modify and change the activi-



ties. As in the case of the child, Prashika has a deep-seated faith in the creativity of the teacher. He is expected on the one hand to assess the general needs of the learner and on the other provide suitable opportunities for individual growth.

The programme expects the child to be active and participate in decisions regarding classroom activities. The teacher needs to be a participant-cum-leader of the learning process and thus should necessarily be able to get away from the usual inhibitions (regarding painting, singing, playing, mimicking, etc.) afflicting adults. He needs to be sensitive to the moods of children and should be able to make learning a joyful and meaningful activity even in difficult situations.



## THE REQUIREMENTS

The concept of primary education in Prashika indeed makes very severe demands on the teacher. Teachers are expected to continuously participate in the pro-

A PRASHIKA MEMBER REMARKED . . .

The training model had to be different. Not the one-shot injection model. But a gradual, ongoing, interactive and collaborative process of change.

cess of innovation and re-examine their views regarding children, the learning process and the curriculum.

They should have an *understanding of the child* involving

1. a certain kind of relationship with the child, one of greater equality than is usual for adults in our society;
2. the openness to make use of the child's knowledge and look upon the child as a responsible being, as well as a sensitivity towards her/his language and culture;
3. understanding of children, their learning process and the importance of articulating that understanding; and
4. appreciation of children learning on their own through the discovery method.

The teacher should have *curricular understanding* which would involve

1. some basic insights into children's cognitive development and their learning processes;
2. enough understanding to allow her/him to match the level of the child and the activities to be undertaken;
3. insights to be able to relate the educational process to the environment;
4. an understanding of language and maths and the steps in acquiring them. Also a certain conceptual base in different components of the curriculum, such as fractions, measurement, motion, friction, growth and development, etc.;
5. an ability to create exercises and activities that would be enjoyed by the children and also help them to acquire specific skills like comprehending a text, counting, observing carefully, recording data, making connections, etc.;
6. an ability to identify and develop moments where practice of certain ideas is possible, emphasize difficult concepts and skills by creating sufficient opportunities for their practice; and
7. an ability to use available material judiciously by extracting from it the part that is relevant to the classroom and can be of interest to children.

The teacher should be *creative*. Prashika helps teachers to overcome their own inhibitions by promoting

1. an ability to use materials creatively within the confines of the classroom situation;
2. the capacity to take part in activity-based/experiential learning; and
3. creativity and various skills such as drawing, singing, role play, etc. It is not necessary that each teacher should do all this to begin with. Two things are important: every teacher should overcome her/his inhibitions; second, it is not the quality of drawing or role play that is important in the early stages. Anyone, teacher or child, can discover her/his potential only if (s)he gets an opportunity to explore it.

To this must be added the flexible curriculum and its own requirements: essentially the ability to perceive the needs of different children in the class(es) and adapt the skeleton curriculum according to circumstances.

### **THE TEACHERS' BACKGROUND**

It is unfortunate that the state does not provide any opportunities for the continuous training and enrichment of primary school teachers. Most of them come

from a very poor background and cannot afford higher education. In fact, instead of helping them in any way, the state often entrusts them with additional responsibilities, generally of a non-academic nature. A lot of their time is taken by these activities and by their efforts to add in some way to their extremely low salaries. For example, several teachers are also farmers.

Treated shabbily by the clerks and officials of the education department (and the tribal welfare department), they find themselves at the lowest rung of the government hierarchy, ignored, bullied and frustrated. It is usually not long before the most enthusiastic teachers are demotivated by the system.

At the same time, most teachers are ill-prepared for the job, either never having been trained, or having received government training. The latter, most often, refuses to face facts such as a teacher handling more than one class or a constantly shifting student population, or vast numbers of children not being able to understand the kind of Hindi which is given in textbooks and is used as a medium of instruction.

Compounding this is the fact that the only educational model is the one teachers themselves have been through as students. Unfortunately, it is one where memorization is emphasized, and where the teacher

is looked upon as the dispenser of *gyan*. Most of all, teaching in Prashika requires the teachers to think on their own, devise the curriculum for their class, sing, draw, write stories and poems for children, etc. all of which is considered either impossible or undesirable in a typical state educational model.

### **OBJECTIVES OF THE ORIENTATION PROGRAMMES**

The major objectives of the Prashika teacher-orientation programmes are to

1. create an awareness of the learning process and bring about attitudinal changes,
2. cultivate skills and confidence,
3. help teachers acquire knowledge,
4. develop those operational skills that are needed to put the curriculum into practice, and
5. help teachers in a sense to become their own informal researchers.

### **FUNDAMENTAL ASPECTS OF THE ORIENTATION PROGRAMME**

*Training vs self-learning.* As against the word 'training', the word 'orientation' is more commonly used as regards the interaction with teachers. Training seems to imply trainers imparting a complete set of

skills and knowledge to the trainees. Prashika tries to do away with this patronizing relationship with teachers, nor does it look upon training as something that can be completed in the five 20-day interactions over

ACCORDING TO A PRASHIKA MEMBER . . .

One of the most important aspects of this orientation is that there are no lectures. Instead, everyone, including the resource person, participates in activities. Therefore discussion follows experience or reliving experience (such as childhood memories), or a depiction (as in role play).

five years. In reality, it is only by being in the teaching situation, trying out various things, and learning from experience that the teacher gets 'trained'. Our programme only serves to 'orient' the teacher to self-learning from experience. Thus, even though the word 'training' is being used here, it is more in the nature of orientation.

During orientation, then, people can be found working on activities and making things, followed by discussions and analyses. This includes gathering things, collecting information, measuring, participating in games that exercise their minds, solving maths problems and puzzles, reading stories and poems,

hunting the library, doing language exercises, games that give them a chance to exercise their language and expose them to possible activities involving expres-

A PRASHIKA MEMBER REMARKED . . .

The spirit of Prashika is the spirit of HSTP. As in other areas, HSTP created models for teacher training also. In terms of their spirit, philosophy and structures, teacher-training programmes of HSTP and Prashika show commonalties. There are important departures as well. For example, the HSTP training is unit-based, Prashika's is far more open-ended.

sion, grammar, quantification, etc.

Along with this there are other inputs. For example, the writings of educationists, including position papers and narration of experiences of other experiments, are read, discussed and analysed in the context of the schools that they are working in.

All this requires on the part of the resource group an understanding of when to give information, where to leave gaps and encourage people to think.

*Triggering off creativity.* Prashika encourages mutual appreciation of efforts people make in creating new ideas and materials for actual classroom use.

This leads to developing possible activities for children, what can be learnt through them, devising activities for specific points, and thinking of the manner in which these activities can be organized in the classroom. This brings to the fore the importance of working in small groups and informal sessions.

*Equality.* Prashika makes sincere efforts to bring about equality between resource persons and teachers. There is a need for intensive full-time interaction during the day, both inside and outside the 'classroom'. Both the resource person and the teachers carry a mental baggage in which university teachers and researchers from urban centres are thought to be naturally superior to local schoolteachers. It is not easy to overcome these barriers.

It is not only difficult to convince teachers that they know a lot from their experience and knowledge; it is equally difficult to convince resource persons that they may have something to learn from these teachers. Language can be a very important variable in this context. Most discussions about education are conducted in English in the academic world and the resource persons are hardly aware of the idiom that would enable them to communicate effectively with the teachers; nor do they often have the necessary



humility and skills to understand and assimilate the experiences of schoolteachers. It really takes a very long time to break these barriers.

Once these inhibitions are overcome and equality is effortlessly and demonstrably established in different spheres of activity, the results of resource persons, group members and teachers interactions can indeed be phenomenal. In fact, Prashika teacher-orientation camps have evolved a variety of activities that help all the participants in a particular camp to overcome these barriers.

*Brewing vs Boiling.* Prashika prefers the brewing model of orientation, where you try to create the right atmosphere, provide the appropriate inputs and let things take their own course, rather than put pressure and force opinions on people. Thus the plans for the orientation programme have to be very flexible. They may have to be modified continuously in response to the specific needs of a given group.

*Feedback.* Prashika collects feedback, largely informally, from a variety of sources on its orientation programmes. The feedback comes from teachers themselves and from resource persons and observers.

*Follow-up.* Monthly meetings, classroom visits, post-orientation discussions, etc. are an essential part of Prashika teacher-training programmes. It is in these meetings and visits that the agenda for the next camp is prepared and important feedback is collected for revising teaching materials.

### **A REVIEW**

The Prashika experience has helped in drawing a few conclusions.

1. Teachers by and large accept participation of children as an important element for learning.
2. Teachers do give children a chance to sing poems, relate stories, play occasional games, count and add with concrete materials on occasions, get them to work on things suggested in the workbook. They are also able to get them to occasionally participate in language activities.
3. Teachers try and conduct discussions in the classroom. They also demonstrate a few simple experiments.
4. Teachers agree about the advantage of using the language of the child. They also realize that reciting numbers up to hundred is not counting and that knowing the letters of the alphabet is not reading. They also agree that the present curricu-

lum is too loaded and must be reduced. They admit that even in Class IV many children cannot read, and writing or expressing ideas of their own is simply impossible for the children. They have difficulty with concepts like fractions, meaning of if-so-then, square root, LCM, HCF, etc. Yet it is very difficult to persuade the teachers to reject the old curriculum and the methods and materials used to teach it.

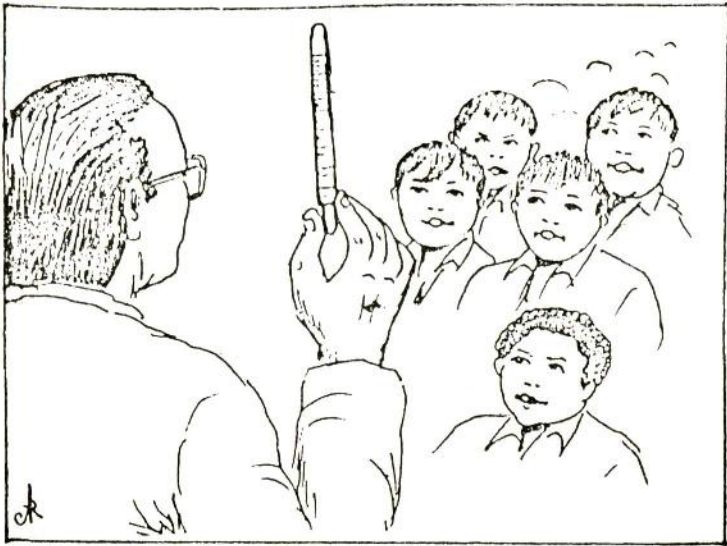
If we look critically at what has been happening in the average schools of Prashika, some generalizations with regard to training and its realization in the classroom emerge.

1. Activities that the teachers have done and enjoyed are more likely to be done with the children, even if they are not really intended for children. The likelihood of doing a particular activity increases if the activity involves very simple instructions, is interesting for the child and does not require any elaborate materials. In spite of Prashika's best efforts to the contrary, the teacher is most likely to sustain her/his central role and insist on absolute discipline in the class.
2. The choice of activities, the number of times they are repeated and their duration is largely dependent on the mood and means of the teacher and

rarely on the needs of the children. This is because of many reasons:

- a. Teachers find it difficult to accept the validity of students contributing to the choice of the direction of the classroom process.
  - b. It is very difficult to elicit an opinion from children in an open manner mainly because they are seen as recipients of rather than as contributors to the process of learning.
  - c. Children can be quite noisy in such situations and the teacher does not understand how (s)he can allow this unruliness, either as a part of the process of acquiring sensible behaviour or under any other garb. Her/His patience is worn thin and evolving consensus or a dialogue process seems impossible.
  - d. Interaction between children and adults is often one-sided, particularly in schools. In such situations it is extremely difficult for teachers, who rarely listen to children carefully except in response to their questions, to be sensitive to and informed on the learning levels of the children and what they need to do to learn.
3. Socially, both inside and outside school it is not acceptable that children be articulate, alive and active in the classroom. There is a pressure on

- children to reproduce facts and kill their creativity and the desire for action of their choice. The teachers find this pressure difficult to resist.
4. It is possible for teachers to feel free and participate in some activities usually shunned because of inhibitions. This participation does not come so easily to children.
  5. It is very difficult for teachers to formulate what children need, both in content and in method.
  6. Teachers like the idea of being responsible for the school and the children and their learning but do not actually have the confidence to define that responsibility or work at the required pace.
  7. Creating new activities and planning contextual learning are not easily understood by teachers.
  8. In terms of mathematical abilities there is consensus that most children end up disliking and not understanding maths. A lot that is stated in the curriculum is not achieved in the classroom. Children have problems in understanding numbers, place value (not abstract place value but functional use of *Ikai-Dahai*). Teachers are of the opinion that children appear to understand and are able to do all the sums at the time a certain topic is being done in the classroom but have difficulty in doing the same sums later.



Teachers are themselves shaky regarding many things in maths. A large number of them know rules and formulas, but they are often incapable of handling questions like why and how a particular algorithm works.

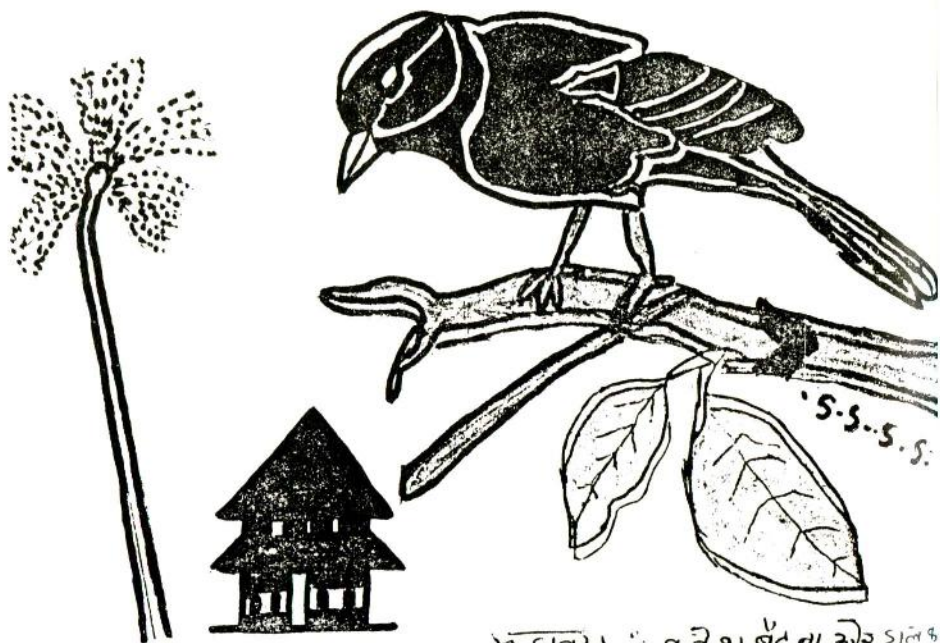
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In spite of some of the limitations discussed above, Prashika seems to have achieved considerable success in changing teacher attitudes and in sharing new insights with them regarding the learning process, the role of errors, attitudes to local languages, using

local materials, planning new activities, etc. The most satisfying outcome of Prashika's teacher-orientation camps is that some teachers do undergo a kind of minor transformation. They begin to evaluate the learning process and their own role in it more critically.

# **CONCLUSION**





मुद्रावरा : कते वा बंद ना कोर डालेक  
दुतजा

फुन्हेया लाल भलेवेरा उर्फ राजप्वेल  
C/o ~~कनहेरी~~ शा. उ. मां. विद्यालय  
मेघानगर  
जिला - झाबुझा (म.प्र.)

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## CONCLUSION

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In this chapter we shall briefly discuss some of the problems that Prashika faced in its project and provide a bird's-eye view of its achievements and failures. We shall also discuss some of the issues that have remained unresolved in Prashika. The group has returned to these debates again and again, every debate adding to its information base and conceptual clarity.

## PROBLEMS

Any innovation in education faces a variety of problems involving children, teachers, parents, administrators and politicians, as well as a variety of intra-group conflicts. Prashika has been no exception. Parents have not always viewed the programme kindly because they feel that Prashika children do not learn as much as other children do. Attempts to involve

### A PRASHIKA TEACHER REMARKS . . .

We get very little money to attend these training camps. Often we spend our own money. Eklavya members also contribute. How can you live in Rs 16/- per day?

teachers raise a variety of problems. It is not always easy to have them released from their routine duties in school, particularly when they are expected to play a variety of roles other than that of a teacher. They never get enough money to participate in the teacher-training camps.

Prashika did manage to involve teachers to a considerable extent in the early stages of its develop-

A PRASHIKA TEACHER SAYS . . .

In the beginning, we were consulted a lot. But when the materials for Classes III-V were produced, our participation was minimal.

ment. In the later stages, time became a very strong constraint. There was a pressure to keep up with the school calendar. Teachers also felt the pressure as the

A PRASHIKA MEMBER SAID . . .

We had more or less given up after Class II. But then a group of teachers said: We cannot teach the old books in Class III. You must continue. In fact, a teacher from Shahpur threatened to go on a hunger-strike if we discontinued our programme. We were emotionally blackmailed into Class III.

## CONCLUSION

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Prashika programme made increasing demands on them.

And yet enthusiasm and involvement of teachers is unquestionably one of the most important factors that sustains Prashika.

As has already been indicated in the preceding chapters, intra-group dynamics is at once Prashika's strength and weakness. The fact that a small group of people saw such a major innovative programme through producing materials and teacher training

A PRASHIKA MEMBER SAYS . . .

One of the major problems facing Prashika has been its limited manpower. The question is not just that people were not available. Every group acquires its own dynamics over a period of time and it is not always easy to allow a newcomer space that is due to him or her.

packages for a complete primary school curriculum indeed speaks of the enormous strength of the group. The fact that the group could not enlarge itself and that there is not always a clear consensus on some of the basic issues is perhaps suggestive of intra-group conflicts.

## DEBATES

Though Prashika has been involved in primary education for over nine years and has produced curriculum, teaching materials and models for classroom teaching and teacher-training camps, certain issues have remained unresolved for the group. In most of these cases Prashika opted for eclectic, pragmatic and workable solutions. The debates, however, are still very much alive.

### EDUCATION AND ENVIRONMENT

It has not always been possible to define what constitutes a child's environment: her/his family, peer group, village, state, nation or the whole universe. What do we really mean when we say education should be environment based? The implicit understanding in Prashika appears to be that education of primary schoolchildren should as far as possible be related to their immediate environment. In a sense the child is motivated to go beyond her/his environment through its careful observation and analysis.

Where relating the teaching of different subjects such as language, maths and social sciences to the child's environment is concerned, Prashika has achieved limited success. On the other hand, if envi-

A PRASHIKA MEMBER SAYS . . .

The school is not a ground for revolution . . . overtly doctrinaire things are out . . . we do not want to create uncomfortable situations in the classroom. Regarding patriotism etc. we want to stay away from 'the child should be educated for the nation' philosophy. Education is for the child, period.

ronment rootedness is to be interpreted in terms of interaction with the children and teachers, and building a curriculum in terms of field trialling, Prashika may be said to have achieved a substantial success.

It is in the area of 'education leading to social change' that Prashika has been engaged in a series of inconclusive debates. Though most members of Prashika believe that the kind of education they are trying to provide might eventually contribute towards social change, they in general don't believe in active political intervention.

### **INFORMATION, ROTE LEARNING AND CLARITY**

There is no doubt that Prashika wants to alter the existing curriculum which is biased in favour of information and rote learning. It does not deny the

important role information bases and rote learning might play in education but it feels it should take a very strong stand against these in order to counter the overwhelming importance the traditional curriculum and methodologies attach to them. Yet it is not very clear what amount of information base must precede conceptual clarity. Is it worthwhile practising algorithms without understanding them? Is it useful to memorize alphabets and tables? Some Prashika numbers and associates believe that conceptual clarity can wait while algorithms are mastered.

Another issue that Prashika has constantly been concerned with is the pressure of social and academic expectations on the children. Very often parents complain that early education in Prashika simply means fun and frolic and children do not learn anything. For example, it is complained that even after Class II they cannot count upto 100 or recite tables.

## **LANGUAGE AND MATHEMATICS**

There has been considerable debate within Prashika whether common strategies underlie the learning of mathematics and language. Are there shared cognitive structures that are involved in their learning? Is it possible to use the same materials for teaching mathematics and language? If one were to go by the

Prashika materials, it would appear that in Classes I and II mathematics and language are often taught through the same materials. In subsequent classes one witnesses an increasing separation between the two disciplines.

### ACHIEVEMENTS AND FAILURES

The best way to give a picture of the achievements and failures of Prashika is to let the Prashika members speak themselves.

#### A PRASHIKA MEMBER SAYS . . .

As I look back, I think of our successes and failures. I think we succeeded in bringing about an attitudinal change among some teachers and making the act of learning a matter of joy for children. But I think we also failed on several counts: we never had a clear policy; books were often delayed and teacher training became increasingly mechanical. Manpower was always a problem. In the beginning, we had too many resource people and very few teachers. Vice versa in the later stages. We were really weak in implementing the programme. The complete Prashika philosophy, materials and methods were fully implemented only in a handful of schools. Elsewhere it was half-hearted.



A PRASHIKA MEMBER SAYS . . .

If you ask me about our successes, I would mention at least three. Some teachers, say, about ten out of sixty, have acquired the Prashika spirit and have converted their classes into a joyful experience. Second, about fifty per cent children have been liberated, that is, in the twenty-five schools Prashika adopted over fifty per cent children really want to come to school. Third, Prashika has succeeded in generating a debate about change in education.

If you ask me about the failures of Prashika, I would say that Prashika has failed to fully involve the teachers in the process of curriculum making. I'm sure a curriculum made by the teachers will be entirely different from the one made by Prashika. We should have accepted more inputs from the teachers. We often felt that nobody else was more aware of the limitations of the Prashika programme than the Prashika members themselves.

# APPENDIX

## *The Prashika Family*

As must be clear from the preceding chapters, a large number of people from different domains of activity contributed to the growth of Prashika. These include, among others, children, teachers, resource group persons, teacher-trainers, trainees, university and college teachers, academics, state and central government officials and a variety of institutions. It is difficult to list exactly what each component contributed except saying that the programme is the result of a symbiotic interaction between all the components. Though we run the risk of unintentionally leaving out some names, we feel the task of documentation will remain incomplete without listing the people who made it possible.

### **A. TRAINED RESOURCE GROUP TEACHERS**

1. Ganga Gupta, Primary School, Pathai, Shahpur, Betul.
2. Laxminarayan Chaudhary, Primary School, Harda Khurd, File Ward, Harda, Hoshangabad.
3. Dinesh Shukla, Primary School, Kulharda, Harda, Hoshangabad.
4. Jiyalal Yadav, Primary School, Kulharda, Harda, Hoshangabad.
5. Kusum Yadav, Primary School, Kulharda, Harda, Hoshangabad.
6. Mangilal Devda, Primary School, Kadola Ubari, Harda, Hoshangabad.
7. Ramcharan Peepraj, Primary School, Raipur, Shahpur, Betul.

**B. TEACHERS WHO HAVE COMPLETED THEIR TRAINING FROM CLASS I TO CLASS V**

1. Suman Nagle, Primary School, Pathai, Shahpur, Betul.
2. Kanti Bhalavi, Primary School, Magardoh, Shahpur, Betul.
3. Ashok Rane, Primary School, Raipur, Shahpur, Betul.
4. Mukesh Malviya, Primary School, Pawarjhand, Shahpur, Betul.
5. Saroj Chaturvedi, Primary School, Shukrawara, Harda, Hoshangabad.
6. Narayan Rao Khare, Primary School, Kulharda, Harda, Hoshangabad.
7. Shankarlal Yadav, Primary School, Kulharda, Harda, Hoshangabad.
8. Nanhelal Malviya, Primary School, Kulharda, Harda, Hoshangabad.
9. Arjun Prasad Khatri, Primary School, Rehta Khurd, Harda, Hoshangabad.
10. Shyamlal Uike, Primary School, Devtalai, Harda, Hoshangabad.
11. Sushma Soni, Primary School, Harda Khurd, Harda, Hoshangabad.
12. Umakant Upase, Primary School, Kantawadi, Shahpur, Betul.
13. B. L. Dhurve, Primary School, Banabaheda, Shahpur, Betul.
14. Ashok Kavre, Primary School, Handipani, Shahpur, Betul.
15. Lalman Batke, Primary School, Handipani, Shahpur, Betul.
16. Shyam Singh Batke, Primary School, Chikhaldha-Buzurg, Shahpur, Betul.
17. A. Mankar, Primary School, Chikhaldha-Buzurg, Shahpur, Betul.
18. Ratan Singh Porte, Primary School, Kundi, Shahpur, Betul.
19. Ramashankar Gohe, Primary School, Deshawadi, Shahpur, Betul.
20. Radheshyam Chinchore, Primary School, Kadola Ubari, Harda, Hoshangabad.
21. Sushma Soni, Primary School, Harda Khurd, Harda, Hoshangabad.

**C. TEACHERS WHO PARTICIPATED IN SOME TRAINING CAMPS**

1. Narayan Shankar Sharma, Primary School, Pahawadi, Shahpur, Betul.
2. Mishra, Primary School, File Ward, Harda, Hoshangabad.
3. Suryavanshi, Primary School, Kadola Ubari, Harda, Hoshangabad.
4. Shashi Dashottar, Primary School, Baretha, Shahpur, Betul.
5. C. S. Uike, Primary School, Mokha, Shahpur, Betul.

## APPENDIX

6. D. R. Kapse, Primary School, Mokha, Shahpur, Betul.
7. S. S. Darshyamkar, Primary School, Kantawadi, Shahpur, Betul.
8. M. N. Bamankar, Primary School, Pawarjhanda, Shahpur, Betul.
9. Bholanath Sarkar, Primary School, Pahawadi, Shahpur, Betul.
10. P. K. Geed, Primary School, Banabaheda, Shahpur, Betul.
11. T. L. Nagle, Primary School, Sonadeh, Shahpur, Betul.
12. Shamsheer Singh Sareaam, Primary School, Kundi, Shahpur, Betul.
13. Devendranath Yogi, Primary School, Shukrawara, Harda, Hoshangabad.
14. Sunita Doni, Primary School, Shukrawara, Harda, Hoshangabad.
15. Sheila Shukla, Primary School, Harda Khurd, Harda, Hoshangabad.
16. Daghdulal Mhatre, Primary School, Devtalai, Harda, Hoshangabad.
17. Vishnu Prasad Gaur, Primary School, Samardha, Harda, Hoshangabad.
18. Madhuri Dube, Primary School, File Ward, Harda, Hoshangabad.
19. Revaram Kuresia, Primary School, Kulharda, Harda, Hoshangabad.
20. Ashok Joshi, Primary School, File Ward, Harda, Hoshangabad.
21. Radheshyam Shandilya, Primary School, Kulharda, Harda, Hoshangabad.
22. Kamal Chand Gahlot, Primary School, Kulharda, Harda, Hoshangabad.
23. Mangilal Joshi, Primary School, Kulharda, Harda, Hoshangabad.
24. Ramchandra Harne, Primary School, File Ward, Harda, Hoshangabad.
25. K. C. Sharma, Primary School, Kadola Ubari, Harda, Hoshangabad.
26. Uma Vajpeyi, Primary School, Pathai, Shahpur, Betul.
27. T. P. Malviya, Primary School, Raipur, Shahpur, Betul.
28. Shalikram Soni, Primary School, Patanapura, Shahpur, Betul.
29. Mahesh Tiwari, Primary School, Nishana, Shahpur, Betul.
30. Rajendra Rathore, Primary School, Nishana, Shahpur, Betul.
31. Rajendra Pandavgre, Primary School, Baretha, Shahpur, Betul.
32. P. K. Rudrajwar, Primary School, Sonadeh, Shahpur, Betul.
33. Brijesh Gupta, Primary School, Kundi, Shahpur, Betul.
34. Santosh Verma, Primary School, Deshawadi, Shahpur, Betul.
35. Narmada Prasad Joshi, Primary School, Shukrawara, Harda, Hoshangabad.
36. Ramchandra Chaube, Primary School, Shukrawara, Harda,

Hoshangabad.

37. Neekhar, Primary School, Samardha, Harda, Hoshangabad.
38. Manoj Shukla, Primary School, Pahawadi, Shahpur, Betul.
39. Prem Dhurve, Primary School, Atarsama, Harda, Hoshangabad

**D. TEACHERS WHO CAME FOR ONE OR TWO TRAININGS ONLY**

1. Sonare, Primary School, Pahawadi, Shahpur, Betul.
2. Shivnarayan Malviya, Primary School, Pahawadi, Shahpur, Betul.
3. Ganesh Dhurve, Primary School, Pahawadi, Shahpur, Betul.
4. Munshilal Thakur, Primary School, Raipur, Shahpur, Betul.
5. Sagna Mavase, Primary School, Patanapura, Shahpur, Betul.
6. Malviya, Primary School, Patanapura, Shahpur, Betul.
7. R. S. Kavde, Primary School, Patanapura, Shahpur, Betul.
8. Chain Singh Thakur, Primary School, Kulharda, Harda, Hoshangabad.
9. Narendra Dev Shukla, Primary School, Kulharda, Harda, Hoshangabad.
10. Kesari Singh Thakur, Primary School, Kulharda, Harda, Hoshangabad.
11. Mumtaz Khan, Primary School, File Ward, Harda, Hoshangabad.
12. Mishra, Primary School, File Ward, Harda, Hoshangabad.
13. Tiwari, Primary School, File Ward, Harda, Hoshangabad.
14. Bishnoi, Primary School, Kadola Ubari, Harda, Hoshangabad.
15. Hari Prasad Uike, Primary School, Mokha, Shahpur, Betul.
16. Trilok Chand Badkul, Primary School, Kantawadi, Shahpur, Betul.
17. Soni, Primary School, Pawarjhandra, Shahpur, Betul.
18. Shankarlal Malviya, Primary School, Magardoh, Shahpur, Betul.
19. Om Prakash Sarothe, Primary School, Magardoh, Shahpur, Betul.
20. Sammal Singh Kavde, Primary School, Magardoh, Shahpur, Betul.
21. Gupta, Primary School, Kundi, Shahpur, Betul.
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## SUGGESTED READING

- Badheka, Gijubhai. 1932. *Diwaaswapan* (Translated from Gujarati). New Delhi, National Book Trust.
- Badheka, Gijubhai. 1987. *Praathmik shaalaa main bhaashaa shikshaa*. Rajaldesar (Rajasthan): Montessori Bal Shikshan Samiti.
- Bettelheim, B. 1978. *The uses of enchantment: The meaning and importance of fairy tales*. Harmondsworth, Penguin.
- Brainerd, C.J. 1978. *Piaget's theory of intelligence*. Englewood Cliffs, N.J., Prentice Hall.
- Brown, R. 1973. *A first language*. Cambridge, Mass., Harvard University Press.
- Bruner, J.S. 1960. *The process of education*. Cambridge, Mass., Harvard University Press.
- Chomsky, N. 1959. Review of Skinner's *Verbal behaviour*. *Language* 35, 26-58.
- Cohen, A. 1975. *A sociolinguistic approach to bilingual education*. Rowley, Mass., Newbury House.
- Cook, V. 1991. *Second language learning and language teaching*. London, Edward Arnold.
- Cummins, J. 1984. *Bilingualism and special education: Issues in assessment and pedagogy*. Clevedon, Multilingual Matters.
- Cummins, J. and Swain, M. 1986. *Bilingualism in education*. Essex, Longman.

## SUGGESTED READING

---

- Donaldson, M. 1978. *Children's mind*. Glasgow, Collins.
- Dulay, H., Burt, M. and Krashen, S. 1982. *Language two*. New York, Oxford University Press.
- Elkind, D. 1976. *Child development and education: A Piagetian perspective*. New York, Oxford University Press.
- Ellis, R. 1985. *Understanding second language acquisition*. Oxford, Oxford University Press.
- Freedman, A., Pringle, I and Yalden, J. 1983. *Learning to write: First language/Second language*. Essex, Longman.
- Freire, P. 1972. *Pedagogy of the oppressed*. Harmondsworth, Penguin.
- Freire, P. 1985 (1921). *The politics of education: Culture, power and liberation*. New York, Bergin and Garvey. Translated by Donaldo Macedo.
- Goody, J. 1968. ed. *Literacy in traditional societies*. Cambridge, Cambridge University Press.
- Grellet, F. 1981. *Developing reading skills*. Cambridge, Cambridge University Press.
- Guru, K. 1977. *Hindi vyaakaran*. Kashi, Nagri Pracharini Sabha.
- Harrison, C. 1980. *Readability in the classroom*. Cambridge, Cambridge University Press.
- Holt, J. 1964. *How children fail*. Harmondsworth, Penguin.
- Holt, J. 1967. *How children learn*. Harmondsworth, Penguin.
- Horsburgh, D. 1973. *Spring readers*. New Delhi, Oxford University Press.
- Hudson, R.A. 1980. *Sociolinguistics*. Cambridge, Cambridge University Press.
- Illich, I. 1971. *Deschooling society*. New York, Harper and Row.
- Inhelder, B., Sinclair, H. and Bovet, M. 1974. *Learning and the development of cognition*. London, Routledge & Kegan Paul.
- Kamat, A.R. 1973. *The educational situation*. New Delhi, People's Publishing House.
- Khubchandani, L.M. 1988. ed. *Language in a plural society*. Shimla, Indian Institute of Advanced Studies.

- Kothari Commission Report. 1966. *Education and national development*. New Delhi, Ministry of Education, Government of India.
- Krashen, S. 1982. *Principles and practice in second language acquisition*. Oxford, Pergamon Press.
- Kumar, K. 1978. *Raj, samaj aur shiksha*. New Delhi, Macmillan.
- Kumar, K. 1987. *The child's language and the teacher: A handbook*. New Delhi, UNICEF.
- Liebeck, P. 1984. *How children learn mathematics: A guide for parents and teachers*. Harmondsworth, Penguin.
- Nuffield Foundation/CEDO. 1970. *The first three years: Handbook for teachers*. UK.
- Pandit, P.B. 1972. *India as a sociolinguistic area*. Poona, University of Poona, Gune Memorial Lectures.
- Parker, R.K. 1974. ed. *The preschool in action*. Boston, Allyn and Bacon.
- Pattanayak, D.P. 1990. ed. *Multilingualism in India*. Clevedon, Multilingual Matters.
- Piaget, J. 1955. *The language and thought of the child*. New York, World Press.
- Piaget, J. and Inhelder, B. 1969. *The psychology of the child*. London, Routledge & Kegan Paul.
- Street, B. 1984. *Literacy in theory and practice*. Cambridge, Cambridge University Press.
- Saylor, J.G. and Alexander, W.M. 1974. *Curriculum planning for schools*. New York, Holt, Rinehart and Winston.
- Schwebel, M. and Ralph, J. 1973. ed. *Piaget in the classroom*. New York, Basic Books.
- Tannen, D. 1982. ed. *Spoken and written language: Exploring orality and literacy*. Norwood, N.J., Ablex.
- Vajpayee, K. 1958. *Hindi shabdaanushaasan*. Kashi, Nagri Pracharini Sabha.
- Vygotsky, L.S. 1962. *Thought and language*. New York, MIT Press.

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A compulsory reading for  
anyone interested in  
initiating innovations in  
primary education.

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*Prashika* is easily one of the most exciting adventures in children's education in our times. It brought together a set of remarkable individuals whose interests and background varied, and some of whom would have had nothing to do with primary education had it not been for the opportunity that *Prashika* gave them. The major advantage this group had was that its members were not ridden by the preconceptions and inhibitions inevitably imparted by our conservative teacher training. The ideas they pursued are recognized the world over as the basic ingredients of progressive pedagogy, such as acceptance of individual uniqueness, small-group activities, and relevance of children's out-of-school experiences in classroom work. Many Indian institutions and educationists talk about such ideas these days; in *Prashika*, these ideas have actually been put into action—that's all!

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