

A TEACHER`S SPEECH ON THE OCCASION OF SCIENCE DAY.

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I would like to share my views on science and scientific temper recalling the words of Prof. Yashpal Sharma, cosmologist and educationist and is in his 80s now. In one of his informal talks he says 'human beings are inquisitive by nature'. If you are inquisitive, you are eager to know, explore, question and so on. He gives the example of an infant. Give your finger to an infant – 5 month old baby. He holds it first, inspects it, tugs at it, pulls it towards his mouth and tries to know it by sucking it. Children have this innate curiosity to know, to explore and to learn. A school will be doing a wonderful job it does not destroy the inherent capability of the children. But do schools perform this role?

In a country like India where most parents are not educated enough but eager to see that their children do well at school, do we have schools that allow parents participation in education? Does our school are connected to the world, the community around it? Why do schools have boundaries? I am not talking about physical boundaries. Why have we drawn a line segregating schools from the rest of the world? Are we not under the false idea that teachers and books are enough to educate the child?

The children enter now a world which is called school. Here the teacher's role is to teach the syllabus. A month-wise split up plan is given with a warning that there will be a test at the end of the syllabus. Each lesson or chapter has specified periods. What is the students' role then? Sit quietly. No noise. No interruption. No talking. Listen to the teacher. Take the blackboard notes. Answer the teachers' questions. Complete the homework. Prepare for the tests. Perform well. You will be rewarded, my boy, if you get the highest marks. But no discussion, please. No out of the syllabus questions. There is hardly enough time for the poor teacher to complete the syllabus. You may ask what is wrong with this system.

Something is wrong. Even the governments and examination boards testify this. Otherwise, why do Boards keep changing the evaluation system? For the last 8-9 years we have been following a system called CCE – Continuous Comprehensive Evaluation System. Tests and tests- oral tests, written tests, assignments, cross curricular projects, and so on. Now the government and the board have realized that students have stopped studying. They have come to know they are being given marks liberally. So they have decided to switch over

to the old pattern. Next year onwards students are going to read and read from starting till the just completed syllabus for every single examination.

Parents are happy. Teachers are happy. A few students might also be happy. The question is: have all these reforms addressed the real questions?

What are the real questions? The real question is the communication between the teacher and the student, and the school and the community. Is it going to improve? How long should our young children sit quietly in the classroom? Does the evaluation system really reflect the students' learning?

Even after 10 to 12 years of schooling our students can hardly speak out their minds clearly. Their communication skills remain poor. What is worse – we are forcibly teaching our children in a language that is not their mother tongue – not even their neighbour's tongue but a language of the elite educated class. Even the teachers struggle to speak English, forget about teaching in English! When teachers do not have enough language skill, why blame the students for absence of communication skills? The curiosity of a child is ruthlessly destroyed as he is uncomfortable with the language that is used in the classroom. He probably sits in the classroom praying for the bell to ring. What a joy it is to hear the long continuous bell announcing the school is over for the day? Even in our schools I have seen the children writing down the periods for the day in a column on one side of the green board and rubbing off the completed subject's period after period happily. See the exhaustion coupled with joy when the last period is over! They are looking forward to end of each period – not the beginning of the period.

But in schools where children are taught to express their ideas well, the scenario is different. But mind you this is the most difficult job to accomplish. This is where teachers fail. But thankfully there is no examination board to annually announce the pass and failures teachers and schools in helping the children communicate clearly for the major part of the time in the classrooms. Children who communicate fearlessly have better chances of retaining their inborn curiosity. They probe their teachers, the textbooks and the world around them. It will then be a tough job for teachers to satisfy or answer the questions of his students. But a true teacher enjoys his calling in such a challenging classroom. Classrooms become more democratic. The age old ideas, beliefs, customs, traditions, religions, philosophies and so on are challenged. Children stop being passive receivers of knowledge. They start constructing knowledge. The validity of the school enhances with the promotion of manual work. Community has a

lot of values and skills impart and ennoble the experiences of the children. Thus, schools become truly the places where the destiny of the country is shaped.

Like many schools all over India Navodaya Vidyalayas have also become 'science oriented schools'. Ignore science to ruin your future! Science is your bread winner! It is as if we have finally discovered that true *moksha* (salvation) lies in science only! What a change all of sudden all over India! More and more science colleges are being opened. Lakhs of students are appearing for engineering examination after studying maths, physics and chemistry at +2 level. The colleges offering humanities streams like history, sociology, and so on are shutting down. Science teachers are happy. Students who are fed up with history are also happy. But the question is: has this new surge of interest in science changed our outlook of the world? Is studying science inculcating scientific temper amongst us? Article 51 (A) of our Constitution says that "it shall be the duty of every citizen of India to develop the scientific temper, humanism and the spirit of inquiry and reform". The meaning is all Indians who respect constitution should develop scientific temper. So when we see practices or beliefs that do not promote scientific temper, we should oppose them.

Justice R.A. Jahagirdar says that we must wage a war on the enemies of the scientific temper. Are we doing it?

A medical doctor Narendra Dabolkar, a Maharastrian rationalist who started a movement against superstitions, was killed in 2013. So was Govind Pansare, another Maharastrian rationalist and Karnataka's M.M. Kalburgi, an author and Sahitya Academy winner. No prominent scientist in India came out with a statement condemning the killing of these people who have devoted their lives to uphold scientific temper. Even Abdul Kalam was alive when Dabolkar and Govind Pansare were murdered.

Just before the successful launch of every satellite, our ISRO scientists have made it a custom to visit Tirupati and put the replica of the satellite at the feet of Lord Venkateswara to seek his blessings. Are they upholding the scientific temper as spelt by the constitution?

Day in Day out numerous irrational practices are going on around us. Celebrating National Science Day makes no sense as long as we directly or indirectly promote irrational ideas amongst students on other days. Let us celebrate scientific temper and uphold what it really means. That's the right way to celebrate National Science Day.

It is said that Chandrasekhara Venkata Raman was a great lover of children and had an obsession with the education of children. At one time he felt that that he had wasted most of his life time in trying to start a big institution of science. He said he should have spent his energies in starting schools to instead of starting big laboratories. Much money should have been spent in schools, college and universities so that children should have been educated. He observed that he had not spent his time and energy on the raw material of our country, which is children. Towards the end of his life he spent more time with children, inviting them to his laboratory and explaining to them the wonderful things that he had observed in nature in order to kindle the fire of discovery in them.

Education is not helping the children mug up, not providing them the tips to success, not teaching them the mantras to score cent percents, it is just nurturing the curiosity to learn more and more. It is allowing them learn and digesting what is learnt and. It is teaching them to seek real pleasure from the exploration of the world of nature and the world of books. The future of the country is safe when we are surrounded by more and more such children, and schools that encourage the spirit of enquiry among their children and promote rational thinking and, thus, play a key role in making our world a better place to live in.