

The Science and Art of Learning

Critique of the MP Government's Response

○ **Ramakant Agnihotri**

In MANUSHI Issue No.133, we published the article 'A Black Day in Education' by Dr. Ramakant Agnihotri expressing concern and disquiet at the axing of Eklavya's Science Teaching Programme (HSTP) by the Madhya Pradesh Government. In the same issue we also published the Government's version, as presented by Amita Sharma, Secretary, Primary Education, Government of M.P (GoMP) giving reasons for discontinuing support to Eklavya after a 30-year-old collaboration. We are now publishing the three reactions to Amita Sharma's response along with a fresh rejoinder by her on the issue.

For reasons best known to it, the Government of Madhya Pradesh (GoMP) refuses to engage with the issues I raised in my article (MANUSHI 133: 7-14). The quality of education that reaches the underprivileged is becoming increasingly substandard. Why should the GoMP, which has for a long time, actively supported innovative and progressive efforts, particularly meant for poor children, suddenly turn against Eklavya's Hoshangabad Science Teaching Programme, which was making all possible efforts to teach science as it should be taught? The evidence I cited in favour of HSTP was overwhelming. What were the academic grounds on which the programme was closed down?

In fact, the Government did not even follow its own procedural norms. HSTP and a variety of other programmes (e.g. Prashika, SSTP, Bal Melas, toy workshop, etc.), through publications (e.g. *Chakmak*, *Sandarbh*, *Srote*, *Hoshangabad Vigyan* and a variety of translations and books from time to time) and institutions such as Swaliram and Eklavya, created an unprecedented platform for serious academic discourse on the theory and practice of pedagogy. Closing

down HSTP and some other programmes amounts to choking (rather effective) voices of innovation, rationality and dissent. Is it desirable to leave decisions regarding curriculum, textbooks, methods and classroom transaction solely to the members of the District Planning Council?

What we are fighting for is space for innovation and sustained renewal of pedagogical theory and practice; a space where a set of knowledgeable people, in collaboration with children, teachers, parents, and academics can consistently reflect over the science

and art of learning and teaching. In a variety of subtle ways, the ideas and practices born out of innovations spread far beyond the school and areas where HSTP was operative.

Was it All Negative ?

In an article running into eight printed pages, the GoMP does not have a single positive thing to say about HSTP or Eklavya.

→ It claims that Eklavya has remained 'surprisingly naïve about how our educational system functions' (p.16).

→ Over the years, HSTP has not progressed nor grown in stature (p.16).

→ Eklavya has not critically reviewed its work with a sense of social accountability (p.17).

→ It did not appreciate that the school and its curriculum should be conceptualised as a whole, rather than making interventions only at the middle school level—and that too only in science and social science. For example, 'poor language skills affect almost all learning, yet language has been ignored' (p.18).

→ This 'educationally blinkered experiment... failed to check the proliferation of *kunjis* (guide books) to HSTP (p.19).



→ It has shown no evidence of any responsibility to its children, community or local democratic bodies (p.20) and has failed to establish its effectiveness in the eyes of the consumer, depending largely on bureaucratic fiat and protection from political changes to survive (p.20).

What surprises one most is that against this assessment, the GoMP should still desire to associate Eklavya with its programmes of educational change! How can an NGO with such a dismal track record participate in the larger process of educational reform and help improving existing academic inputs (p.22)? In my article I provided solid evidence for some of the landmark contributions made by Eklavya in the field of education. No part of this assessment addresses any of those issues.

Expanding Horizons

The Eklavya group consisted largely of scientists and not of child psychologists and linguists; therefore, it developed the middle school HSTP, whereby children were taught practical science. A few years into the programme, the group realised that unless it focused on primary education and strengthened the reading, writing and numerical abilities of children, HSTP may not work as effectively as Eklavya would like it to. The group immediately got in touch with linguists and psychologists. That is how, with the help of a large number of scholars and institutions including GoMP, Prashika was born, to be followed soon by SSTP. I wonder what more rational and stronger linkages an NGO with such limited resources and manpower could build? Soon the group would have moved to the higher classes, now that the primary and the middle classes were improved.

So far as building a relationship with the community is concerned, it is true that there was always some



opposition to HSTP. But this came from a very small number of people and was motivated by a variety of reasons including lack of understanding of the innovation; the extra work it involved for children, teachers and trainers; and stock responses such as ‘why us’ or some petty political manipulation. In any case, whenever there was any opposition, members of the Eklavya team met the local people and explained to them the significance of the way they were trying to do things.

Most of these differences were settled amicably. After all, curricular issues cannot be settled by the raising of hands. So far as the achievement levels of HSTP children were concerned, I quoted several studies in my article, showing that they were better at logical thinking and conceptual clarity. A lot more work still needs to be done on evaluating issues. In fact, it would be legitimate to ask what efforts the State has made to assess the achievements of the programme and to assimilate its positive aspects, if any, into its system? As far as the proliferation of *kunjis* is concerned, I am really not sure what to say. I think it is a very complex issue. What is clear is that nobody can do the HSTP kind of science with the help of a *kunji*.

Mistaken Assumptions

In general, the perspective on education reflected in GoMP’s response is based on a set of

incomplete and mistaken assumptions about children, society, and the role of education in human life. Though it may look rather crude and naïve, these assumptions may be summarised as follows:

- Children must be educated (read ‘made literate’) because this is our constitutional and civil requirement.

- We know what that education should consist of; we also know the best ways in which the literacy and numeracy we call education can be transmitted; and we also know how children learn.

- It is important to ensure uniformity across the State (why not the country or the world?) by say using the same textbook or the same teacher training module across the whole State.

- A teacher is essentially a worker. What we need to do is simply to equip her with a set of tasks that she would perform in a regimented way, assuring changes in learner behaviour. There is no need to professionalise elementary education – after all, any literate person can teach children counting and alphabets.

- There obviously can be few places for innovations in such a system. If any, they must be introduced and must be accountable to the people and the State—that is, prove their potential for mainstreaming. Such ‘banking’ concepts of education inevitably lead to multi-grade classrooms and ‘joyful learning’.

The ways in which such approaches can trivialise the philosophical, psychological and pedagogical aspects of education, and in the process making a mockery of the whole concept of ‘quality education’, has recently been shown by Dhankar (2002).

It is indeed true that one important role of education is transmission of a society’s language,

culture, knowledge and values; but an equally important role is to enable children to explore new areas of knowledge and to equip them with methods with which they can learn on their own in the future. The kind of unthinking assumptions mentioned above and the unfortunate distinctions it promotes between literacy and education, authorises the State to eliminate efforts to achieve real learning in the educational agenda.

It is indeed important to understand the givens of a system 'that define and limit the educational context' (p.15). This in fact, was an essential part of HSTP and all the other programmes of Eklavya. It is equally important to understand that no breakthrough in education is possible without dreams, ideals and utopias. Once we destroy our dreams, we end up learning to manipulate the electoral rolls, and shift from thinking about our actual problems to an investigation of the ingredients of a 'cake offered to Hanumanji' (as was demonstrated by the big controversy by the Congress Party over Uma Bharti offering a cake on Hanuman *jayanti*). These issues become our major obsession, relegating the crucial issues of hunger, poverty, health and education to sporadic and poorly thought through considerations. □

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References

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*Thanks are due to Professor Krishna Kumar and Dr. A.L Khanna for discussing some of the issues raised in this response. The usual disclaimers apply. □

Stifling Innovation

C.N Subramaniam*

The Hoshangabad Science Teaching Programme (HSTP) developed by Eklavya was an attempt at making a shift from learning science out of densely packed textbooks towards learning from doing experiments, observing the environment, discussing the results of their observations with fellow



students and teachers, as well as by obtaining additional relevant information from books. The Government of Madhya Pradesh recently closed down HSTP and imposed in its place the old kind of textbooks that stifle these innovations. In so doing it has unwittingly taken a stand on science teaching which most scientists will agree is regressive.

Assuming Correctness

Rather than offering a critique of HSTP's approach to science teaching that might demonstrate its comparative weaknesses, the Government has instead assumed without evidence, the correctness of its position. Indeed, it has also gone on to make a number of additional allegations about the curriculum's impact and Eklavya's omissions and commissions while being in charge

of its implementation. However, the Government of Madhya Pradesh has failed to make an explicit statement describing how in its view science should be taught in middle schools.

Granted that ultimately it is the responsibility of the elected government to make broad decisions in the larger interests of the society, such as what should be learned in government schools. These decisions have to be informed by proper professional investigations of the academic validity of the programmes of instruction and their effectiveness. If it does away with such professionally sound processes altogether and resorts to the use of highly questionable data or hearsay as justifications for its decisions, it would seem to be engaged in a *mala fide* process.

Political Expediency?

If for some reason the State Government feels that allowing Eklavya to continue presenting its curriculum within the formal school system is politically inexpedient in view of the political stances of Eklavya (as Ms. Sharma says, 'positioning itself in opposition to government policies'), it would still require an independent process of reasoning and investigation to negate the principles and practices of HSTP, which are independent of Eklavya. HSTP predates Eklavya and the HSTP fraternity extends far beyond its few 'paid members' to include thousands of students as well as hundreds of school and college teachers and scientists.

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What a very large number of scholars, including Professor Agnihotri, have written time and again, is that the conclusions reached in the government's arguments marshalled against HSTP are a result of the use of professionally unsound methods. Therefore, the conclusions drawn from them are not tenable or sustainable. In reply to this, Ms. Sharma complains that Eklavya failed to study the long term impact of HSTP or prepare a continuation of the curriculum it innovated that could be used in the higher classes. Also, Ms. Sharma stated that Eklavya has also not conducted corollary research into the impact of its intervention; oddly, though, she herself then makes a series of observations about the purported impact of this curriculum without the benefit of any empirical studies. Whatever Eklavya may have done or not done does not absolve the State Government of their responsibility to undertake such a study, and to wait for its results before deciding if it should close down the programme. HSTP, for a considerable stretch of time, was a programme underwritten by the Government of Madhya Pradesh. Eklavya was only an academic consultant and promoter of the programme.

Two Crucial Questions

Ms. Sharma thus evades two of the crucial questions at stake in this discussion:

→ How should science be taught in our schools and in what way is the method being followed in the rest of the State better than that of the HSTP?

→ Why did the Government of MP not undertake a professionally competent study of the impact of the HSTP, and why did it close down the programme in this unholy hurry?

Ms. Sharma is also at pains to establish that 'local bodies' protested

against the HSTP and voted it out. The fact is that no elected body (village or block or district *panchayat*) in Hoshangabad district passed a single resolution against the HSTP. It was the Planning Council of Hoshangabad District which passed a resolution seeking the closure of HSTP. This Council is not a part of the *Panchayat* system and is by law an executive arm of the State Government bound to carry out its policies. A State Minister chairs it and the District Collector is its Secretary, who between them decided on the agenda of the meeting. (Incidentally, curricular matters are supposed to be outside the purview of this Council.)

The Council passed a resolution against the HSTP at the behest of a Bharatiya Janta Party MLA who was not a voting member of the Council. Thus, it is mistaken to say that 'local bodies' voted out HSTP. Secondly, it would be naive to believe that the State Government had no hand in the decisions of the Council.

This is not to say that HSTP generated universal admiration in the District or that there were no critics of its curriculum—or even that the critics did not have valid criticisms. On the contrary, the very success of the HSTP lay in generating a lively debate on the objectives of education and the meaning of curriculum reform,

not on an abstract basis, but rather grounded in experience. That necessarily implied a polarisation of opinions.

It is the task of the Government not to accept unquestioningly any one point of view but rather to seek agreement using valid methods to figure out the correct approach, so as to carry forward the task of curricular reform while addressing the valid problems raised by the critics. Unfortunately the Government of MP, in negating the HSTP in toto, has played into the hands of those who want to perpetuate outdated and outmoded notions of science teaching.

Legitimate Representatives

Regarding what Ms. Sharma calls the 'institutional basis of democracy and elected political government', perhaps the most significant implication of this decision of the Government of MP and the ex post facto justifications being offered on its behalf concerns the conceptualisation of civil society and the role of civil society institutions. The Government of MP assumes that the only legitimate voices of the civil society are the elected members of various bodies, from the Vidhan Sabha down to the *panchayats*.

However, we all are aware that the exigencies of electoral politics have



seriously distorted the ability of our seriously compromised democratic institutions to represent the interests of the people. We are being sermonised about the sanctity of the voice of elected politicians, precisely when the people are looking for methods of reflection, articulation, and representation outside these duly established processes. We are not questioning here the ultimate responsibility of elected representatives to run the affairs of the country to the extent that authority is vested in them by the Constitution. However to arrogate to them the role of being the sole legitimate voice of the people is both dangerous and impractical. The best interests of the people may also be represented by non-political groups or groups not intervening in electoral politics.

We need to create and maintain spaces for these forces to participate in policy-making processes. Those close to power in MP have sought to curtail and eliminate this space on the ground that it is likely to be used by irresponsible right wing forces. We cannot contain the right wing by curtailing democratic spaces. We are also witnessing the take over of the constitutionally-established democratic institutions by right wing parties; similarly, that cannot be an excuse for doing away with them!

Perhaps it is time for Eklavya and similar groups to reflect on why they do not have a sufficient voice and participation in the educational process. They should seek collaborations with social organisations and movements that together may create a greater impact by the people on improving meaningful and critical education to children. Instead of assuming that the State should take the sole lead in initiating and sustaining a process of change, it is time to realise that the

State itself has to be pushed to make progress. For that we need to build a community of people organised and

committed to self initiated change at all levels of society starting with parents and school-teachers. □

Back to Basics

Amita Sharma



I thank MANUSHI for giving me the opportunity to respond to these critiques. My reply will only reiterate some substantive issues. I am not replying to the issues individually.

Let us get the basics right. HSTP was an experiment operational since 1972, (first as Kishore Bharti) in science education at middle school level, carried out in selected schools of GoMP and initiated with government concurrence.

I would like to mention some key words here which are “experiment”, operational since 1972”, “in science education at middle school level”, “in selected government schools” and “with government concurrence”.

“Experiment”: Definitionally, experiments cannot proceed endlessly. They have to lead to inference and rejection or acceptance.

“Operational Since 1972” : Stresses the above point. Thirty years is too long for experimentation not to be learned from or rejected.

“In Science Education at Middle School Level”: The academic weakness in conception that a pedagogic intervention can be limited to one discipline (of science) at an intermediate level (with no links to what goes before or after) has been detailed in my paper. I would rather leave this to the reader and ask them as to how many of them would sign up for such a thing for their own children? The honest answer if Eklavya would introspect is that it happened so because the people who came to Hoshangabad to start the project (Tata Institute of Fundamental Research, etcetra) were from the science stream and were competent to intervene in that area. So the choice is based on the core competence of the privileged intervenor and not on the actual issues of education at the site of intervention. For example in 1972, the big educational issue in Hoshangabad was the poor reach of the schooling system itself, but that was not something that was amenable to the intervenor. There is no problem in one

choosing to intervene in an area of competence. The problem begins when it is later misrepresented as a comprehensive strategy for education reform.

“In Selected Government Schools”: The Government as a provider of educational services is bound by principles of universal provisioning. If it undertakes an experiment in a localised area that choice is informed by a larger vision of validating an experiment for acceptance or rejection. It cannot have experiments in perpetuity or carve out turfs for NGOs. It is accountable to people through its elected government. This was the very reason why the District Planning Committee objected to the HSTP. The view of the DPC was that if the Government felt it was good, then take it across to all schools or if not, let Hoshangabad children also have equal rights to the State’s educational package. That question cannot be ducked. The Government evaluation found basic deficiencies in HSTP (some academic weaknesses elaborated in my paper in MANUSHI) and suggested to Eklavya that uniform texts will have to apply in all schools and Eklavya could choose to work with the Government at the state level to train teachers in science teaching.

“With Government Concurrence”: There is a consistent effort to belittle political decision-making by elected governments. Let us not forget that the privileged position accorded to Eklavya to work inside government schools was also one granted by a political government. Such a political government in a democracy is the legitimate custodian of public interest and not an associational initiative of a band of people who come together on a common cause by registering before a Registrar of Firms and Societies. Democracies

accord that privilege to its representative institutions because people can choose to change their representatives.

Finally, it may be added here that the said institution Eklavya did not even have a system of a simple annual reporting on the impact of its

intervention in the government schools that they chose to intervene in. This is something persons working with Eklavya themselves admitted. What is the Government expected to do? Offer its facilities for experimentation with no right to ask questions? □

My Immaculate Conception

*I have a child.
She is the aggregate
of all the men I have loved,
and the dross of my flesh
of my flesh.*

*In that brooding space
which yields to everything
she was born,
like a ripe red rose
she incarnated
from the dross of my flesh.*

*She has been born and has
died a thousand times.
Tonight she is alive, doing
what she always does:
haunting my house and breaking
my sleep and eating her death
to incarnate endlessly.
This is how she plays with me.*

*Tonight she is alive. She stands
in front of the mirror, trying
on faces for tonight’s play.*

*She wears all my faces
but is not mine.
She is not her fathers’:
her fading fathers stare
back at her baffled,
struggle to recognise her.*

Archana Sahni