



Eklavya conducted an educational experiment to improve social science teaching in middle schools from 1986 to 2002. Keeping in mind the requirements of the state curriculum, new textbooks were written and field tested in eight middle schools across Madhya Pradesh with the help of government teachers, who were specially trained to teach the revised content to students.

The experimental project set in motion a continuing dialogue with the teachers on the form and content of the social science curriculum. It also raised questions about what one should expect in terms of understanding and achievement from the children who had studied the new texts. Quite naturally, this led to a discussion on how to evaluate these students and gauge whether they had achieved the required level of conceptual clarity and skill development demanded of the new content and teaching methodology.

In this article we discuss some of our experiences in evaluating and changing social science education in schools.

Objectives of Teaching Social Science in Schools

Many years ago we were brave enough to launch an experiment to improve the teaching of a subject which suffered an image of being boring and useless. The first step we took was to review the existing social science textbooks, which we expectedly found overloaded with information put together in a rather perfunctory and cursory manner. Perhaps, the textbook writers thought it was best to give students only tidbits of knowledge and therefore left a more in-depth study of the subject to the higher classes.

At this juncture I am reminded of the American philosopher John Dewey who had some insightful observations to offer on social science teaching in schools; this will help put things in perspective: *"Just as mind was supposed to get its filling by direct contact with the world, so all the needs of instruction were thought to be met by bringing the child's mind into direct relation with various bodies of external fact labelled geography, arithmetic, grammar, etc. That these classified sets of facts were simply selections from the social life of the past was overlooked; equally so that they had been generated out of social situations and represented the answers found for social needs.....It was forgotten that the maximum appeal, and the full meaning in the life of the child,*

could be secured only when the studies were presented, not as bare external studies, but from the standpoint of the relation they bear to the life of society." (Dewey, 2008, p. 80-81)

How is this possible? Dewey quotes an example from the teaching of American history in this context: *"The method involves presentation of a large amount of detail, of minute of surroundings, tools, clothing, household utensils, foods, modes of living day by day, so that the child can reproduce the material as life, not as mere historic information. In this way social processes and results become realities. Moreover, to the personal and dramatic identification of the child with the social life studied, characteristic of the earlier period, there now supervenes an intellectual identification - the child puts himself at the standpoint of the problems that have to be met and rediscovers, so far as may be, ways of meeting them."* (Ibid, page 87.)

We also believe that 'external facts' conveyed to students in the educational process do not easily translate into knowledge. Their concise presentation ensures that children do not understand or learn, but merely memorize. If we expect teachers to encourage and help children understand the underlying concepts then the textbooks should only actively assist them in their endeavor. But when the textbooks themselves are written in a summarized manner they offer little scope for students to internalize abstract and difficult concepts. The learners are then left with no alternative but to memorize the content or fall back on shoddy guidebooks.

The key objectives of our conception of social science teaching can be summarized in the following manner:

History

1. Discover continuity and change in social processes. Identify/recognize changes that occur with the passage of time and what remains unchanged.
2. Investigate the inter-linkages between different social processes and identify the reasons for these linkages.
3. Recognize/understand the impact/imprint of past processes on present-day society and living.

4. Understand the role individuals play in society/social processes within the context of the circumstances prevailing during the times they lived.
5. Understand the nature of sources from which information about the past can be gleaned and the methods by which this information can be extracted.
6. Form a balanced, unbiased and rational viewpoint about events that occurred in the past.

Civics

1. Understand basic concepts related to governance-administration and economic structures/systems.
2. Evoke concrete and living images of their functioning.
3. Compare the rules/regulations governing these structures with present-day situations and, in the process, identify their strengths and shortcomings.
4. Understand the background/foundations of the government's economic policies, their impact on society and possible alternative approaches to economic development.
5. Create awareness of the crucial/influential role that citizens can play.

Geography

1. Evoke concrete images of the lives of people in different regions of the world.
2. Understand the symbiotic relationship between man and nature and the reasons behind lifestyle differences between people living in different regions.
3. Understand the basic elements of physical geography on the basis of concrete examples/references from regional geography.
4. Investigate different aspects of local geography.
5. Understand the man-nature inter-relationship in the context of changes taking place over time.
6. Develop basic skills for observing and studying geography, such as drawing and using maps, graphs, diagrams, photographs and tables.

The Structure of the Textbook

Keeping in mind the above objectives, what kind of textbooks need to be written and what would their focal points be?

This was the next question. We strongly felt that we should not be bogged down by the requirement to teach 'so much' history-civics-geography. Rather the guiding principle should be to choose topics for the syllabus that would help children develop a concrete understanding of social processes and change. We also tried to ensure that the writing was as close to the language of the learners as possible.

Children of this age are generally not disposed to abstract thinking or definitional terminology. Their thought processes are guided more by the context or situation. If they are to understand abstract concepts, the first requirement was to create a concrete situation and let the concepts emerge through the detailed descriptions and discussions about the situation.

For example, in one chapter we discussed the topic of industrial activity and how it is organized. The traditional approach would have been to give the technical definition of different types of industrial organization. Like: A cottage industry is! Instead, we chose to give concrete examples of terms like cottage industry, contract or putting-out system, small manufacturing unit and so on. Each example was dealt with in depth, with detailed descriptions of the various processes involved. This was followed by a comparative analysis of the different forms of industrial organization, thus enabling children to draw some general conclusions from which the concepts further emerged.

We also used the story telling technique quite extensively in all the three sections of social science – history, geography and civics. Children like hearing stories. They make the textbooks more attractive and easier to read. But the stories we included served an educational purpose as well. They were meant to build concrete images of situations or things, making it easier for children to draw some general observations.

To prevent children from getting lost in the flow of the story and missing out on important generalizations, we usually broke up the flow by periodically drawing their attention to the conceptual or general aspects by posing a series of questions; this encouraged them to think. We found this to be a fairly successful strategy that evoked an enthusiastic response from both the teachers and students.

We also used pictures and diagrams extensively, woven integrally into the text. Here, too, we interspersed questions in the text to draw the children's attention to these illustrations

and help them understand why and what was depicted.

Is Activity Based Learning Possible in Social Sciences?

The principle of using activities to help children internalize concepts is fairly well established in educational theory. After much experimentation, we identified three major kinds of activities that could be conducted in simple but effective ways in the social science classroom.

- 1. Interspersing questions in the text:** The common practice in classrooms is to read the text from beginning to end. We broke up the text by introducing questions of many kinds; some were to aid children comprehend and understand difficult narrations, some helped extract information from maps, diagrams and illustrations, others were concept related, requiring the children to discuss among themselves to search for answers and there were comparative questions too – comparing two different periods to identify changes that had occurred, or pinpointing the differences between two situations. These questions encouraged discussions between the teacher and the students and, in looking for the answers, the children had no option but to study and comprehend the text as well.
- 2. Using children's experiences and knowledge:** Children in the 10-15 year age-group are a storehouse of knowledge when it comes to their daily experiences and observations of the community they live in. Normally, this storehouse is overlooked in social science teaching but it has the potential of becoming a very practical and useful toolbox for learning. Many of the questions we posed in the text sought to delve into this storehouse of students' experiences and relate to them in the context of learning.
- 3. Exercises in using the textbook meaningfully:** The ability to understand and express oneself through the medium of the written word is crucial. This is perhaps because it is not possible to directly experience other times, places, societies, organizations and cultures. One needs to read and learn about them, or listen to someone talk about them.

We tried to develop writing skills in children by introducing different types of exercises in each chapter. We also sought to assess whether children had acquired such skills in the

examinations we conducted.

In this context, we opted for the open-book examinations because we were clear in our minds that we were not judging the ability of a child to memorize the content of the textbook but instead wanted to test whether the child was able to think, understand and use the textbook intelligently. It is these abilities that we focused upon in the evaluation system we developed.

Evaluation of Students: Open-book Examinations

The open-book method of evaluation is important for the social sciences because it is meaningless to evaluate how much information on a particular topic a student has 'swallowed'. There is no limit to the quantum of such information. No curriculum can be expected to provide all the available information on a subject nor is it possible for children to remember it all. Whatever little they do remember or memorize for examinations is eventually forgotten.

Does this mean that the information leaves no imprint on their minds and personality once it is forgotten? Isn't education supposed to leave an imprint? Shouldn't we retain the thinking, understanding and skills that education is supposed to develop? These are abilities that help us throughout our lives to face up to new situations, learn new things from books and other materials and solve new problems that constantly arise.

Kamala Mukunda, a teacher and psychologist, cites an interesting study done in the USA in her book *What Did You Ask At School Today?* (2009, page 68). Harry Bahrick and colleagues sought to assess what high school students remembered 50 years after leaving school. They found the students tended to remember whatever they had studied over a long period of time and those things which they repeatedly used. They forgot what was taught for a short time or which they found little use for in later life.

Mukunda draws our attention to the fact that we learn to read, write, understand, calculate, solve problems, analyze things, and reach conclusions in school. These are abilities we never lose throughout our lives, provided school education focuses on developing them in students.

These were the aspects we emphasized on in our evaluation of student performance. Our examinations sought to assess whether children had acquired the ability to think, analyze,

compare different periods and places, understand the reason for observed differences, express themselves clearly and give detailed descriptions or present a summary of situations and processes, etc.

In addition, we felt the ability to use a textbook constructively also qualified for evaluation because it is important from the point of view of learning the social sciences. So we permitted students to use their textbooks freely during examinations.

One practical benefit in adopting the open-book approach was that we no longer needed to print maps, pictures, graphs etc for the question papers - children were often asked questions related to diagrams in the textbook. So all they needed to do was locate the relevant map, picture or graph in their textbook during the examination to give the answer.

By shifting the focus of evaluation to these aspects we sought to rid children of the fear of examinations and the burden of memorizing/forgetting the subject content.

To summarize, the questions we set sought to evaluate in students the ability to:

1. Locate relevant information in the textbook.
2. Understand the aim of the question and give the appropriate, to-the-point answer.
3. Present a summary of discussions conducted on any topic.
4. Analyze new information or new situations on the basis of discussions conducted on any topic.
5. Extract information from maps, pictures, tables and graphs.
6. Compare different situations.
7. Understand the reasons or causes for any situation.

What were the Different Kinds of Questions?

1. Objective questions – giving the answer in one word or sentence, filling in the blanks - such questions accounted for 16 marks out of 100.
2. Questions whose answers could be found in a specific location in the textbook - such questions that required locating the correct answer accounted for 30 marks out of 100.
3. Questions whose answers required referring to more

than one portion of the textbook, or questions whose answers were not contained in the text but could be extracted from pictures, maps, etc or by reasoning, extrapolation, imagination, knowledge and experience - such questions based on abilities like comparison, analysis, reasoning, extrapolation and reading maps, pictures and tables accounted for 54 marks out of 100.

Evaluation Policy: Some Considerations

1. Not more than one question from the textbook could be included in the examination, the attempt being to formulate new questions for every question paper.
2. Those who answered in their own words, regardless of whether the language was perfect or not, were given additional marks.
3. Marks were cut for answers taken from the textbook that included unnecessary text.

Some Sample Questions

1. Objective questions

Correct only the incorrect sentences given below:

1. Banks do not pay interest on money deposited in a savings account.
2. Money can be withdrawn daily from a savings account.
3. Only owners of large factories can get loans from banks.
4. Fixed term deposits attract more interest.

Fill in the blanks:

1. Akbar abolished the pilgrimage tax in ----- and the ----- tax in 1564 in order to win the support of -----
2. At the start of Akbar's reign, there were only ----- and ----- amirs in his administration.
3. Akbar adopted the policy of ----- after 1580.
4. The appointment of the Mughal mansabdars was done by -----.
5. During Aurangzeb's reign there was a shortage of ----- to distribute among the amirs.

2. Questions that required to-the-point answers

1. When the first parliament was convened in England,

who were eligible to vote and who were not?

2. During British rule what prohibitions did the Forest Department impose on the people to protect the forests?

3. Questions based on summarization, reasoning, extrapolation and interpreting maps, diagrams, etc.

1. What are the differences in the rules to cast one's vote in India today, compared to the rules in England's first parliament?
2. Who is responsible for passing legislation in India? How are laws formulated? Explain.
3. Describe the picture on page 101. What are the different things you can see? Where are these things being brought from? Who are the people you see in the picture? What are they saying? Are they agreeing with one another?
4. The American adivasis and the Europeans both hunted the bison. But they made use of the bison they killed in different ways. What were these differences? Explain.
5. Look at the map on page 220 and answer the following questions:
 - a. In which direction does the Colombia river flow and into which sea does it flow?
 - b. In which direction does the McKenzie river flow and which sea does it join?
 - c. Which river is further away from the Equator – the Mckenzie or the Red river?
 - d. Which river freezes in winter – the Mckenzie or the Red river?
 - e. Which of the following places are located on the sea coast: Denver, Winnipeg, Norfolk, San Francisco?
6. The winter and summer temperatures in three places are given in the table below. Explain, giving reasons, whether the climate in these places is moderate or extreme.

Place	January temperature	May temperature
A	15	30
B	25	30
C	26	28

7. Farm owners in the USA cultivate a single crop in their

farms that stretch over hundreds of acres.

- a. How is this fact illustrated in the picture on page 247?
- b. What is the advantage of growing a single crop in such large farms?

Teacher Training

Every year during the tenure of the program question papers were prepared with the participation of the 16 teachers from the eight government schools. After the examination, we would hold a meeting with the teachers in which a sample of the children's answers would be read out and analyzed. The purpose of this sampling was to see how effective our question paper was in evaluating student performance. Standards for evaluating the answer sheets would then be formulated on the basis of our review of the sample. This exercise, which was carried out twice every year, helped us understand better the purpose and methods of evaluation.

Skill in Using the Textbook and its Content

We observed that children tried to use the textbook in different ways. There were some who attempted to answer the questions in their own words, based on their own understanding, without recourse to the textbook. Most others would search for the appropriate answer in the textbook. But it was often disappointing to see that even with the textbook open in front of them many children seemed at a loss, unable to think and use the book; they sat aimlessly for several minutes randomly flipping the pages.

There were also marked differences in children's skills in searching for the answers. A few would note down exactly what was required from the book while many others copied incomplete portions of the appropriate answer. There were also those who wrote more than was required, most commonly copying a few additional sentences before or after the appropriate section. And, of course, there were those who failed to zero in on the needed answer, copying portions that had no relation to what was required.

We regularly analyzed the students' answers with the teachers in an attempt to understand how children thought and how we could provide direction to their thinking. For us, it was as important to develop our understanding of the students' psyche while evaluating their answers as it was to award marks for their knowledge and understanding.

Our experiences with open-book examinations emboldened the teachers to modify their focus in teaching. They began to make special efforts to draw the attention of students to the main points of each chapter. They helped them identify the required sections and sub-titles that served as markers to these portions. They also emphasized the importance of reading with understanding, encouraging students to write answers in their own words. But they would caution students against coming unprepared for the examination in the hope that an open-book examination would give them sufficient leeway to look for answers in the examination hall itself, urging them to revise the chapters well beforehand.

We took up a few initiatives to strengthen this process. For example, we prepared question banks and workbooks, the latter containing sample answers for different questions written by children. In order to develop their understanding of how to answer questions, we outlined ways to review the answers, even including an exercise in which children made their own assessments and awarded marks for answers on a scale of 10. These were at a trial stage when the program came to an end in the schools in 2002.

In this manner, both we and the teachers grew committed to teaching children how to use their textbook as a source of information instead of memorizing its content solely for the purpose of examinations. The outcome of our combined efforts was that instead of making learning redundant and providing students an easy way to answer questions, the open-book approach opened up new avenues, giving them the opportunity to develop new skills in the social sciences.

We shall now discuss this aspect in more detail.

Emerging Knowledge in the Social Science Perspective

As we had pointed out earlier, one expectation from the new teaching methodology was that it would help children develop knowledge giving them the perspective that social science offers. This was something we were keen to assess. We looked for possible indicators of a growing knowledge against the perspective social science offered. For example, we felt that one such indicator could be the ability of children to assess and identify differences between two periods or situations and cogently explain the reasons for these differences.

To illustrate how this knowledge is expressed, we cite

answers given by students to two questions posed in the examinations:

Question 1 How did people exploit forest resources in the era before British rule? How did they exploit forest resources during British rule? Make a comparative assessment and answer in your own words.

Answer 1 The British used the services of people to exploit the forests and also for farming. The British used to kill the people and keep the traders happy. They used to send people to distant villages to collect taxes.

(The student's own words, images and conclusions).

Answer 2 Before the British, the people utilized forests in a proper way. They never cut the whole tree. They never removed all its leaves. Nor did they blindly cut leaves. The forests were protected. During British rule many trees were cut to provide sleepers for railway lines. In this way, the adivasis used to plant medicinal herbs and flowering plants instead of exploiting the forests for wood, while the British wiped out the forests.

(The student's own words, images and conclusions).

Answer 3 Before the British:

- i. Used only by villages and people living near the forests.
- ii. For tubers, fruits and medicinal plants as well as for grazing cattle.
- iii. Wood cut for personal use, trade and development.

During British rule:

- i. Building houses in towns.
- ii. Laying railway lines.
- iii. Earning profit by manufacturing medicines.

(The student's own words and point-wise presentation).

Answer 4 Before the British, the people were the owners in a way. They used to hunt, collect tubers, fruits and medicinal plants and graze their cattle. They would also burn the forest in places to cultivate the land. They cut wood to make things for their homes. During the time of the British, trade in timber began. At that time many large cities like Bombay and Calcutta were coming up; railway lines were being laid, huge ships were being built, and mines were being opened. All these needed timber. So the British destroyed the forests.

(Choosing sentences from the textbook and combining them after some thought to write the answer).

Answer 5 Before the British, people used the forests with ease and during British rule they could use the forests with difficulty. The British used to oppress the farmers, who could not utilize the forests fully during their rule. I have written this comparison of people before the British and during British rule in my own words.

(The student's own words, images and conclusions).

Answer 6 Before the British, people used forests freely. They got fruits and wood and did farming as they wished. During British rule they were not able to use the forests openly. If they went to collect wood the officials of the British stopped them and refused to let them cut wood. And farming, which they used to do anywhere, now the British began to distribute land for farming and register the land in their names. If they farmed any other land they were arrested and imprisoned.

(The student's own words, images and conclusions. General conclusions drawn from the story narrated in the chapter).

Now let us take up another question whose answer is not directly discussed in the textbook.

Question 2 What are the differences between jhum cultivation in the eastern Himalayas and farming in the Great Plains of America?

Answer 1 Jhum cultivation in the eastern Himalayas and farming in the Great Plains have the following differences. In jhum farming the people first cut all the trees growing on the land. In this region no one does agricultural labor. As soon as light showers fall the men and women together take handfuls of seed, dig a small hole in the ground with a hoe, plant the seed and cover it with soil. In jhum cultivation all the crops needed by the family is grown in one field .. No trees are cut in the farms of the Great Plains, which are like maidans. All the work is done by machines in the Great Plains and for miles only a single crop is grown.

(The student's own words, images and conclusions).

Answer 2 The differences between jhum cultivation in the eastern Himalayas and farming in the Great Plains are that during the months of jhum farming there is very little rain. There is a water problem here during these months. Water has to be brought from the rivers in the deep valleys into which the rain waters flow. In the Great Plains, the animals encroach into the fields to graze and destroy the crop. Fences are constructed to save the fields. But what can be used to construct fences? Great Plains has big farmers. Nowadays, it is common for each farmer to own 500-600 acres of land here. These are the differences.

(The student has lifted unrelated sentences from the textbook to give the answer).

Answer 3 Jhum cultivation in the eastern Himalayas – there are not enough forests left for jhum farming. Many people say the forests have been destroyed because of jhum cultivation. People residing here are now doing contour bunding of the slopes for farming. The main crop cultivated in the Great Plains is wheat. It grows as winter sets in. The wheat is sown in autumn. In jhum farming fields are prepared here and there. In Great Plains, farming is done on a non-permanent basis. This does not

destroy too many forests.

(The student has lifted unrelated sentences from the textbook to give the answer).

Answer 4 There are not enough forests for jhum farming. Every year a field was left to fallow, but now it cannot be left for more than four or five years. For this reason trees cannot grow on that land and the forests are beginning to be destroyed. In three or four years the same field is cultivated for jhum cultivation. Rice, radish, jowar, til, beans, vegetables, tobacco, cotton, tubers etc are grown together in the same field and harvested. In Great Plains the main crop is wheat. Wheat fields can be seen stretching for miles. Two types of wheat are grown in the Great Plains – a winter crop and a spring crop. Apart from wheat, soyabean and some cotton is also cultivated in the Great Plains.

(The sentences in the beginning are unrelated but the later sentences have been chosen from the textbook with some thought and understanding in order to illustrate the differences in crops).

Answer 5 In jhum farming in the eastern Himalayas trees are cut and left to lie until they dry, after which they are burnt. After they burn, the field is coated with a layer of ash beneath which some stumps of unburnt trees still remain. After a shower or two, the ash mixes into the soil. In this way the jhum field is ready for cultivation. On the other hand, in the Great Plains of America, farming is not done in this way. There, fences are constructed with barbed wire. Then the fields are ploughed and the seeds are sown, after which they are periodically irrigated and the crop is harvested with the aid of machines. This is not the case in jhum farming where the crop is harvested by hand. Here water is provided only when it rains, unlike in the Great Plains where water is provided from time to time.

(The student's own words, images and conclusions).

The answers to these questions cannot be found in any single location in the textbook. Children have to form and explain in their own words two contrasting concepts related to the use of land and forests. They may find and copy information related to one aspect but they have to themselves link and present other aspects. Making this comparison provides children the scope to distinguish differences in time and place.

But should one define knowledge only in terms of the ability to perform this task? Its definition cannot be limited in such a fashion. Knowledge is not just the understanding required to complete a task. It is much more. It is about knowing things which claim to be the truth in a culture, linking this information to one's previous experience and knowledge and then assimilating this revised understanding in one's mind. It is a creative process, a process of construction that children can embark upon themselves.

In the examples given above, we see children setting forth on this journey in their own different ways, reflecting the diverse nature of their personal struggles to construct knowledge. The facility of referring freely to the textbook did help in this process but did not appear to fully consolidate it. The crucial input was to allow children the leeway to think, search for the right answer and then explain in writing, instead of merely expecting them to memorize and regurgitate the correct answer.

But the issue kept troubling some teachers who still felt knowledge was something one should remember and spontaneously recall whenever required. Why should a person be expected to roam around the pages of a book whenever the need for an answer arises? Such concerns were often voiced and they would set us thinking about the problem of what exactly people remember and when. And what they tend to forget. Expectedly, we began to see the curriculum and syllabus not as a rigid and absolute framework but as something open to critical appraisal.

Another lingering concern was whether children were actually constructing knowledge in their minds or just polishing their skill in searching for the right answer in the textbook. We got some further insights through a small study we conducted in a school with children studying in Class VI, VII and VIII.

We set a question paper for these children and asked them to write the answers without referring to their textbooks. They could write what they remembered and understood.

A week later we gave the same question paper to the same set of children but this time we told them they could make use of their textbook.

When we assessed and compared the two sets of answers, we found that more children were able to successfully navigate the answers in the open-book examination. Another pertinent fact that emerged was that in both situations children failed to give satisfactory answers to questions related to chapters that were not dealt with in detail and that lacked stories, examples, etc – basically, topics dealt with in a brief or abstruse fashion.

The message was clear. Children did not remember what was brief, perfunctory and abstruse and they also found it difficult to search for and understand information dealt with in such a manner in the textbook. In direct contrast to this was their performance in chapters that were treated in a more effective manner. More children were able to answer questions related to these chapters in their own words on the basis of their understanding, and they did not try to extract the answer from the textbook even when it was available.

The study clearly told us that if a chapter is effectual, children begin to construct knowledge and find remembering things less of a burden. The possibility of teachers adopting effective strategies to teach it also increases. It then does not make much of a difference whether the textbook is available or not.

So the question is: how should a textbook meant to promote knowledge view knowledge? This shifts the focus to how knowledge is seen and dealt with within the classroom. This has become an area for critical assessment today. In the evolving field of educational theory it is increasingly being pointed out that schools view facts as important bits of information but tend to teach them in an unrelated manner.

This does not really help the learners. They come to school with already well-formed mental concepts of the world they live in, but they cannot seem to set in motion a meaningful process of linking and assimilating the unrelated facts they encounter in the classroom to their mental images. So there is no basic change occurring in these images, no conceptual evolution.

At the same time, to whatever extent changes do begin to occur, they inevitably lead to differences between one child and the next. That's because children adopt their own

individual strategies to modify their mental concepts.

But the school fails to take cognisance of this reality. It fails to present knowledge from the standpoint of its living links with the external world and the mental concepts of the child. It also fails to acknowledge children's learning strategies in its teaching and evaluation. In sum, it fails to create a context for constructing and remembering knowledge.

Knowledge, Children and the Teaching Profession

We were able to give children the freedom to think, understand and explain for themselves in our social science program because we and the teachers were prepared to engage with the individual ways in which each child thinks and learns. We saw little merit in labelling them on the basis of predetermined standards, like goods manufactured in a factory.

“The existence of a teachers’ professional group is also a non-negotiable condition for improving the evaluation system. Equally important is the need to make classroom teaching more meaningful and effective. An open-book examination piggy backing on a badly conceived textbook or an ineffective teaching methodology would be of no service to anybody.”

We have seen how this group of teachers worked relentlessly year after year, interacting with one another, answering each others’ queries, arriving at a mutual consensus of what is good or bad evaluation, all the while upholding the dignity of their profession. This is also what the teachers involved in the Prathmik Shiksha Karyakrama (Prashika) of Eklavya and the Hoshangabad Science Teaching Program had been doing for years, forging new traditions, rules and systems for their profession.

The existence of a teachers’ professional group is also a non-negotiable condition for improving the evaluation system.

Equally important is the need to make classroom teaching more meaningful and effective. An open-book examination piggy backing on a badly conceived textbook or an ineffective teaching methodology would be of no service to anybody. Of course, if the methodology and textbook are innovative, an open-book examination could provide avenues for learning many important and priceless skills. In conjunction with the construction of knowledge that seeks the truth, these skills form an integral part of the overall objectives of the program.

Based on their experiences, the teachers suggested two reforms in the examination system we had evolved. First was to reduce the number of questions so that children had adequate time to look for the correct answers in the textbook. Otherwise, time pressures often forced them to leave out questions. Second, they felt the range of questions needed to be re-examined because most children were not fully capable of giving written answers to questions that required them to reason, compare, extrapolate, give an opinion, draw a conclusion, etc.

Once when we conducted an analysis of answers given by 300 children to the whole spectrum of questions generated in the program, we found that:

- 92% succeeded in locating the answer if it was present in a single location in the textbook
- 43% got average or high marks in answering questions that required reasoning, comparison, causative factors, and summarisation
- 38% got average or high marks in answering questions that involved extrapolation or required them to express their own opinions.

We also brainstormed with teachers to find the different kinds of experiences which could equip students better to give written responses to tasks that required reasoning, estimation, comparison and similar skills. For us, the limited writing abilities of children were more evident than any limitations in their mental abilities - 20% to 50% of middle school children were not at a level where they could read a textbook, understand what they read or express their thoughts in writing.

On the other hand, most students almost always participated enthusiastically in the group discussions and oral exercises conducted in smaller groups, even though we do concede

that not all them contributed equally to the discussions.

The children's answer sheets provided a clear picture of their individual capabilities. By analyzing them we were able to clarify the challenges teachers faced in giving all the children equal opportunities to learn. The analysis also helped us find ways to proceed.

As far as the results of the children were concerned, we believed in evaluating only what we had been able to teach them effectively. That's why we always lowered the weightage of questions few children answered correctly and redistributed these marks among the questions more children answered. After all, it was we, the initiators of the program, and the teachers who were answerable for fulfilling its objectives, not the students.

Educational Experiments, Policies and Beyond

In 2005-06, National Focus Group set up to look into fundamental issues connected to student evaluation came up with a set of major recommendations. It wrote that the objective of evaluation should not be limited to assessing how much of what was taught had been assimilated by students; instead evaluation should also focus on the responsiveness of students to what was taught.

Among its many proposals outlined in detail one important suggestion was to eventually move towards open-book examinations. It stressed the need to undertake a pilot project for the purpose.

In this context, there are several possible alternatives that can be taken up. Some teachers once put forward one such alternative – that the open-book system could be adopted for unit tests while keeping the annual examination a closed-book affair. They felt it was an alternative that would be more easily acceptable to the public. Another suggested alternative was to divide the annual examination into two parts – one open-book, after which the textbooks could be collected to hold the closed-book portion.

Our experience has been that teachers generally appreciate the usefulness and importance of open-book evaluation in the social sciences and become committed to it. They say it helps control and overcome several shortcomings in the educational system. It improves the morale and confidence level of students, lessening the fear and tension that examinations generate in them. It also leads to a sharp fall in copying during examinations, with the tendency to resort

to guide books and keys also fading away.

In the final analysis, all our hopes of changing the education system rest, to a large extent, on the hope that teachers will become committed to new ideas and reforms. Eklavya's long association with teachers in trying to foster educational

change has emboldened our belief that there is no reason to lose hope – provided our policy making and administrative processes have the courage to be patient and cherish the independence and flexibility that teachers and children require.

Author's Note

This article is based on the social science program of Eklavya. I have drawn extensively from my team-mate Sanjay Tiwari's work in writing this piece.

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