Voices of Teacher and Teacher Educator

ISSN 2455-1376

Volume VII Issue II February 2019

Voices of Teachers and Teacher Educators

Volume VII Issue II

February 2019

Published by:

National Council of Educational Research and Training (NCERT) on behalf of Ministry of Human Resource Development, Government of India, New Delhi.
Preparation of the publication at NIE (NCERT), New Delhi.

Cover Design & Layout Design: Mohd. Amir and Tarkeshwar Gupta

About the Journal

The journal 'Voices of Teachers and Teacher Educators', an initiative of the Ministry of Human Resource Development (MHRD), is now being co-ordinated by the NCERT. The Journal highlights the vital role of teacher education in India, as the country is poised to provide quality education to all its children, irrespective of gender, caste, creed, religion and geography. The National Curriculum Framework (NCF)-2005, the National Curriculum Framework for Teacher Eduation (NCFTE)-2009 and the Right of Children to Free and Compulsory Education Act (RTE)-2009 all reflect this commitment and underline the principles that make such an effort necessary and also spell out the strategies for it. The challenge is to augment the role of teachers in shaping the social transformation that India is witnessing, have a long lasting impact on the quality of education, and making education equitable. Teachers and all those concerned with education need to recognize that their ownership and voices are important and that they can and do learn not only from their own experiences but also from each other through collective reflection and analysis. The Journal attempts to lend voice to teachers, teacher educators, researchers, administrators and policy makers in varied institutions such as Schools, Cluster Resource Centres (CRCs), Block Resource Centres (BRCs), District Institutes of Education and Training (DIETs), Institutes of Advanced Studies in Education (IASEs), Colleges of Teacher Education (CTEs), State Councils of Educational Research and Training (SCERTs), etc., and make their engagement visible in accomplishing extraordinarily complex and diverse tasks that they are expected to perform. Contributions to the Journal are welcome both in English and Hindi. For maintaining and ensuring quality of reading we are making this Journal a Peer Reviewed Journal from the this issue. Voices is an e-Journal and we hope to circulate it widely. We also look forward to suggestions and comments on the articles published. The views expressed and the information given are that of the authors and may not reflect the views of the NCERT.

Call for Contributions

This biannual publication is for all of us: teachers, teacher educators, administrators, researchers and policy makers. It seeks to provide a platform and build a network for our voices, ideas and reflections. To enable this journal to reflect all voices, we must contribute to it in as many ways as we can. We look forward to many contributing with different experiences, questions, suggestions, perspectives as well as critical comments on different aspects of teacher education and schooling. The contributions could be in the form of articles, reports, documents, pictures, cartoons or any other forms of presentation amenable for print. We also seek comments and reflections on the current issue to improve publication and make it a participative endeavour. We must together make this journal truly reflective of our voices. We look forward to receive your contributions for the next issue by 30th May 2019. We also look forward to your comments and suggestions. The contributions can be sent to the following:

E-mail: voicesofeducators2016@gmail.com

Contributors

1. Indira Vijaysimha, School of Education, Azim Premji University, Bengaluru
2. Nimrat KD Khandpur, Azim Premji University, Bengaluru
3. Ronita Sharma, School of Continuing Education, Azim Premji University, Bengaluru
4. Madhuri Yerra, Tata Institute of Social Science, Center for Education, Doctoral Student and Padma M. Sarangapani, Tata Institute of Social Sciences, Mumbai
5. Sriranjani Ranganathan, Deputy Director, IT for Change, Bangaluru and Sudha Premnath, Ph.D. Research Scholar, Behavioural Ecology, Indian Institute of Science, Bengaluru
6. Rajshree Srinivasan, Azim Premji University, Bengaluru
7. Rashmi Paliwal, Senior Faculty, Eklavya, Hoshangabad
8. Hriday Kant Dewan, Azim Premji University, Bangaluru
9. Parul Malik, Ph.D. Research Scholar, Department of Education (CIE), Delhi University, Delhi and Anita Rampal, Professor, Department of Education (CIE) Delhi University, Delhi
10. सुनीता राणा, सहायक अध्यापिका, आदर्श प्राइमरी स्कूल, बीरपुर कुराह, उत्तरकाशी (उत्तराखंड) और शुभ्रा मिश्रा, अज़ीम प्रेमजी फाउंडेशन, उत्तरकाशी
11. Seema Shukla Ojha, Associate Professor, History, DESS, NCERT, New Delhi
12. Shehnaaz, Teacher, Udaipur, Rajasthan
13. Jay Shankar Chaubey, Resource Person, Azim Premji Foundation, Udham Singh Nagar, UttarKashi
14. Preeti Vivek Mishra, Assistant Professor, Department of Education, University of Delhi, Delhi

15. Vikash Kumar Singh, Ph.D. Research Scholar, University of Delhi, Delhi
16. Vivek Singh, Assistant Professor, Department of Education, Rajiv Gandhi University, Arunachal Pradesh and Ganga Tayeng, M.Ed. Student, Department of Education, Rajiv Gandhi University, Arunachal Pradesh
17. Mukesh Malviya, Teacher, Govt. Gyanoday Residential School, Madhya Pradesh
18. Adithi Muralidhar, Scientific Officer, Homi Bhabha Center for Science Education, Tata Institute of Fundamental Research, Mumbai
19. Deepa Kiran, Professional Story teller, Story Art Foundation
20. Payal Yadav, Ph.D. Scholar, Department of Education, University of Delhi, Delhi

Reviewers List

S.No.	Reviewers	Email Id.	Address
1.	Ravi K. Subramaniam	ravi.k.subra@gmail.com	Professor and Director, Homi Bhabha Center for Science Education
2.	Vimala Ramchandran	erudelhi@gmail.com	Researcher, Education Resource Unit (ERU) Consultants Pvt. Ltd.
3.	Disha Nawani	dishanawani@yahoo.com	Professor, Tata institute of Social Sciences, Mumbai
4.	Rekha Pappu	rekhapappu@yahoo.com	Associate Professor, Tata institute of Social Sciences, Hyderabad Campus
5.	R. Amratavalli	amritavalli@gmail.com	Professor , English and Foreign Language University, Hyderabad
6.	Haneet Gandhi	haneetgandhi@gmail.com	Associate Professor, CIE, Delhi University
7.	R. Rajashree	rajashree@ azimpremjifoundation.org	Associate Professor, Azimpremji University, Bangalore
8.	Ramakant Agnihotri	agniirk@gmail.com	Retd Professor of Linguistics, Delhi University
9.	Rajni Dwivedi	ritudwi@gmail.com	Educator, Tejpur, Assam
10.	H.K. Dewan	hardy@ azimpremjifoundation.org	Professor, Azim Premji University, Bangalore
11.	Shivani Nag	shivani@aud.ac.in	Associate Professor, Ambedkar University
12.	Kriti Kapur	kkapur07@gmail.com	Professor, Department of Curriculum Studies, NCERT
13.	Ranjana Arora	ranjuarora1967@yahoo. co.in	Professor, Department of Curriculum Studies, NCERT
14.	Falguni Sarangi	falguni@ azimpremjifoundation.org	Azimpremji Foundation, Bhopal
15.	K. Vijayan	kannothvijayan@rediffmail. com	Assistant Professor, Department of Teacher Education, NCERT

Editorial

Twenty five years ago the committee set up by the Govt of India under the stewardship of Professor Yashpal submitted its short report in 1993. The report made some important points that covered content and process issues as well as organization and governance issues. 25 years hence is a good time to look at the key recommendations and what we think of them now. The most important of the point was about what must be the focus of what happens in school, what should the school aim for. The committee argued that the school programs were a burden a.§ they were incomprehensible to the students. The focus was on more and more information with little emphasis on knowledge. This was in continuation of the efforts to talk about conceptual understanding as the focus of the school program and statements like doing 'less' is doing 'more'. It argued that the purpose of education should be not to provide answers but to raise curiosity of children and make them capable learners who are able to learn on their own later as well. The Yashpal committee had a great impact on the subsequent National Curriculum frameworks. The National Curriculum framework document of 2005 (NCF 2005) unequivocally reiterated the points made by the Yashpal committee and followed up on that with implications for syllabi, textbooks, assessment and teacher preparation. It also laid emphasis on the participation of teachers in the process of curriculum development up to the text book and assessment. It emphasised the need for inclusion of local elements and experiences in the school program and use them as the basis for further learning. This emphasis leads it to also argue for decentralized curricula and text books.

Given the recognition of the concept building in children as the focus and the diversity of backgrounds, experiences, needs and dispositions, the NCF 2005 also emphasized that the teacher should have the space to be flexible in her classrooms and follow her instincts based on the situation in the school and the social and physical environment. It pointed out the role of the teacher is not to teach the text but to bring out the concepts that are at the base of constructing the syllabus and the text book. One implication of this is that the syllabus and text books are a structure that has to be interpreted and developed by the teacher. This development should 'uncover' the underlying concepts and their linkage rather 'cover' the content. This idea also have been elaborated in the NCF 2005 document in the chapter on Learning and Knowledge. The report thus was a challenge to the information and rote based education that was prevalent at that time. It is for us to see and examine how far we are from it yet and how the kind assessments we use stand up to the critique emerging from the report of the committee.

Recognizing the increasing competition the Yashpal Committee flagged that as a danger and also expressed apprehension about the English medium education that was becoming attractive. The NCF 2005 elaborated this far more and pointed out the need for schooling in the home or in one of the neighborhood languages of the children particularly in the elementary classes. In the context of the situation today the committee would have perhaps said a lot about the private schools and the danger they pose by taking children away from the comfort of their own knowledge base, throwing them in to the situations where they feel inferior in many ways besides accentuating competition and all that goes with it. The Yashpal committee however, did not sufficiently dwell on the challenges of inclusion

and diversity. It did not acknowledge the perceptions of the community and the fractures within it. The narrative of curiosity and construction of a ideal democratic society and school as a place to make that possible did not adequately address or rather failed to recognize the challenges emerging from the increasing disparities and hence growing anxieties. It also perhaps did not consider it as a mandate or avoided the challenge of addressing the difference in prevalent ideologies about how societies should be and what should be the place and status different communities, women, castes and even of children in it. The sub-text of the NCF 2005 however, does point to these challenges and recognizes that curriculum is a and will remain a contested terrain that is impinged upon the prevalent geo-political and economic realties. It is this realization that underscores the emphasis on the State participation and major contribution to public education in a democratic country. It must have supportive and guiding role and make the financial and organizational commitment to ensure this. An assessment of the progress since the release of the report leaves a mixed picture. There ate many things that have not happened but there are many that have. We have a lot more dialogue and efforts towards changing the classrooms and making them more participative. There is a greater recognition for the ability and the experience of the children and incorporation of that in all aspects of the discourse on curriculum and curricular choices and taking it up to the classrooms. There is also a greater awareness of need for participation of teachers and children the inclusion of all in the educational process in an equitable manner. We debate the medium of instruction with greater clarity as also the way some of the abstractions and formal knowledge may be developed in the children. The text books show a great progression as also the discussions on assessment. The participation of the larger parent body and the community has increased and while that may have at present, led to a moving away from the recommendations of the committee report and the NCF 2005, the appreciation of some of the elements of these documents may gradually become more democratic. The role of the governments and the educational bodies of state and the nation would be crucial in this growth of understanding. The issue of governance was also raised by the committee and elaborated in the NCF 2005. Many subsequent discussions have drawn attention to the conflict between giving flexibility and freedom to the teacher and the need to guide and educate her. There is also a conflict between assuming the teacher to be self propelled and self directed and monitoring and directing her behavior in the school and the classroom. The need to build an academic ethos in the system has been recognized and emphasized since even the 1968 National education policy. The tensions of managing a large system and allowing for flexibility and exploration to students and hence the teachers and school is yet a challenge that has to be addressed. So in this 25th year of the presentation of the report we look towards the future with hope and apprehension of the serious challenge that we face towards the goal of equitable, meaningful and purposeful education for all.

The current issue of Voices of Teachers and Teacher Educators contains a spectrum of contribution in terms of the background of the authors, the areas they have written about, the nature of the contributions and the styles of writing. Many contributions received extensive feedback and suggestion from the reviewer who were extremely kind and patient with us and with

the contributors. While, we have included some articles in the current issue that is done with a express purpose of encouraging young researchers and practicing teachers to write for VTTE. We do hope that more of you will write and as we have been saying we welcome the contributions that are based on analysis of the overall situation, reflective analysis of experience, new piece of study or research, reviews of books, educational films, drama etc. among other things about schools, education and society with its changing dynamics.

In the following we give a brief overview of the kind of articles that the present issue carries:

The first paper is of Indira Vijaysimha is based on the case study of a program where teacher development program seems to have contributed to the way they held there classes and used new practices that were developed during the process of interaction. It was a process that was not like a training but like a concerted exercise of professional development. The second paper by Nimrat poses a challenge of the present manner of vocational education and the extent of its relevance. She argues that the way forward has to look at this as vocationalisation of education rather than to create systems that prepare students for multiple vocational streams.

The next paper by Ronita is on building teaching learning processes using life and culture experiences in the light of changing understanding of teaching history in the text books of the NCERT brought out in 2006. Using the example of cricket and caste as a case study she points out how social history can be constructed for 9th graders through this. Her experience helps challenge the popular notion of history teaching and suggests that other possibilities may also exist. And the following paper by Madhuri Yerra and Ms Padma Sarangapani is based on the work with a teacher who is exploring the mediation practices of a middle-school science teacher while working with students on science in english. She practice involves bilingual meaning-making of concepts and developing their observation and reasoning, using everyday student contexts.

The article by Sriranjani Ranganathan and Sudha Premnath is based on the experience of a program taken up in 5 rural schools run by an organsiation in Andhra Pradesh. The schools have autonomy and are focussed on an approach that accommodates the diversity of communities whose children were in schools. The approach touches on curriculum, teacher development and engaging with the community. They point out that putting local knowledge formally into the program makes school natural learning places for all children. Following this is the paper by Rajshree, which is based on an empirical study conducted using a questionnaire and interview. It is focussed on the beliefs of pre-service teachers and analyses them in relation to the moral work of teaching using the categories psychological, educational and teaching beliefs and points out how teaching is a moral activity. She suggests that moral and intellectual teaching are inseparable and the teacher educator can help the future teachers identity and learn the qualities of an ideal teacher who, then, acts as the role model for this students.

The article by Rashmi Paliwal examines the experiences of the 30 year work of Eklavya towards the development of curriculum and trainings in the light of researches. She examines the expectations that are generally made from teachers and if they are realistic and whether teachers can work as mush on their capacity development as they are expected to in such efforts. And the article by Hriday

Kant Diwan discusses Distance Education and its importance in a democratic society. Though it is supposed to be a learner centered and a learner driven programmes, the paper laments the fact that it has become merely an exercise in certification. It suggests that improved use of ICT can make for under reach of higher education in a continuing form to sharp skills in the area of work and interest. The next set of articles are based on the experience of work with learners and an analysis of that. The first paper in this is the paper by Parul Malik and Anita Rampal, which suggests through a case study of an intercultural project that it is possible to build a sense of community and the feeling of ownership among teachers and students. They find that this institution using cotton is able to make for a work- based education that is integrated and an alternative to the euro-based western education and seems to be more democratic and gender sensitive. The article by Sunita Rana and Shubra Mishra suggests how science classrooms can be constructed with experiments so that children's formulations and understanding can be brought into the discussion and examined based on their own observations and data. They point out that engaging in this manner is the beginning of science education.

The article by Seema Shukla Ojha also falls in this to some extent. The paper analyses process of assessment in the context of history and the possibilities for an assessment process that is in a continuous and comprehensive framework. She gives a rubric that can be used for analysing the understanding of the primary sources of history as an example for history teaching. The article by Shehnaz a teacher from a rural govt. School shows the immense possibilities that can be explored by the teacher in making teaching of science active and interesting. She points out how children enthusiastically take part in and contribute to classroom being vibrant and experiments becoming possible within the limited facilities generally available in the school. The next article by Jayshankar Chaubey is on developing the ability to write and points out that it is more difficult to write then to speak. It gives reasons why writing is important to acquire for children in the primary classes and how it should not be reduced to copying or to writing 'sulekh" or other such tasks. It suggests taking in to account reasons for making children write and giving them appropriate tasks.

The paper by Preeti Vivek Mishra engages with the issue of teacher ethics while adopting an experiential-investigative tone as a practicing teacher-educator. She points out that while teaching is everywhere emphasised as an moral enterprise it gets challenged by the real situations and hesitations due relationships and accepted norms. She asks whether it should be expected that ethics would be practiced come what may or that is only an utopian dream.

The article by Vikas Kumar Singh comparatively examines the four aspects of religion, vocational studies, curriculum and gender relationships in the curricula of colonial South Africa and India. The paper argues that the colonial state rejected indigenous knowledge and oriented education to the development of people who would be servile and dependent. It reluctantly spread liberal values but the main thrust was to protect and promote the economic interests of the colonial state and promoted a discrimination based system where the lower strata were to fulfil expectations from them and women were to be seen as 'good housewives'. He points out that though largely similar in the the hegemonic character there were some differences in the two colonial curricula.

The paper by Vivek Singh & Ganga Tayeng presents the study of the differential attitudes using a scale developed for this purpose. The attitude investigated is of teacher educators and teacher-students towards the two year B.Ed Program and compares the Govt. & non-govt college students, tribal and non-tribal as well as male and female students finding some of these as significant. This subject requires more and deeper analysis.

The article by Mukesh Malviya a teacher from a govt. Primary school brings out another aspect. The author argues that school should have become a place for learning and building wisdom in children. They should relate to the life and need of what children need to explore and think about and encouraged to develop and test their won ideas to grapple with their lived situations. In this drawing examples from science he brings out. The way in which schools get limited to memorisation of unconnected facts and meaningless idea given in the textbooks. He suggests the science and its classrooms should provoke children to think about cause-effect relationships and how to make things work and in the process develop a rational out look towards events and phenomena.

The paper by Adithi Muralidhar is based on conversation with a student and presents the view of the student, the likes and dislikes. The focus in this is on school, science, technology and society. She suggests that while students are curious, eager to learn, like science and the chance to dabble with the artefacts on their own freely but they have fleeting and changing interests and short attention spans so appropriate interesting activities need to be designed. Following this is the article by Deepa Kiran which is based on her experience of oral story telling. It explores the art form and also articulates the reason and manner of its working. It describes the space it occupies and the possibilities it holds in the multimedia inundated scenario.

The last contribution is the review by Payal Yadav of a book on what is euphemistically called deviance in classrooms. The review presents the essential features of the book and points out the need for thinking about such labels and the way in which such categorization may be examined the excessive biases that exist need to re-examine and consider all this in context and the need for teachers and classrooms to be open about this making a conscious effort to reduce such categories.

Voices editorial team is thankful to the people who reviewed the papers and gave their opinion and comments on them to help us improve the quality of the publication. We are also happy to have got many articles from persons of different backgrounds and experiences. The selections in this issue reflect that variety and we would like your feedback of the choices included in this issue and your contributions for the next issue. We look forward to your contributions at voicesofeducators2016@gmail.com.

For any question please do not hesitate to write to us for clarifications. We look forward to hearing from you and your contributions.

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Indira Vijaysimha
indira@apu.edu.in

Teachers' Questions in the Classroom

Abstract

The paper presents a case study of how a well thought out teacher develop program can contribute positively towards innovative education of tribal children. The paper draws upon classroom observation of teacher's practices, children's reading writing and comprehension (pre, mid and post) in project schools and control schools and qualitative data from teacher and student interviews. By enabling teachers as professionals through professional development and not just training, it was possible to create an ecosystem where all stakeholders were invested in the education process. This study indicates that the successful implementation of the new practice results in improved reading ability, visible increase in student attendance and greater student interest towards school.

While indigenous peoples make up around 5% of the global population, they account for approximately 15% of the world's extreme poor, and regularly appear at the bottom of human well-being index ratings. One of the key causes for this is the lack of quality education delivered through culturally appropriate teaching strategies. The primary focus of this paper is to explore the how a professional approach toteacher development enabled an ecosystem where children have better reading and writing ability than average. The NGO, Agragamee has developed a unique reading and writing program for children in the first three years of schooling. Children in Agragamee School achieved fluency and were easily able to cope with the standard textbooks of Odisha state by the time they entered class III. By reducing dropout rates the method had increased the chances of success of students in school while encouraging the teachers to be invested in the education process. Due to the success, Agragamee was awarded a grant to test this method in 18 government schools across three districts. Key to the implementation of this method was preparing teachers to adopt and engage with the creative language development processes. Young, fresh support teacherswere hired and to overcome the challenge of de-schooling teachers used to traditional pedagogies. A series ofteacher development workshops for the support teachers was conducted. New content and material to support the reading and writing program were developed and the teachers were familiarized with these.

Introduction

Teachers' questions are a normal feature of all the classrooms and Carlsen (1991) in his review of questioning in the classroom described discourse in the classrooms as a type of language game in which there were four possible moves: structuring, soliciting, responding, and reacting. Teachers use voice, tone and gaze along with explicit direction to manage student behaviour and action in class. In addition to these, teachers extensively use questions for various purposes in the classroom. Teacher's questions are the dominant form of

verbal interaction in the classroom and serve an important role in the pedagogic discourse.

As part of doctoral work, research was undertaken to understand science teacher praxis in schools catering to students from different socio-economic backgrounds. Ethnography was conducted in four schools in Bangaluru city: two government schools (GA,GB) and one private unaided English medium school(PU) affiliated to the Karnataka state board and one private unaided international school (PI) affiliated to an international board. Government schools lacked adequate classroom space and laboratories, unlike private schools. The pedagogic processes followed in the three schools, GA, GB and PU under the Karnataka state board state were similar, but the students in government schools received less classroom instruction. Teachers drew students' attention to information from the textbook that was to be remembered and reproduced. Sharma (2007) describes how science in textbooks is treated as a body of canonical knowledge that students have to learn by rote. Teachers did not give importance toprocesses associated with scientific reasoning such as observation, hypothesising, examining evidence and reasoning.

Conceptual framework

This paper discusses teachers' use of verbal questioning within the formal classroom setting. Basil Bernstein's concept of the pedagogic device that mediates the social order through its distributive, regulative rules and evaluative rules, and the notion of education as a field, in which knowledge is recontextualised, provides the theoretical framework for analysis. Bernstein (1990) theorised classroom practice as constituted by the pedagogic discourse. This discourse is socially constructed by recontextualising agents such as teachers who select and embed two discourses, instructional discourse (ID) and regulative discourse (RD), to produce a single discourse, the pedagogic discourse represented as ID/ RD. Bernstein (2000, p. 31) defined the pedagogic discourse as a rule which embeds two discourses; a discourse of skills of various kinds and their relations to each other, and a discourse of social order.

"We shall call the discourse which creates specialised skills and their relationship to each other instructional discourse, and the moral discourse which creates order, relations and identity regulative discourse. We can write it as follows:

Instructional Discourse ID

Regulative Discourse RD

This is to show that the instructional discourse is embedded in the regulative discourse, and that the regulative discourse is the dominant discourse in the classroom."

The paper first offers a description of the various styles of questioning that could be seen in the classrooms and then goes on to analyse the functions served by teachers' questions using Bernstein's concept of the pedagogic discourse.

Styles and purposes of teachers' questions

There are distinct ways in which teachers ask questions in their classroom and it was possible to observe the following styles of questioning in classrooms across the different types of schools.

Conversational

Sarcastic

Scolding

Cuing

Quizzing/Interrogation

Conversational Style:

This was relatively less frequently observed within the formal classroom setting and was more commonly observed in the international school. Here are some examples of this style of questioning

i. During a tenth standard class that was being co-taught by two teachers, Maya and Mohan there was a brief conversation between students about methods of counting and the use of tranquilising guns on tigers. Maya responded to this discussion:

Maya: Last time, we talked about one person (pause).
Students (overlapping): Ul..; Bina Ullal….; UlhasKaranth.

Maya: Do you find it difficult to remember these names?

ii. In one of the government schools the teacher, Sharada, was teaching a physics lesson. A girl student was reading out sentences from the unit on generators, while a boy was asked to diagram it on the black board.

Sharada: Next.
The girl read another sentence.
Sharada (to boy drawing on the board): *Are you done?*

Sarcastic style:

A few teachers resorted to the using sarcasm while questioning students in the classroom. Here is an example of this from the international school where Kaveri was teaching Biology to standard IX
Kaveri: Multicellular is what? (Pause)
Girl2: Multicellular means made up of many cells.
Kaveri: Multicellular allows cells to be … give me the word…

Students made three or four attempts, their responses overlapped with each other. Someone said "specialised"

Kaveri: Specialised! If you expect me to teach English, I will not do it. Multicellular organisms can have specialised cells. Do they have brains? Do they have anus, mouth?
Students (very soft and hesitant): No.

Scolding questions:

In several instances teachers scolded students by using questions as the examples below indicate.

i. While teaching the VII standard class in the private English medium school, the teacher Savitriwas annoyedby student behavior.

Savitri: (to a boy who seemed to have some sort of toy) What is this?
Savitri:(to another boy who was copying from his neighbour's notebook): What is the use of writing on the board?

ii. The following episode of note-taking was from a Physics lesson taught by Sharada to standard X at one of the government schools. Sharada explicitly mentioned the time pressure she was under to complete the portions.

Sharada (suddenly to boy in front, using a very loud voice): *What is that* Aanh ? (She hit him on the head with her open hand.) *Have I given notes last time?*

Cuing style:

This type of questioning serves to draw students' attention to important words by altering tone and spacing of words.

This extract is from the English medium section of a government girls' high school where the teacher, Shivanna, was teaching biology to IX standard

Shivanna drew the nucleus and chromatin on the blackboard and named the various parts in English followed by Kannada. On the board, he labelled the diagram in English and using brackets also wrote out the

Kannada terms beside the English terms. He then proceeded to explain about chromatin.

Shivanna: Chromatin is made of (pause) DNA and protein (emphasis) (pause). Chromatin is made of (pause)…?

Student Chorus: DNA and protein.

It may be observed that syntactically the teacher does not use the question form, however the 'question' is indicated by a rise in tone followed by a pause.

Quizzing/ interrogation style:

This form of questioning was used mainly to help students recall the right answers during revision lessons.

i. In an episode observed in the private English medium school, Shivraj was taking a revision class on optics for standard IX. He quizzed the students about various optical instruments. The instruments described in the textbook were camera, simple microscope, telescope and binoculars.

Shivraj: What kind of lens is in camera?

Students: Convex.

Shivraj: Convex. (pause) What kind of image is formed?

There were various responses, overlapping with each other and several students said "inverted".

ii. In another episode in the same school, Shantala was revising Chemistry with VII standard.

Shantala: I will ask, if you can't answer, question will pass (pause). You cannot sit down till correct answer is told (pause), ok?

Shantala (to boy on first row, left extreme): What is a mixture?

Boy1 (softly, inaudible at first, then as Shantala prompted he completed the answer): ..are (pause) combination of …

Shantala: (prompts) two or more…

Boy 1: Substances (pause) they may be in (pause)…

Shantala: (prompts) any proportion and (pause) (no response from student) the constituents retain (pause)…

Boy1: the original properties.

Shantala: (to next boy) What is compound?

Boy2: (indistinct)

Shantala: Next

Teacher – interrogation takes place during the introduction and during and after the explanation in order to recapitulate points explained. Teachers also articulated that questioning helped them to evaluate whether '*students have learnt/got it into their heads'*. Revision for tests consisted of verbally asking questions from the 'notes' that students are expected to memorize.

Kaveri from the international school mentioned that asking questions from the students helped her to know whether they were '*getting it'*. She also used questions as a way of ensuring that students were attentive to what was being taught and at times used questions to prove to students that they had to learn the lesson and could not afford to take it easy or '*goof off*' as she put it. The following extract is taken from a lesson transacted by Kaveri.

Kaveri (very loud): Did I ask you to do that? (Pausing and looking pointedly at some students) You enjoy the noise (sarcastic smile). Now … , we have done amoeba of protista. I want some characteristic of protista.

Seven students, both boys and girls, raised their hands.

Kaveri (to boy): Aakash

Boy1 (Aakash) (he is seated and the textbook is open on his desk): (indistinct)

Kaveri: You are reading from the book (raising voice and slowing rate of articulation). Do not read from the book.

Boy 2: They are unicellular.

Kaveri: Unicellular means? (pause)

A few students, both boys and girls, attempted to articulate the meaning of the term 'unicellular' according to their understanding, but their attempts were not accepted by Kaveri.

Girl1: They have a distinct nucleus (answering the question about characteristics of protista and not the sub question about unicellular).

Kaveri: Very good, a distinct nucleus (emphasis) and? (pause).

Boy2: (indistinct) double membrane.

Kaveri: Don't give me double triple and all that. Say nucleus is surrounded by a nuclear membrane.

Kaveri: Amoeba takes in water all the time. How?

Boy 1: Osmoregulation.

Kaveri (loud, slower articulation): Don't flash words at me.

Kaveri: Amoeba takes in water (pause). How?

Three hands were raised.

Kaveri: Who can answer?

Boy2: Osmoregulation.

Kaveri: This is why you don't do well in the test (mimicking/mocking voice). I like biology, it is easy, I don't know why I don't do well in the test. (pause) (loud, slower articulation) Because you have not answered or understood the question (pause) I asked how amoeba takes in water and you name a process. Now, how does amoeba take in water? (Looking towards a girl student) Suchitra?

Role of teachers' questions in the Pedagogic Discourse

Teachers' questions can serve a number of purposes as the above extract indicates. For the purposes of the present analysis, they are classified into questions that are part of the regulative discourse and questions that are part of the instructional discourse. The regulative discourse is the embedding discourse and produces order in the instructional discourse (Bernstein, 2000: p. 34).

Questions that formed part of the Regulative Discourse in the Classroom

These include questions used for getting the students attention, questions used for maintain students' attention during the lesson and finally questions used to monitor students' task completion.

Getting the students' attention

In order to get the students 'attention at the beginning of the period, teachers used questions like:

_*Why are you still talking?; —Don't you want attendance?* (Gayatri, GAH)

_It is 10:45, can you read the time? (Kaveri, PI)

_Mr. Verma, you appear confused about where to sit. Each time, the same issue is coming up. Not ready to start class? Shall I talk to your class teacher? (Sheela, PI)_Can we start?' (Mohan, PI)

Except for Gayatri (GA), the teachers in the government schools generally did not need to specifically get the students'attention as there was a tacit understanding about expected behaviour once the teacher entered the class. Whenever a teacher or other authority figure, including the researcher, entered the class the students chorused out a greeting. The greeting invariably signalled to the students that they needed to stop talking among themselves and await instructions.

At the private school, PU, none of the teachers, Shivraj, Arati, Shantala, Savitri used questions to gain the students' attention at the beginning of the class. As soon as the teacher entered the class, sometimes even as

another lesson was in progress, the students stood up from their benches and chorused a greeting, and would sit down silently when the teacher asked them to do so. However, for two of the recorded lessons, Shivraj had to raise his voice and command the students to settle down before he could start the lesson. On both these occasions, there were school-wide extracurricular activities in progress, making the students quite excited, and were therefore exceptions to the general norm.

By the time students entered the higher classes at the government schools and at the private unaided school, they had got thoroughly socialised into the expected patterns of classroom conduct. Teachers did not have to make an effort to get their attention at the start of each lesson as it was automatic for students to be ready for the teachers' instruction. If, on some occasions, students were distracted or excited and failed to assume the silent stance as the teacher entered the classroom, they were chastised and very quickly brought to order. Teachers in the government schools and the private State Board school did not have to overtly signal to the students that the lesson is about to begin.

At the international school, however, students did not stop talking as a matter of routine when the teacher entered and teachers had to deliberately signal the start of the teaching interaction. The teachers invariably had to ask the students if they were ready for the lesson. It must be mentioned that "asking" in this context did not mean that the students had a choice in the matter, but reflected the different linguistic code employed by these teachers to exert authority over the students.

In a series of articles (Bernstein 1966, 1971b) quoted by Easthope et al (1975), Bernstein developed a set of ideas relating to social order in schools. The different manner employed by teachers in different types of schools is a reflection of the different social class of the students in these schools. The theoretical strand that informs Bernstein's writing is Durkheim's distinction between mechanical and organic solidarity. "...social order arises out of the hierarchical nature of the authority relationships, out of the systematic ordering of the differentiated knowledge in time and space, out of and explicit, usually predictable, examining procedure. Order internal to the individual is created through the formation of specific identities. The institutional expression of strong classification and framing creates predictability in time and space Bernstein (1971: p. 63).

As a way of maintaining students' attention:

In between explanations, teachers asked questions as a way of maintaining students' attention to their talk.

—*Have you understood? Does anyone have doubts?* (Vimala, GAH)

—*What are you looking at?* (Sairabano, GBG)

—Where is your classwork? Is this your classwork? (Savitri, PU)

—What are parasites? Upasti (to a boy) (pause), you want to see who is going outside, stand up and see (pause). No? What are parasites (pause)? You don't know the answer? Shall I repeat it? (Kaveri, PI)

Monitoring students' task completion:

This type of question was routinely asked in all the classrooms observed and they are familiar to most of us. For example, —*Have you finished?; —Could I see your notebook now?; —Have you completed writing the notes?*

Questions asked as part of the Instructional Discourse in the Classrooms

Purposes served by questions that formed part of the Instructional discourse included checking at what part of the content had to be taught; to establish the context of the lesson to be taught; to emphasise key ideas/ concepts/information to be memorised; to elicit the expected 'correct answer'.

Examples of questions used by teachers during the teaching of content (instructional discourse) are presented below:

To check what part of the content had to be taught:

In some of the classes recorded at the government schools, teachers asked the students what topic had been covered and then proceeded with the lesson. Some examples of this type of questioning are given below:

Charumati (GBG) asked her students at the start of the lesson: — *Have we done cells? What is a cell?* Once the students responded to these two questions, she was able to locate her place in the topic and proceed with the lesson.

Sharada (GAH) asked her X standard class:— *What had we done last time? Had we covered finding the square roots of numbers that are perfect squares? How do we find square of a one digit number? Of two digit? Of three digit?* Each time, she received an affirmative response chorused out by some of the students. After this, she proceeded with demonstrating how to work out square roots of numbers having decimals.

Gayatri (GAH) asked at the start of a IX standard physics class: *What are we doing?*

Students: *Electric circuits.*

Gayatri: *Static electricity finished?*

Students: *Oonh miss.*

This type of questioning by the teacher to actually locate the class's place in a lesson was not observed in private schools. In the government schools where field work was undertaken, the teachers seemed to genuinely require reminders about where they had left off and from which point in the lesson they needed to continue. This may be interpreted as a somewhat mechanical approach to lessons by the teachers. Teachers taught the lessons in the same invariant sequence as they occurred in the textbook. As already described, the lesson transaction, in most instances, consisted of directly reading out and paraphrasing information given in the textbook and therefore required no prior planning by the teacher. The even more mechanical task of a place holder in the text could thus be delegated to the students. These questions, asked at the beginning of the lesson could also be considered to be part of the structuring moves, as defined by Bellack et al. (1966). Structuring moves set the stage for solicitations and response related to the lesson to be taught.

To establish the context of the lesson to be taught:

Very often, the teachers in the government schools moved straight into the lesson after ascertaining where the previous lesson had left off. No further structuring questions were felt to be necessary and were considered a waste of time and effort by the teachers. However, in some lessons, teachers began with recall questions as a way of establishing the context of the lesson to be transacted in terms of its content, as this extract at the start of a VII standard class in government school, GA, showed:

Shanta: *What is element?*

Chorus: *Elements are substances that contain only one kind of matter.*

Shanta: *One of you say it.*

Boy: *Elements are substances that contain only one kind of matter.*

Shivraj began his lesson to IX standard at PU by telling the class to be silent and then asked the context establishing question.

Shivraj: In the last session, we are learning kinetic energy. What is kinetic energy?

Boy1: (Stood to answer – indistinct)

Shivraj: What is energy?

Boy2: (No response)

Girl (last bench): Energy is the capacity to do work.

At PI, at the start of a class for VIII standard students about sound energy projects, Sheela began by asking students to recall the ideas they had generated for investigation. This had been done in the earlier class.

Sheela: What were the questions? (The reference was to the project the students were working on).

As she elicited responses to the questions, she wrote them on the board, radiating outwards from the central word, "Project". The phrases were "relate it to waves, etc"; "identify musical instrument"; "how is sound produced" ; "modify".

Clearly, Sheela was not trying to help students recall particular information in this case, but setting the context for the students' classroom task by referring back to the ideas generated in the previous class, which formed the basis for the project they had to work on in groups.

To emphasise key ideas/concepts/ information to be memorised:

These questions were typically heard in the lessons of the government school teachers but were used to varying extents by teachers in the other schools. Although students in the international school did not have to memorise answers, extracts presented in the section on revision indicated that teachers asked questions that required students to recall information considered important. Examples of these have been described earlier and a few more have been included here:

While taking a class for VI standard in the government primary school, GAH, about food, Vijaya used the familiar structure of making a statement, repeating it with emphasis on the key word and then immediately turning the sentence into a question.

This extract was from a lesson about polygons taught to standard IX, by Savita in the government girls' high school (GB):

Savita: A polygon is a closed figure. It is bounded by three or more than three sides. (Savita then translated this sentence into Kannada). The sides have to be coplanar and non-collinear. (She explained coplanar in Kannada by giving example of the blackboard and the door and talking of lines drawn on them). With all these points, can you say what a polygon is?

Girl: A polygon has three sides or more than three sides that are coplanar and non-collinear.

Savita: Now take down, a polygon is a figure enclosed by (pause) enclosed by (went to the blackboard and began writing) three or more line segments which are coplanar (pause) ... coplanar, non-collinear (pause), non-collinear and intersecting each other.

To elicit the expected 'right answer':

Teachers often used a series of questions to elicit the right or expected answer to the question as in the case of Bindu and Sheela at PI, who were trying to lead the students to the desired answer about the food group present in vegetables.

Bindu: What do vegetables give us?

Boy 1: Starch

Bindu: Not starch.

Boy 2: Carbs.

Bindu (seemed not to catch what the boy had said): No, not starch.

Sheela: Can we give them a clue, Ms K?

Bindu: Remember, we studied about plant cells? What is the cell wall made of?

Some teachers, however, merely indicated that the answer given was not the expected one, repeated the question or directed the same question to another student.

In the following extract, it can be noticed how Shanta indicated that the answer given was not the correct one.

Shanta: *How many alphabets in English? (pause) Twenty- six (emphasis). How many alphabets? (pause)*

Chorus: *Twenty six.*

Shanta: *How many elements?*

Chorus: *Three*

Shanta: *Annh? How many?*

Students Chorus: *109.*

In the following extract from a revision class in Biology taken by Arati in the private school (PU), it was possible to notice how the teacher was trying to get the students to arrive at the correct answer. The IX standard students were revising the lesson about micro-organisms and diseases.

Arati: Diseases spread through air (pause). Can anyone tell how?

Girl 1: By cough.

Arati: Yes, but don't just say cough, add something to it.

Boy 1: When they cough.

(Girl remained standing)

Arati: When who coughs?

Boy1: Humans.

Arati: All humans?

Boy 1: Yes.

Arati: If any one coughs, (pause)... we will get disease? Infected person (emphasis)

Eder (1982) noted that teachers rarely acknowledged student remarks that are not topically relevant. The discussion lessons held at the international school there were an exception where teachers did acknowledge students remarks even if they were not directly relevant to the lesson. Sometimes as in the case of Shivraj (PU), it was possible for the teacher to leave unacknowledged, a student question even if it was relevant to the topic. Given below is the extract from the lesson:

While teaching VIII standard, Shivraj referred to earlier lessons by asking students to recall the "three parts of an atom" and then he mentioned that atoms could lose or gain electrons. Next, he proceeded to draw the diagram of an atom: a small inner circle had PN written inside and concentric circles were drawn around it. Though he did not mention it in this lesson, students had already learned from earlier lessons that electrons revolve around the nucleus.

Boy (responding probably to the diagram, rather than the teacher's statement about atoms being able to gain or lose electrons): When you said that electrons revolve round nucleus, that time all electrons will have same speed, sir?

Shivraj: Ah yes, atoms can gain or lose electrons. Naturally, we know electron is negative, negatively charged electrons are anions, positively charged electrons are cations. (emphasis) What is cathode in electricity?

Teachers everywhere tend to maintain control over the discourse in the classroom. Shivraj's lack of response to the student's question about the speed of electrons revolving around the atom could have been a way of avoiding loss of epistemic authority in the classroom. Both Farrar (1988) and Carlsen (1988) noted that teachers may use sequences of questions to maintain tight control of discourse topic.

Speaking from the sociolinguistic

perspective, Carlsen (1991) offers a possible explanation for the teacher-dominated interrogative style of instruction so commonly found in a variety of classrooms across different school types. Although such a style of instruction may reinforce an imbalance of speaking rights, at times this may be necessary in the classroom. Active student verbal participation in a lesson may frustrate the teacher's wish to get through the planned material. Sustained questioning of a single student, although cognitively valuable, may cause restlessness and loss of interest on the part of other students. Students may generate questions that the teacher is unable to answer. These explanations may seem speculative, but they indicate the complex, multiple goals of classroom instruction.

Studies by Mishler (1975a, 1975b, 1978) indicated that first standard students react very differently to questions from their teacher than to questions from their peers. Responses to teacher questions tended to be shorter and declarative. Students and teachers also differed in the way they responded to questions in general. Teachers, tended to take control of the flow of discourse away from students who asked questions, often by responding with another question. Mishler argued that these and other characteristics of classroom discourse reflect role relationships between participants, especially along lines of authority and power. His interpretation is helpful in understanding why student questions are, in general, rare in classrooms. Given the status difference between teachers and students, interrogation of the teacher may be viewed as socio-linguistically inappropriate to students and teachers.

In this context, it was interesting to note an example of student lead questioning that took place in a class taught by Meena in the international school. During a tenth standard chemistry lesson, Meena did her best to respond to a very persistent line of inquiry by a student regarding volume changes that could take place when two miscible liquids were mixed together. Eventually, Meena managed to assert her control over the discourse and moved the lesson in the planned direction. Before doing so she actually went to the extent of performing an unplanned experiment in front of the class in order to demonstrate to the student that she was correct. (Actually she was wrong in this case). The extent of student interrogation observed in this class was exceptional and was not observed in any other classroom.

Conclusion

Literature about science education points to the importance of the regulative contexts of science classrooms (Rogoff, 1990, Cole, 1996, Duschl, 2008) Synthesising the learning sciences research and science studies research, Duschl (2008) suggests that science education should focus on three domains: conceptual and cognitive processes; epistemic frameworks and; social processes that shape how knowledge is communicated, represented, argued and debated. In order to promote better science education there needs to be a shift away from teacher controlled lessons towards those thatenable greater learner control, inquiry and experimentation. Teachers are expected to promote inquiry by asking open ended questions that provoke student thinking and conceptual development. This implies a change in the regulative discourse in order to facilitate the production of the appropriate instructional discourse as suggested by science education research.

However, as discussed in this paper,

actual classroom practices across the different school types reflected a regulative discourse that requires teachers to be in control. There was little or no conversation between students and teachers in the science classroom, with a few exceptions being seen in the case of the international school PI. The pedagogic relationship was not a dialogic relationship, but instead the teacher was a relay of knowledge that had to be reproduced by the student in the appropriate form as required by the formal examination system. In the international school, students from elite social class backgrounds were able to mitigate the teacher control of the pedagogic discourse and the paper has indicated that the regulative discourse was contested to some extent in this school. If we want to see a different kind of science classroom then teachers' implicit sense of the regulative discourse in the classroom has to be altered. Specifically focused teacher education research as to how this can be accomplished is sorely needed.

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Nimrat KD Khandpur
nimrat.kaur@azimpremjifoundation.org

Vocational Education: Relevance and Reality

Abstract

The scenario of vacationalisation in India dates back to the colonial period. After independence many of the committees and commissions suggested and endorsed vocationalisation in different forms.

The present article focuses on providing a status quo of vocational education in India with a special mention to the National Skill Qualifications Framework (NSQF) and its proceedings the mention of some cases of states like Haryana and Himachal Pradesh strengthens the plan of implementation of NSQF in the country.

1. Context

The discourse around vocationalisation in India dates back to the colonial period – ostensibly to curb 'educational over-production' which was caused by the 'tendency of individuals from rural areas to continue in school past the capacity of labour markets to absorb them'. Post-independence, the Mudaliar Commission recommended diversification of courses at the secondary stage while the Kothari Commission suggested vocationalization of the two years of higher secondary education, after ten years of general education. Vocational education was proposed as the solution to many educational problems: the unbridled demand for higher education could be controlled, the financial crisis in education would be eased by reducing higher education budgets, and unemployment among college and secondary school graduates would be reduced (Tilak, 1988).

The National Policy on Education 1968 recommended that facilities for vocational education be increased, to 'conform broadly to requirements of the developing economy and real employment opportunities'. It also recommended diversification to cover a large number of fields such as agriculture, industry, trade and commerce, medicine and public health, home management, arts and crafts, secretarial training, etc. (Government of India, 1968).

The National Policy on Education 1986 Modified 1992 devoted an entire section to vocationalisation. It stated that the 'introduction of systematic, well planned and rigorously implemented programmes of vocational education is critical in the proposed educational reorganisation' and recommended efforts to provide children 'at the higher secondary level with generic vocational courses which cut across several occupational fields and which are not occupation specific'. Vocational education was recommended as a distinct stream, 'ordinarily provided after the secondary stage, but keeping the scheme flexible, they may also be available after class VIII', with emphasis on development of attitudes, knowledge, and skills for entrepreneurship and self-employment. Responsibility was to be shared by the government and private sectors. Among other recommendations, the policy also suggested, 'under predetermined conditions', lateral

entry into courses of general, technical and professional education through 'appropriate bridge courses', and that the government review its recruitment policy 'to encourage diversification at the secondary level' (Government of India, 1992).

The focus on vocational education is not limited to our country alone - in the middle of the twentieth century, the 'overwhelmingly academic bias' of schools led to reforms in several countries attempting to bring courses of study closer to life. Part of the attempt was to inculcate a sense of the dignity of labour, and encourage a wider population to take up non-elitist work in later life. With scientific and technological advancements, the world of work was also changing, requiring 'more literate, sophisticated, knowledgeable and highly skilled workers'. This needed a synchrony between formal education andinformal, on-the-job training. In a sense, vocationalisation of education became dependent on the priorities of the economy - attempts were made to provide a good match between the content and processes of education, and the rapidly changing needs of the labour market, which only highlighted the complexity and difficulty of the endeavor (Burns, 2002). However, the resultant split between 'general' and 'vocational' streams came with its own inherent problems, most notably the reluctance of parents and learners to opt for the vocational stream. The next section attempts to present the reasons for this reluctance.

2. Poor status of vocational education

Historically, men of leisure with assured independent means opted for liberal education the world over. Education was accessed only by a minoritytill the Industrial Revolution, while those who had to make a living as soon as possible were provided with the basic R's. This would enable them to perform their jobs and equip them with skills for the world of work.Liberal education was not utilitarian – it was meant to train the mind and cultivate the intellect; it was an end in itself.Existing social stratification was reflected in the educational belief that there was a clear distinction between mental and manual work. Liberal education prepared the 'gentleman ideal' who took up elite, powerful jobs. These gentlemen were considered to be 'above specialisation' but in possession of a mind that could apply itself flexibly to any subject matter (Lewis, 1998; Dewey, 1916; Hyland, 1993; Sanderson, 1993).

With time, liberal education became more utilitarian. As professions evolved and required a niche study programme, elite institutions preparing doctors, lawyers, etc emerged. However, attaining a general education at school was the means to access higher studies at these institutions, thus effectively closing the doors to those who had been 'streamed' into the vocational curriculum. As a result, liberal education still remained the monopoly of the privileged; those who were 'less academically oriented' or 'unable to cope' were pushed into the vocational stream without catering for the massive disadvantage they entered schooling with.

At the same time, education has been universally recognized as the means for social mobility – thus, liberal education was aspirational and yet available only to the privileged upper classes. This further reinforced the lower status of vocational education and perpetuated social divides.Since, historically, curricular decisions have been taken by a few, vocational education was such as to maintain status quo; the disadvantaged had no say in either the nature of the curriculum or who

should be sent into the vocational stream (Lewis, 1998; Dewey, 1916; Hyland, 1993; Sanderson, 1993). There is sufficient evidence that this kind of streaming has reinforced class and gender inequality with disadvantaged sections of students being pushed towards vocational education (Yonah & Saporta, 2006; Marshall, 1990; Oakes, 1985). This disadvantage continues - Halliday (2004) explains how, even in the current context, academic qualifications provide higher rewards (in terms of wages, status, power and influence, etc). Vocational qualifications are not comparable in this sense, which fails to justify the commitment students have made to these programmes.

A question that needs to be asked at this point is whether this kind of streaming is necessary at all – can academic courses cater for vocational preparation?

3. New vocationalism

With changes in the nature of work, the notion that someone can be prepared for 'a' job was also undergoing change. Dewey (1916) wrote how 'restricted specialism is impossible; nothing could be more absurd than to try to educate individuals with an eye to only one line of activity'. An activity devoid of other influences becomes routine and therefore restricted in terms of innovation and change – no vocation can be defined as being merely a repetition of routine processes ad infinitum.

More than half a century later, Lewis (1998) discussed how the workplace was now defined by 'technological process, and social complexities' and instead of being 'trained' for specific jobs, workers now needed to be 'educated for job flexibility… Because the character of work and jobs has changed, it is felt that traditional job-specific vocational education must be superseded by a new vocationalism'.New vocationalism views vocational education as general education, that is, education for all with a unitary curriculum, one that is not hierarchically ordered and is devoid of tracks. All students pursue academic subjects and all learn about the world of work. In new vocationalism, any division between mental and manual labour is regarded as outmoded and not a basis on which social roles should be constructed.

New vocationalism seeks to integrate vocational and general education by focusing on generic (and therefore transferable from one kind of work to another) competencies necessary for the workplace (e.g. problem solving, team work, learning to learn, etc). It recommends contextualising academic subjects to the world of work, and offering courses in occupational clusters as opposed to single vocational disciplines.The consequence is to be a vocational education that empowers the workers of the future to be risk takers rather than passive instruments of those who control economic interests.

4. Integrated vocational and general education for all

Dewey (1916) negates the assumption that 'discovery of the work to be chosen for adult life is made once and for all at some particular date' as arbitrary, likening such as attempt to Columbus discovering America the moment he set foot on its shore. He further states that through such a 'definitive, irretrievable, and complete choice, both education and the chosen vocation are likely to be rigid, hampering further growth. In so far, the calling chosen will be such as to leave the person concerned in a permanently subordinate position, executing the intelligence of others who have a calling which permits more flexible play and readjustment'.

Lewis (1998) questions whether the aim of education is to prepare an 'expert'

or a'free man and citizen', stating that 'the two kinds of education once given separately to different social classes must be given together to all alike'. Streaming (or multi-tracking) is based on an 'abominable discrimination. The system aims at different goals for different groups of children'... 'the only appropriate 'career education' is learning how to learn, so that one can quickly prepare for new jobs and career opportunities as they come along'. Lewis states that vocational education should be'about work' rather than 'for work'. The latter demands a direct link between the curriculum and jobs available in the market while the former is more 'broadly educative' about the world of work. Education 'about work' should include work experience throughout school years, structured opportunities to experience the real world, along with community projects and preparation for entrepreneurship. He feels that '... good general education is all that employers really want ... and that specific vocational preparation needs to be built upon a generalist foundation rather than constructed in isolation from it'.

Hyland (1993) cites Dewey: 'any scheme for vocational education which takes its point of departure from the industrial regime that now exists, is likely to assume and to perpetuate its divisions and weaknesses, and this to become an instrument in accomplishing the feudal dogma of social predestination'. Hyland adds that 'more importantly, however, the needs of a constantly evolving industrial society can never be met by narrow skills training which neglects aspects of general education'.

Adams & Adams (2011) speak of how the aim of vocational education has been 'relegated' to a 'very narrow form of job training'. They speak of how Dewey saw the integration of vocational and general education as a means for transforming society by inculcating in students not merely an understanding of how machines work but also the science behind the machine and the social implications of its use. They quote Dewey –

An education which acknowledges the full intellectual and social meaning of a vocation would include instruction in the historic background of present conditions; training in science to give intelligence and initiative in dealing with materials and agencies of production; and study of economics, civics, and politics to bring the future worker into touch with the problems of the day and the various methods proposed for its improvement. Above all, it would give individuals the power of readapting to changing conditions so that future workers would not become blindly subject to a fate imposed upon them,

thus also developing the capacity to not only critique and question but also to proactively initiate change for the better. Taking a narrow view of vocational education as training for jobs (to become an electrician, a carpenter, etc) is 'incredibly anti-democratic' and 'redestines' a large number of students to a life void of creativity and individual expression. They cite House (1921) to emphasize that this 'type of vocational education leads to a rigid division of labor in which a few have power and the workers have no understanding about the meaning of their work; workers are exploited by those in power; and vocational education has been institutionalized as a means to reproduce an inequitable social order'.

Buchman and Shwille (1983) reinforce this view by suggesting that 'basing vocational education on actual experience of working at an occupation, and limiting exposure to subjects like science and mathematics to what would actually be useful at

work, would circumscribe the students' aspirations by not exposing them to other theoretical possibilities'.

Sharing a different perspective, Winch (2000) speaks of the fear of undermining the academic nature of general education by integrating vocation education within it. He writes about the

persistent cultural bias, …. , against contaminating educational concerns with such gross matters as work and the economy. Anyone interested in promoting vocational education is thought to be a philistine, concerned only with material gain rather than with higher forms of human achievement. …. this view is a travesty, … our deepest concerns with moral and spiritual well-being are bound up with work, and … any education directed towards the wellbeing of the vast majority who are not going to live the life of the country gentry of yesteryear needs to concern itself with preparation for work in the broadest sense.

A theme that emerges from the literature is that to separate vocational education from its theoretical bases, to see knowledge and understanding as demonstrated in the performance of a specific occupational task, to separate skills and competence from knowledge and understanding raises questions of validity – is it possible to separate the desired behavior from the knowledge, understanding, values and attitudes needed to generate that behavior? Can schooling narrow focus to the vocational aspect of general education and still do a satisfactory job of developing desired capabilities in the learner?

5. Structure and processes for vocational education in Indian schools

The goal set out in the last policy on education was that vocational courses would cover 10 percent of higher secondary students by 1995 and 25 percent by 2000. A Centrally Sponsored Scheme on Vocationalisation of Secondary Education was launched in 1988, under which vocational courses of 2 years' duration were to be provided in general schools at the higher secondary stage. The scheme has since been subsumed under the Rashtriya Madhyamik Shiksha Abhiyaan (RMSA) in 2014. However, very few students take up the vocational stream; only 4.8% of school students were enrolled in the vocational stream as per 2012 data (Government of India, 2012a). Employment record of those who have undergone vocational training is also poor - among those who got formal training in an institution like Industrial Training Institute (ITI) or other Skill Centers, the unemployment rate was high - at 14.5% - compared to 2.6% overall, according to a survey by the Labour Bureau in 2014 (Varma, 2015).

Among the issues that are associated with vocational educationidentified by the Working Group Report on Secondary and Vocational Education, 12th Five Year Plan (Government of India, 2012) and the National Policy on Skill Development and Entrepreneurship (Government of India, 2015a) are:

a. Pass outs of ITIs and even private vocational education are given certificates distinct from those of general education, making these dead ends. This causes uneven and incomplete preparation for work, relegated to low end skills, thus impeding progression of the students and leading to fewer takers for vocational training. Although policies have created scope for vertical and horizontal mobility, this does not work out well in reality.

b. Redundant and inadequate curriculum and faculty with poor industry and job linkages, and poor quality of transaction and teacher professional development have further hampered implementation.

c. Vocational education is considered the option of last choice – which one joins due to poor performance in the general education stream and after exhausting all other options. It is also linked to economic compulsions to enter the work place at an early age. This results in vocational education and training leading to low end jobs and a low esteem for pass outs of vocational education. There is also a stigma attached to working with one's hands.

d. With more than 90% of the working population employed in the unorganized sector, there is very little idea of what skills are required; there is a paucity of research overall in the area.

As far as school education is concerned, the document detailing the Revised Centrally Sponsored Scheme of Vocationalisation of Secondary Education (MHRD, 2014), while reviewing the present status and need for revision states that:

a. Implementation of vocational education has been non-uniform across the country.

b. Challenges in implementation include the teacher vacancies, and limited scope for their capacity building. Insufficient financial allocation, courses which are rigid and not necessarily need based, insufficient processes for mobility of students across streams, absence of separate management structures, absence of long-term commitment from the governments, and inadequate monitoring are some other challenges.

c. This is coupled with 'the dire need at present for high skilled human resource to sustain the high growth rate of Indian economy and increased possibilities of international demand of skilled manpower, changes in technologies and financial markets, the growing international competition and increasing demand from various segments of population for job-oriented education'.

The Scheme has, so far, across the country, infrastructure for vocational education comprises 21000 sections in 9619 schools, which implies a capacity of about 10 lakh students.

The National Policy on Skill Development was notified in 2009 and the National Policy on National Policy on Skill Development and Entrepreneurship in 2015 (Government of India, 2009 & 2015a). The policies attempted to address the issues plaguing vocational education. Some of the highlights of changes post these policies are:

a. A National Skills Qualification Framework (NSQF) (previously referred to as the National Vocational Education Qualifications Framework or NVEQF) has been developed'aligned to international standards'. This framework not only defines vertical mobility within vocational education by defining levels from class IX onwards through till a doctoral degree, but also provides pathways for horizontal mobility between general and vocational education. It also caters for recognition of prior learning, which, technically, enables persons already in employment to enter an appropriate level of vocational education even if they do not have formal qualifications.

b. Separate vocational schools are to be discouraged since the effort is to mainstream vocational education; sections in existingschools will offer vocational courses.

c. Competency based, credit based,modular curricula have beendeveloped/vettedfor twenty six sectors in consultation with the appropriate Sector Skills Council; the Pandit Sunderlal Sharma Central Institute of Vocational Education (PSSCIVE), a constituent of the National Council for Educational Research and Training has been given the responsibility of developing these curricula.

d. The scheme of studies is plannedas follows:

   i. Levels 1 and 2, which are equivalent to classes IX and X will cover English and one more language (Hindi, Sanskrit or a

regional language), mathematics, science, social sciences and computers in addition to one vocational elective; the vocational elective will carry one-seventh of the weightage in the assessment. At the senior secondary level, equivalent to Levels 3 and 4 of the NSQF, it is proposed that general education cover science, commerce, humanities and vocational elective, while the vocational stream cover general foundation courses (in science, commerce or humanities) and one to two vocational courses.

ii. PSSCIVE had developed curricula for the following sectors - Agriculture; Apparel, Made Ups and Home Furnishings; Automobile; Banking, Insurance and Financial Services; Construction Technology; Electricals and Electronics; Healthcare; IT/IT Enabled Services; Logistic Management; Manufacturing and Processing; Media and Entertainment; Private Security; Retail; Rubber; Telecommunication; Hospitality; Tourism and Hospitality–and vetted curricula for the following - Beauty & Wellness; Physical Education & Sports; Electrical, Mechanical & Electronics Technology; Travel & Tourism.

Thus, the shift in discourse around vocational education in the country is recognizing the futility of narrow focus on training for specific jobs and moving towards situating vocational courses as electives in schools. However,the integration of vocational and general education is still not perceived as a means to assuring our students leave school with holistic capacities which will remain relevant in whatever form the world of work takes in the future.

At the same time, it still remains to be seen how future implementation will pan out, given our past history, including specifically whether vocational education will remain yet another site of exclusion or whether we will be able to make the shift to an integrated approach to vocational and general education.

Pilots have been conducted in Haryana and Himachal Pradesh wherein vocational courses designed based on the NSQF were offered as electives in schools; ten other states have also started a pilot in 2015. Studies examining these in detail are not available. However, preliminary studies show that while a lot of funds, resources and effort has been pumped into the pilots, the lack of a good foundation in elementary education, and the experience of the students who passed out of class XII and took up jobs are both mitigating factors in their success. In addition, planning and monitoring of implementation of vocational education, and concomitant changes in the processes of schooling have yet to be formalized. The structures in place for school education are also not yet involved in the implementation of vocational education. There is a high degree of centralization, and critical shortage of infrastructure and personnel for effective implementation of vocational education. At another level, stereotypes inform choice of vocational courses (e.g. computer courses in English medium, pushing girls and boys towards specific courses according to gender)(Maithreyi, Padmanabhan, Menon & Jha, 2017; Verma, 2017).

6. Conclusion

It would be apt to conclude with quoting Dewey (1916)–

The dominant vocation of all human beings at all times is living -- intellectual

and moral growth. In childhood and youth, with their relative freedom from economic stress, this fact is naked and unconcealed. To predetermine some future occupation for which education is to be a strict preparation is to injure the possibilities of present development and thereby to reduce the adequacy of preparation for a future right employment.... Nothing is more tragic than failure to discover one's true business in life, or to find that one has drifted or been forced by circumstance into an uncongenial calling.

Streaming, of any kind, whether through the child's decision or the school's, whether through vocational guidance or formal aptitude testing, guarantees exclusion and therefore inequity. Also, to make a distinction between education as preparation for life and vocational education as preparation for work is inherently problematic – it implies either general or vocational education is incomplete in itself – it will leave gaps in the individual's development.The only solution is to integrate vocational and general education and have the same rigorous curriculum for all learners.

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Ronita Sharma
ronita.sharma@apu.edu.in

History in the Playground

Teaching History of Everyday Life to Ninth Graders

Abstract

This paper reflects onmy experience of teaching 'everyday life and culture' in CBSE affiliated Schools across geographies. My documentation and analysis includes challenges of devising new strategies suitable for teaching this form of history, designing appropriate lesson plans, discussion with colleagues and peer group and finally responses of students across the schools. The idea of learning history in school puts textbook at the top authoritative position, teacher at the next position in that order of hierarchy and of course learners are the receiving end. I have shared how during the course of teaching history of cricket there were several aspects where students had an upper hand, so the usual pedagogic order and hierarchy started crumbling. Inclusion of these themes in history textbooks provided the teachers with a different opportunities towards teaching history, however it is important to underline that writing social history of everyday life marks a significant shift in history writing therefore inclusion of this theme should not be perceived merely as 'additions.' In this context the paperalso discusses the significant shifts in historiography which led to writing histories of everyday life.The skill of framing historical questions about ubiquitous everyday life helps to relook at history in a different light altogether and in turn historicize everyday life. It helps in breaking the popular belief that the study of history has only to do with the distant past. The history of cricket and clothing helps the learner to connect to the present and simultaneously delving deep into the past and unfolding the different layers of history. The paper finally argues that in order to realize the new possibilities of teaching history at classroom level introduction of new history textbooks should be accompanied by strong in-service teacher's training which should familiarize teachers with major historiographical debates.

Background:

Major shifts in history writings generally precedes with decades long deeper conversation among historians and scholars. However, changes in history teaching proposed through new set of textbooks come as a surprise for an average school teacher. In the everyday context of history teaching in school introduction of some new topics in the history textbooks is often considered as an addition and not as a paradigm shift. Introduction of new text book in 2006 and history of everyday life in history textbooks can be understood in this context. However notwithstanding the suddenness and surprising change brought new possibilities and challenges for a practicing history teacher.

NCERT in 2006 came up with new history text book India and the Contemporary World for grade 1X and X.

This paper has been presented in Annual conference in Comparative Education Society of India,2018 held in Baroda.I am thankful to the Chair,co-panelist and the audience for their comments and suggestion.

These textbooks were a clear departure from the previous ones. These textbook were arranged according to themes which include 1. Events and Processes 2. Livelihoods, Economies and Societies 3. Everyday Life, Culture and Politics. A conventional history textbook for school is often arranged chronologically the fact that the NCERT textbooks prior to 2006 also carried the economic and social changes, the historical analysis of the elements which constitutes our everyday life here and now was missing.

History teachers often ask why cricket and clothing needs to be a part of a history textbook in the first place. Is it worth teaching? What is there to teach about cricket? Children already know much more cricket than teachers. And if at all it is important to teach, why should a history teacher involve herself in teaching cricket or for that matter any other sports?

Teaching Secondary History:

Talking about my experiences in teaching everyday history in schools across various geographies was an experience in itself. The last theme of thehistory textbook offered two alternatives, one being History and Sports and the other being Clothing: A social History. Both the topics made it very relevant and relatable to the everyday life of the students. Finding a place and appearance of such themes in the 'history textbooks' was a surprise both for the students as well as the teachers themselves. Having something as simple as cricket and clothing in the textbook gave the students some kind of an empowerment wherein they can add value to the classroom teaching. On the contrary to the other themes and the textbooks where the learners find themselves only at the receiving end. Their contribution in the class in the process of teaching and learning is almost negligible. This also brings us to an understanding of such inclusions that for the learner there is something in the text book which is familiar to them and that the text does not seem to be an alien. The other aspect of it is that it also breaks the hierarchy which already exists in the classroom –that of the more knowledgeable and the less knowledgeable. On the other hand the history of everyday life brought the teacher and the learner on a common platform, at times making the learner occupy more space and at times making them feel more empowered. Transaction of this topic also meant we need to move outside the four walls of the classroom and going to the playground altogether. The mere feeling of leaving the classroom and going out with the teacher other than the games period also changed the atmosphere of the class. Definitely this learning – teaching process cannot be confined to the class rooms. So coming to the technicalities of the 'reverse swing and the doosra' brought us outdoors. Not that all the students knew cricket very well there were few who were more interested in soccer rather than cricket .Therefore it brought the whole class together along with the teacher in the playground – leading it to ***History in the playground***. Most of the students were well versed with the technicalities and few had the opportunity to represent their school at the state level. To my astonishment I found that the students who did not participate in the classroom discussion found a space for themselves as well.Now everything went on a reverse gear. The students owned the field and I enthusiastically learned the technicalities of how to hold the ball while you are going to deliver a doosra.

Avoiding Memorization: Making TLM a lived experience:

As history is also considered as a

discipline (at least in schools) which also needs rote learning,we devised a mechanism for ourselves how we can avoid it.Therefore the playground of the school with the cricket equipment proved to be an apt TLM for the lesson. Having the bat,ball, wicket, the measurement of the cricket pitch, the space between the placing of the stumps, the space between the wickets and the Crease helped in understanding and the learning of the lesson. We also observed the bat which at present is made up of two pieces the willow and the bamboo, compared to that in the earlier times which was a single piece willow wood.That also brought in a report of Ravish Kumar on NDTV (NDTV, 2011) on cricket wherein he visits a place in Yamunagar (Meerut) which is workshop of bats and the *karigars*who manufacture cricket equipment's like bat, ball, wickets, stumps etc. and explains to him that every cricketer want bats which suits them and they customize it accordingly. They make bats for Nike and Adidas. Ravish introduces cricket as *'jis desh mein cricket dharm hai, junoon hai rastarvad hai aur afeem hai.'*He describes the workshop for making cricket bats is devoid of television ,radio and the scores of cricket match and that it appeared to him very mundane. He further brings in that the workers there mostly are Muslims and Dalits. Ironically there is no representation of Dalits among the cricketers. This video also reinforced the source used for Palwankar Baloo and learners also get to see the continuity of certain equation which continues to exist in our society. He also brings in the economic disparity between the players who play with the bat and on the other hand with that of the workers who make the bat who barely earn Rs 200 for a bat. He also compared that the making of the cricket equipment's required artisanal skills and that it can be compared to that of the work of the artists. This form of history made students understand that they are a part of history and history is right here in the playground and not merely in palaces, battlefields and grand monuments. As a result during the course of teaching history of cricket there were several aspects where students had an upper hand and it was an unusual experience where the usual pedagogic order and hierarchy started crumbling.

Coming to my own experiences while transacting this chapter the first and the foremost thing which I did was that I worked on a detailed lesson plan which included several resources like power point on the sub –topic like Media and Cricket in which I brought in the advertisement of Pepsi featuring the cricketers of India and abroad be it the -the helicopter shot by Dhoni,the scoop by Sehwag,and the doosra by Harbhajan Singh, lecture of Ramachandra Guha in LSE and the sources used in the textbook itself. These sources in forms of excerpts and photographs would help in developing the observation and interpretation of various sources. The resources were used when and when as required.

History is not merely kings, queens and their stories:

The history of everyday life as in the text in context of cricket and clothing which is a very much part of our everyday life appeared to be quite simple .As I was also teaching this chapter for the first time it was also a time for revelation for myself As the chapter unfolded it brought forth several layers of the history of the game and how the history of the game was connected to the social history of that time An excerpt from the' The Historical development of Cricket as a Game in England "*The social and economic history of England*

in the eighteenth and nineteenth centuries, cricket's early years, shaped the game and gave cricket its unique nature."(India and the Contemporary World-I, 2006, p. 142). There was a paradigm shift in the writing of history or historiography. From the all the grandeurs, palaces, kings and queens which history was widely associated with, witnessed changes in the history writings or historiography in the form of ANNALES an initiative by the French historians which derived its name from the *Annales* (Annales of Economic and Social History). It was journal started in 1929 by Marc Bloch and Lucien Fevres. It was a breakaway from politics and brought in much newer and relatable things for everyone. For example Fernand Braudel based his work on the impact of environment and trade in the long term on the Mediterranean region, Emanuel Le Roy Laudrie studied climate change over centuries and Philip Aries with changing conception of childhood. Thus history writing had come far way from the kings, queens and palaces to environmental history, urbanization, demographic etc. According to Moraze history writing was not possible by neglecting societies, economies and psychologies. The Annales School also blurred the boundaries of the disciplines and instead brought in the inter-disciplinary method which in turn would help in giving a holistic approach to the issue to help in understanding in totality. (Yadav, 2012)For instance something like Nationalism as well would be seen in the light of various things cutting across several inter-disciplinary areas. Moreover it also witnessed the focus of research from Europe to other geographies like South America, North America, Africa, Middle East and Asia.

Writing Social History:

The initiation of writing social history goes back to 1860's.Social history developed as a by-product of the professionalization of history from the 1860's. It developed as a reaction against the elitist, national and political history of Leopold Ranke (1795-1886) in Germany and of Ernst Lavisse (1842-1922) in France. Some social historians maintained that the essence of history writing is to elucidate "Big Structures, Large Processes,Huge Comparisons." (Tilly, 1984, Cited in Yadav, 2012)There is another group which feels that the true reality of history can be found in the small intimate details of " everyday life". (Yadav, 2012)Majorly their concern on understanding the social issues such as peasants, workers, immigrants and slaves. Therefore the inclusion of themes like Everyday Life, Culture and Politics, Livelihoods, Economies and societies helped the learners as well as the teachers to understand the lives of someone as ordinary as peasants, forest dwellers and the pastoralist, shifting cultivators and their contribution in the economy as much as against the common belief of having not contributed in economy like the factories, cities and industrial and agricultural sectors which supply the market. More so the presence of these themes in the book helps us to look at history in a much different way as it was looked. It clearly changed the perspective of looking at history in schools. It also provides a training to historicize everyday life and ask historical questions and ignite historical thinking!

But then inclusion of history of 'everyday life' did make history relatable to the students but it was a concern for me that though the things that looked very ordinary were merely not as simple as it appeared to be. Hence in the case of teaching everyday life there were several chances of merely knowing the game –cricket technically did not take away the art of Historicizing everyday life

from the chapter. Therefore transaction of the topic though would look simple but it had to be handled carefully so as to bring forth the different layers of the game in terms of history in the classroom. "For instance –the reflection of the Victorian society of England in the game- cricket were given the name as *amateurs and players. In the sub theme-* Cricket and Victorian England. *The organization of cricket in England reflected the nature of English society. The rich who could afford to play it for pleasure were called amateurs and the poor who played it for a living were called professionals. The rich were amateurs for two reasons. One, they considered sport a kind of leisure. To play for the pleasure of playing and not for money was an aristocratic value. Two, there was not enough money in the game for the rich to be interested. The wages of professionals were paid by patronage or subscription or gate money. The game was seasonal and did not offer employment the year round. Most professionals worked as miners or in other forms of working class employment in winter, the off-season. The social superiority of amateurs was built into the customs of cricket. Amateurs were called Gentlemen while professionals had to be content with being described as Players. They even entered the ground from different entrances. Amateurs tended to be batsmen,* ***leaving*** *the energetic, hardworking aspects of the game, like fast bowling, to the professionals. That is partly why the laws of the game always give the benefit of the doubt to the batsman. Cricket is a batsman's game because its rules were made to favour 'Gentlemen', who did most of the batting. The social superiority of the amateur was also the reason the captain of a cricket team was traditionally a batsman: not because batsmen were naturally better captains but because they were generally Gentlemen. Captains of teams, whether club teams or national sides, were always amateurs"*(India and the Contemporary World-I, 2006, p. 145), the rural nature of cricket as till today in terms of length, crickets vagueness at the size of the cricket ground like Adelaide, Chepauk, Lords or Firoz Shah Kotla, a pre –industrialization game – as time of the sports was not fixed in contrast to the post –industrialization sports such as hockey and football**,** If we look at the bat ,ball and the stumps even today they are all obtained naturally and mostly are pre-industrial materials .

This chapter also tend to draw linkages between the *Cricket, Race and Religion* in one of the sub –themes. This also helps the students see sports as something not as simple and for fun and recreation only. It too has various layers underneath. It helps them to historicize sports and develop the skill of framing historical questions about ubiquitous everyday life and to relook at history in a different light altogether.

Caste and cricket

"Palwankar Baloo was born in Poona in 1875. Born at a time when Indians weren't allowed to play Test cricket, he was the greatest Indian slow bowler of his time. He played for the Hindus in the Quadrangular, the major cricket tournament of the colonial period. Despite being their greatest player he was never made captain of the Hindus because he was born a Dalit and upper-caste selectors discriminated against him. But his younger brother, Vithal, a batsman did become captain of the Hindus in 1923 and led the team to a famous victory against the Europeans. Writing to a newspaper a cricket fan made a connection between the Hindus' victory and Gandhiji's war on 'untouchability': 'The Hindus' brilliant victory was due more to the judicious

and bold step of the Hindu Gymkhana in appointing Mr. Vithal, brother of Mr. Baloo – premier bowler of India – who is a member of the Untouchable Class to captain the Hindu team. The moral that can be safely drawn from the Hindus' magnificent victory is that removal of Untouchability would lead to Swaraj – which is the prophecy of the Mahatma."

A Corner of a Foreign Field by Ramachandra Guha.(India and the Contemporary World-I , 2006, p. 151)

This particular source used in the textbook brought a sport in different perspective. It helped them to understand the equation and the underlying current betweencaste,class, race and religion in a sport which seem otherwise happen to appear so modest , normal and even natural. This particular phase of the cricket in India coincided with the nationalism on one hand and Gandhi's advocacy against untouchability on the other.

"It's often said that the 'battle of Waterloo was won on the playing fields of Eton".(India and the Contemporary World-I, 2006, p. 146). In the light of this statement it highlighted the need for discipline, hierarchy, codes of honor and the leadership qualities which a student at Eton would possess through this sport and in turn help them to build and run the British Empire. Moreover it would help Britain to justify colonialism in India and the other colonies as the textbook mentions that the '*Victorian empire builders justified the conquest of other countries as an act of unselfish social service, by which backward peoples were introduced to the civilizing influence of British law and Western knowledge.'*(India and the Contemporary World-I , 2006, p. 146). It helps students to build an understanding that how sports would help Britain to get fit young people to run the British Empire as well as to show the British justify their doings in other continents. In the sub –theme of Commerce, Media and Cricket Today helped in developing an understanding of the overall commercialization of the game. The various advertisements of Pepsi during the World Cup-2011 and the cricketers till date endorsing products shows the commercialization of this game. Looking at Harbahjan Singh's advertisement on 'Doosra' by Pepsi also shows how the center of gravity shifted to the Indian Sub-Continent i.e. India, Pakistan and Srilanka from the Anglo-Australian Axis.It also helped in breaking the notion of higher race or difference between the Blacks and the Whites as well as the justification of colonization.

"*Pakistan has pioneered two great advances in bowling: the doosra and the 'reverse swing'. Both skills were developed in response to sub continental conditions: the doosra to counter aggressive batsmen with heavy modern bats who were threatening to make finger-spin obsolete and 'reverse swing' to move the ball in on dusty, unresponsive wickets under clear skies. Initially, both innovations were greeted with great suspicion by countries like Britain and Australia which saw them as an underhanded, illegal bending of the laws of cricket. In time, it came to be accepted that the laws of cricket could not continue to be framed for British or Australian conditions of play, and they became part of the technique of all bowlers, everywhere in the world."*(India and the Contemporary World-I , 2006, p. 155).

Thus the introduction of these themes in new history textbook gave the teacher a breath of fresh air. Going against the common notion that the text books are mundane, inclusion of these themes in history textbooks provided the teachers with a different outlook towards teaching history. It gave a common platform to construct

knowledge with the learners

It was a matter of debate as well as a concern for the history teachers as well as some of the historians of inclusion of themes on everyday life. Few of them still have a disagreement on the themes selected in history for grade IX and X. It seems ok for those with disagreement for inclusion of themes on Events and Processes wherein the French Revolution, Socialism in Europe and the Russian Revolution, Nazism and the rise of Hitler and nationalism in Europe, India and South –east Asia .Their belief in the events and processes is because their belief in some kind of mainstream history which includes the above mentioned themes. This kind of a belief further demarcates which kind of history is important and what is not. It even that underlies the idea of something historical. Any event and processes which lead to that event that marks radical changes are considered "historical". The gradual everyday sedimentation of historical changes are generally over looked. These changes which gets overlooked are categorized as" ordinary"and this being ordinary should not find a place in history as history is about big events and powerful people.

Interesting Areas make good History topics:

Due to the prevailing belief system teaching history of everyday life (particularly cricket) was often perceived by my peers as non-serious, though interesting activity. But once I started engaging myself with the new form of history writing I realized soon that it can do wonders for high school students. It gives students a sense that knowledge is not a distant entity, they can theorize (and historicize in this context) from their own experience. The whole exercise may facilitate students and teacher to think and relook the equation between textbooks on the one hand and their own experiences and prior knowledge on the other.

How the school authorities and the colleagues would view such classes. Right from the faculty room discussion, to the downloading of the videos of world cup featuring the cricket celebrities, the projection of the power points and most importantly carrying our TLM from the sports room for a history classes would baffle the sports teacher. This would also mean a lot of cheering when they see their idols projected in their classroom, a lot more noise, commotion in the corridor where the students are moving to go to the playground excitedly, which would appear to the people outside as something very chaotic and unorganized. So overall it can break all the norms of what a good class can be that we had known through our professional development classes i.e. organized, complete silence and no commotion, everything at its place. I have been fortunate enough to have school authorities who could appreciate and encourage my pedagogy and the teaching –learning process. In one of the schools were I taught the coordinators or the head of the departments would make an entry into your classroom and observe the classroom transaction. Thus it becomes extremely important that the authorities have a clear idea of the on –going process inside the class room which in turn could help the teacher in not getting herself or himself labelled. But not necessarily all the teachers will share the same experience. It can be viewed by the authorities or the peers as extremely chaotic and go to the extent of terming it as a non-functional class. Hence, it depends a lot on the school culture of how much space and independence is provided to the teacher by their respective supervisors and the senior functionaries in school to carry

out such pedagogy.

Few suggestions:

Paradigm shift in history writing and teaching has two different dynamics, major radical shift in history writing entails scholarly discussion among historians who understand each other's language while any significant change in history teaching requires significant shift in popular discourse .Textbook and curriculum is just one component of actual teaching-learning in school there are others equally important components which shapes the history taught in school. Those components are institutional settings and wide spread belief about history among parents, peers and larger communities. But then sight of history teaching also brings new possibilities to make significant change about the way history is perceived at the popular level. This possibility can be realized only when the alongside changes in history textbook writings ,these can be plan for strong in –service orientation for teachers ,that orientations requires deeper initiation of teacher into the debates of historiography and history writings. Short term in-service teachers training programme which introduces newly added topics and textbooks to teachers will not help.

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Madhuri Yerra
madhunov18@gmail.com
Padma M. Sarangapani[1]
psarangapani@tiss.edu

Teacher Mediation in an ESL Science Education Context

Abstract

The widespread increase in English-medium schools across India including the emergence of the low fee paying/budget school sector places many students and teachers in a situation of subject teaching in what are effectively English as Second Language (ESL) contexts. Given the absence of language across the curriculum and ESL related preparation in preservice teacher education, interested teachers devise their own strategies to enable students to negotiate the dual requirements of language and subject learning. The present article is based on a case study that explores the practices a science teacher working in a charitable school in Hyderabad. The mediational practices are documented and explored in relation to the literature. Her dominant technique is found to involve bilingual meaning-making of concepts drawing on everyday contexts of students and developing their observation and reasoning. Her language focus emerges as the learning of the language of science rather than English per se. These practices compare well with the literature. The article concludes with reflections on the sources of this teacher's practices, and proposes that her autobiographical experiences, her interest in science and understanding of the nature of science and finally her reflective practice account for these practices.

Introduction

India has seen a mushrooming of low fee paying English medium private schools catering to a working class and lower middle class population that is aspiring for English and for whom 'English medium' has come to be identified with 'quality' (Jain et. al 2018). Thus there is a growing population of school goers who are in English medium schools for whom English is effectively a Second Language (ESL), and for whom the only access to the language is at school. Teacher professional development in India does not prepare science teachers to address such contexts. Teachers either fall back on traditional rote learning and memorisation to enable students to pass tests and examinations (Sarangapani 2018), or else invent their own methods and strategies to teach for meaning making and understanding, drawing on their folk pedagogical theories (Bruner 1996) and their aims of education. This paper is based on a study that looks at the efforts of a science teacher teaching science to middle school students in an ESL context.

[1]This paper is based on the doctoral research of the first author carried out under the supervision of the second author.

The research was designed as a case study of one middle school science teacher, selected for her reputation as a 'good' teacher, engaged with science teaching in an English medium charitable school for students from Telugu speaking working class in the city of Hyderabad. Students accessed English predominantly only at school. The study was designed to document and understand the practice that the teacher had developed through her own reflection, experience, knowledge and understanding of the linguistic and social context of the children.

The literature on science teaching to underprivileged students involving bilingual contexts notes the importance of pedagogies that contextualise learning and focus on meaning making (Tolbert and Knox 2016) or drawing on funds of knowledge (Moll et al, 1992) and supporting students' identities as learners (Gee 1997). Yerra (2010) has noted the complexity of science textbook language observing that there is a preponderance of usage of present and present perfect tense and participial use of verbs. The comparative study of verbs across subjects reveals that polysyllabic verbs were more in number in Science and Social Science textbooks while the English texts had the highest number of monosyllabic and disyllabic verbs. When the readability grade VII English, Science and Social Science textbooks of five pubications were compared, it was found that the readablility of the English textbooks is at the level appropriate for the grade chosen (Class VII), that of the Science textbooks matches a higher grade level (IX,X) and that of Social Science textbooks is at a still higher grade level (XI,XII). Given the language demands made by science textbooks which were found by the first author as a part of her MPhil work (Yerra, 2010), this study explored how a teacher would negotiate the language demands of teaching science to students who have Limited English proficiency (LEP). The main part of the Data analysis involved analysing 40 observed and audio-recorded sessions of the classroom and initially a total of nine themes were generated from the data in accordance with the research questions and the transcripts/ audio records were coded using the qualitative analysis software, MAXQDA (*version 12.1.2*). Eventually many more themes emerged and while organizing for analytical insights it became evident that these themes could be categorized into the four pedagogic phases (three of which are discussed in this paper) that the teacher was following. Survey questionnaires and artifacts/ documents served to explore teacher beliefs and to gain an understanding of the contexts of the teaching-learning situation.

The dominant tendency of Indian education system is one of rote learning with an examination focus (Kumar 2004), and such a textbook based pedagogy directed at memorisation has been noted to dominate private English medium schools catering to LEP students from working class sections of society in the city of Hyderabad (Sarangapani, 2018). However, in contrast, this teacher was observed to be teaching for meaningful science learning in English. She was found to have evolved strategies in which she drew upon bilingual code switching (between Telugu and English) and also on her understanding of the nature of science as an empirical body of knowledge developed from and relevant to observation and reasoning about everyday phenomena. This paper presents her key strategies which included: (i) ensuring that students understood the scientific concepts and could reason about them independently, for which she freely used Telugu and

drew on everyday experiences of the students (ii) supporting students to transition into scientific language/ terminology in English, with scaffolded code switching (Gonzales et al, 1993) including by peers.

Findings

The teacher's lessons generally followed three phases of distinctive work. An initial phase conducted mainly in Telugu, was devoted primarily to meaningfully understanding the concepts and phenomena of the lesson, where she drew on everyday experiences and context, and the observation and reasoning aspects of the nature of science. A second phase focussed on transitioning to English, involving learning of scientific terms and expressions. The third phase focussed on ensuring that students learnt to recall and give answers in English for the purpose of examinations. This pattern was generally consistent with what has been noted of Indian teachers as focussing on a phase of teaching followed by a phase of learning (ensuring students remember and can answer exam and test questions). The strategies that the teacher adopted seemed to be aimed at ensuring that even as students learnt to give answers in English, it was linked to meaning and understanding that had been constructed in Telugu, and students were confident in their understanding.

Developing Meaning and relating to Context: The teacher mostly began every new topic with an introductory phase with practices that facilitated an understanding of the science content, with extensive use of mother tongue, general descriptions relating to context in non-technical language. Telugu was used not only to translate at word, phrase or sentence levels, but more generally to develop comprehension through narration of real-life examples and anecdotes drawing analogies, while making demonstrations, or doing activities. She also encouraged students to reason and make inferences. Generally, after students read out portions of the textbook, she elaborated using Telugu liberally and frequently.

Episode 1: Topic- Changes Around Us.(Translated from Telugu. Words/ phrases which are spoken in English are underlined.)

Teacher asks for examples of those things that rust.

A few students shout out: Near the cycle wheel Teacher.

Teacher: Aah! Very good! Near the cycle wheel, it forms like rust (*thuppu).* Does it not?

Students: Yes Teacher! Yes Teacher!

Teacher: Then why does it not form at the handles and the cycle seat?

Students: There are plastic handles there. Isn't it?

Teacher: And if I remove all the plastic and put it aside?

Students: We can clean without allowing water to fall on those places.

Teacher: And if I keep pouring water. And I keep pouring till it drips down.

Students: On that steel part, they put polish-like paint, and that keeps it from rusting.

Teacher: Very good! Excellent! That is called galvanization. What did I say?

Students (chorus): Galvanization!

Teacher: Polishing or Painting any metal things is called galvanization.

(Teacher continues to explain the process of galvanization in Telugu.)

(Session: 35)

As we see in episode 1, The content was elaborately discussed in Telugu drawing on everyday experience of rusting, with the final core idea being formulated in English, after which she went back to discussing processes in Telugu. In episode 2, she invited them to reason about the process under discussion, using familiar analogies, and engaging with 'talking science as a way of doing science' (Lemke 1990). We notice her use of English for critical terms/ important vocabulary.

Episode 2:Topic- Seed Dispersal. (Translated from Telugu. Words/ phrases which are spoken in English are underlined.)

Student reads a question which is part of the text (not question at the back of the book) "What will happen if all the seeds fall in the same place and germinate producing plants?"and looks up at the teacher

Teacher: Tell what you understand?

Student: If all the seeds fall in the same place what will happen?

Teacher: If all the seeds fall in the same place and germinate producing plants? I took many tomato seeds and put them in one place.

Teacher: What will happen? Will they grow happily?

Student: Yes teacher.

Teacher: (expecting that they should have disagreed with her cues them saying) aaa?

There is a confusion of voices, some Students saying' they will grow', others saying 'they will get mixed up. She then continues: If two more students come and sit on a bench on which there are already three students sitting. If I make you all sit in one place, how will it be?

Students: Not possible (*kudharadhu);* uncomfortable.

Teacher: will it be comfortable? Can you listen? Can you write? Can you draw? Aaa?

Students (chorus): No teacher!

Teacher: Just like there is no space to even sit properly, if I put all the seeds in the same place, they will germinate and sprouts will grow, then what will happen? Space will not be there. Now there is a competition for Air, for space, for sunlight. (She continues gesturing to the bench example, that the one sitting in the centre, if she gives one push all the others will fall down.)

Students laugh.

Teacher: We call this Survival for the Fittest. The plants that are strong will live and the other weak ones will die. When you go home today, sow a handful of mustard seeds. First many will grow, then slowly they will reduce in number, the strong ones will survive the weak ones will die. It will not get enough air, water, in that manner finally only a few plants will remain. Did you hear? There will be competition with the mother plant. Their mother also will be there only no? There will be problem of space, water, sunlight, everything no? So in order to prevent that competition, dispersal is main.

(Session: 15)

She frequently used 'why' questions. These questions were directed at everyday phenomena: why do taps get rusted and not bicycles?; to superstitions: why should one not sleep under tree sat night?; to demonstrations: why do certain fruits

and vegetables when cut become brown after some time; to general issues: Why the Taj Mahal was not actually white?; and was even used as a way to manage the classroom: Why time was very crucial and they cannot afford to waste it? / Why the students could not be taken to the Laboratory?

Translation seemed to be used to re-express everyday English expression into scientific expression that was expected in textbook learning and for the purpose of examinations. This is discussed in more detail below.

Transitioning to English: The school was English medium, and students were expected to ultimately take examinations and tests in English, as well as the board examination in English medium in grade X. It was notable that the teacher focussed on meaning making in the first phase of each new lesson, and chose to interact with children mainly in Telugu, using English terms and phrases occasionally. The second phase of teaching each new topic involved a greater focus on enabling students to grasp the language of science in English, but without shifting away from meaning-making, switching code between Telugu and English, in what seemed to be an effort to enable students to 'latch on' to the language of science. For example after first explaining an experiment in Telugu line by line, the teacher switched code, repeated and use cued questioning to scaffold students to recall and use specific vocabulary. Code switching was not only between Telugu and English, but also between everyday English and the language of science. She simplified complex sentences. This teacher often broke sentences down point wise, and used simple everyday words in place of more technical ones: e.g. 'moisture' in place of 'humid','watering of plants' instead of irrigation 'giving' in place of 'sprinkling', 'leaving' in place of 'releasing'. She also connected new terms to ideas they had already encountered: e.g. in a lesson which had the concept of 'corrosion' she recalled a phrase from previous lesson where a reagent had "corroded the metal containers".

English was used for transactional purposes in classroom management, involving standardised instructions and routines: 'stop talking', 'sit down', 'now copy down the 4th question', 'listen carefully everyone'. However, while correcting notebooks she used Telugu while pointing out mistakes that the students had made or drawing their attention to what was important.

In general the pattern followed was that after spending initial time in developing meaningful contextual understanding in Telugu, she encouraged them to think of the phenomena and convey their understanding initially in everyday English. Following this, she scaffolded them to translate their everyday English explanations into scientific English. This was a phase of repetition and rehearsal, with the focus on answers to questions. Students often prompted each other, usually supplying the correct English term. She freely allowed such horizontal interactions during in the course of teaching. We see in episode 3 how S1 was prompted by another student S2 as well as several students, several times, to complete answers to questions asked by the teacher. She did not prevent this, but allowed him freely to be prompted and assisted by them. This was observed on several occasions. However, when the focus of her teaching shifted to ensuring that each student 'learnt' (see next section), she was 'conventional' and disallowed such prompting by others.

Episode 3: Topic- Soil Our Life. (Translated from Telugu. Words/ phrases which are spoken in English

are underlined.)

Teacher: What do you understand? S1 will tell.
Student1: They both are making some ..some different.. models of vegetables
Teacher: Vegetables. Very good. With?
Student1: With ..
Student2: with soil and water.
Student1: with soil and water.
Teacher: with soil and water okay.....
Student1:then ... then they both are ...
Teacher: hmm? Aa?
Student1:then they both are not satisfied.
Teacher: hmm..
Student1: their models are ..
Student2: models will break.
Student1: their models will break.
Teacher: hmm... so ?... what happened?
Student1: They went to ..they went to grandma and asked to them.
Student2: The grandma said to make models.
Teacher: What she told ? What grandmother told ?
Student1: To make models...
Teacher: Where we have to collect the soil?
Several students: From bank of village pond.
Student1: From bank of village pond.
Teacher: From the bank of the ?
Several students: River.
Student1: River.

(Session: 24)

Ensuring learning/remembering: It has been noted that teachers in mainstream Indian schools spend time in ensuring that students have 'learnt' what has been taught. In other words, time is spent in revision, rehearsal, and quizzing, to make sure that they can recall write answers, enabling them to perform as is expected of them, in examinations (Sarangapani, 2018). This phase included those teacher practices that were directed towards enabling the students to learn the language of science along with its content and enabling them to prepare for performance in examinations. After the teacher emphasized on meaning and then shifted to focus on the English language in the science content, her next logical step was to enable the students in learning of science and she used several practices for this: notes writing, cued questioning and repetition, correcting notes, and providing study and revision plans. This teacher wrote out some of the answers to questions, and guided the students to write some answers in their own words. She regularly assigned revision of question-answers of a chapter as homework which was followed in the subsequent class with oral question-answer session, sometimes also led by a student monitor. Sometimes this revision was also undertaken in pairs in the class, with one student asking the question and the other repeating the answer. This final phase of work in each lesson was conducted in English and with a focus on English.

Discussion and conclusion

This teacher had developed various strategies and techniques to teach science meaningfully to this group of students who had limited English proficiency. The techniques she employed described above are consistent with observations in the literature on effective science instruction in bilingual contexts. Her strategies compare well with what Tolbert and Knox (2016) and Moll et al. (1992) have noted about the importance of developing meaningful context to support the student's learning. In her use of the nature of science and the method of science as empirical, based on observation and inference we also find her supporting students' epistemic identities as confident, autonomous learners, who

must learn to trust their own reasoning ability, and develop their own thinking and reasoning (Gee,1997). Language used is the language needed to support this thinking and reasoning. In this we find her strategically switching between Telugu and English and the learning of scientific terminology becoming the key language challenge to be tackled.

Pre- and in-service professional development in India does not prepare teachers to address the diverse linguistic requirements of their classrooms. Considering that there was no professional development input that supported this teacher to develop these strategies, it is only in her autobiography and folk pedagogy that we find clues of the key sources from which she derived the knowledge and practices she was using effectively. Her autobiographical experiences of being a learner in a similar linguistic context, her own understanding of and interest in science, and learning from experience of teaching were found to be the key sources.

The teacher herself studied in a Telugu medium school up to her X grade and had faced great difficulty with English when she was shifted to English medium in her 11th grade. She recounted her experiences of her struggles to understand, as well as what enabled her to handle the challenge. All these struggles seemed to have convinced her of the necessity of meaning making to be central in learning, and the confidence to use Telugu liberally in this phase of learning. Fradd and Lee (1998) suggest that science teachers who share their students' languages and cultures are likely to relate in more meaningful ways to their students' prior experiences. While the teacher did not share the specific subculture from which the student's come (although coming from the same linguistic background and having had the same experience with medium of instruction, but from a higher socio-economic and caste group), there was also sufficient generic common cultural context of experiences for her to draw upon while she engaged the students in constructing their scientific concepts by relating to everyday experience.

The teacher had a B.Sc and M.Sc. and had also pursued a P.G. Diploma in Bioinformatics with the intention of pursuing a career in science. She had also taught at the undergraduate level in a science programme. However, on account of having to care for her small children she became a school teacher, and later acquired a B.Ed professional degree. This school was her second job and it has been six years since she joined here. She thought of herself, primarily, as a student of science. She was of the view that once anyone gets interested in everything around him, he will naturally understand that there is science everywhere. This seemed to inform her practice of connecting phenomena to everyday life and encouraging students to think and reason on their own. Her view that one should be able to independently give an answer rather than by rote, also seemed to be derived from the same view of what it means to learn science and how scientific thinking and knowledge should be an extension of everyday, independent cognition, even while it is eventually 'schooled' for the purposes of examinations. Her practices seemed to be aimed at achieving both of these, learning for understanding and for passing examinations, as aims of the school science curriculum.

The teacher had worked out strategies for bilingual instruction, balancing use of mother tongue and English. With constant code-switching, repetition, reasoning and cued-questioning mediation practices she was able to address the diverse

learners in the classroom. The relevance of such multilingualism for inclusive education has been noted by researchers (Agnihotri, 1995, 2010; Jhingran, 2012). Her code switching between everyday language (in Telugu or English) and scientific language also is consistent with observations of researchers who point out that for native speakers also, learning science involves not only learning the subject matter, but also learning a 'new' language (Halliday, 1989). Aikenhead (1996) describes the science classroom as a 'cross cultural event' for many students, and describes the process of learning as a 'border crossing' experience, between the student's life-world and the subculture of science. We notice in the case of our teacher, that this border crossing is the important one in learning science in the ESL context. The major effort is directed at enabling students to form an understanding in the mother tongue, trust this understanding and develop confidence, and use this to and 'latch on' to the critical terminology and 'grasp' scientific formulation to navigate the border crossing (Lemke,1990). The ESL context itself seems to be secondary and de-emphasised, with the focus moving to enabling students to use the right language and terminology while answering questions in tests and examinations.

This study presents a case in which science was learnt meaningfully in an ESL-LEP context, and presented strategies that a teacher had evolved for this. These strategies, which were intuitively evolved by the teacher, relate well to strategies described in the literature for teaching science in such contexts. Thereby, it draws attention to the possibility that reflective engagement on autobiographical experiences, as well as understanding of the discipline play a critical contribution to the formation of this practice. Sarangapani (2018) has noted the need to make a distinction between institutions run by charitable organisations and those which are low fee paying catering to the similar population group, in terms of quality of education. In this case also it would seem that the teacher gained confidence to aspire for higher curricular goals for children from lower socio-economic groups, from the overall institutional context which gave her autonomy to develop her practice reflectively.–

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Sriranjani Ranganathan
sriranjani@feelforearth.net

Sudha Premnath
Email:

A Humane Approach to Designing a School in and for Tribal Communities

Abstract

This paper is based on the experiences of 5 schools run by the Kaigal Education and Environment (KEEP) program (Krishnamurti Foundation India), in Chittoor district, Andhra Pradesh, and will frame it in the context of education for marginalized communities in India. The schools studied as part of this paper are from 5 remote tribal villages. The paper explores an approach to developing a school that is accommodating to, and enriched by the cultural and knowledge diversity of the communities. This is analyzed along the dimensions of curriculum, teacher development programs and community engagement. Autonomy for the schools to develop a learning program, contextualized to the local environment and sensitive to the community needs is critical to creating an inclusive, empathetic learning environment. Formalizing local knowledge into the curriculum means that the schools become natural places for learning, relevant to the community.

The highest education is that which does not merely give us information, but makes our life in harmony with all existence

– Rabindranath Tagore

The Constitution of India guarantees every Indian citizen social, economic and political justice, with the vision of a pluralistic, egalitarian society with liberty and equality for all. It is widely acknowledged that education has a significant role to play in the attainment of social justice. Several policy and curriculum documents have underscored the importance of an education system that must be designed such that the highest ideals of social justice are achieved. However, education systems are set in the social context they are a part of and often the inequalities and marginalizations in the society impact access to and participation in education. While changing economies and structures of society are demanding newer skills and capabilities, assessment of learning levels of students show that educational attainment levels are low, despite achievement of near universalization of elementary in terms of enrolment. In a stratified society like India, divided along caste, socio-economic, linguistic lines, these attainments also vary across these divisions.

Context of tribal education in India

India has a tribal population of 10.42 crore accounting for about 8.6% of the total population of the country (Primary Census Abstract, 2011). Development and education of tribal communities

have been a long standing challenge, starting from the times of the colonial administration. Faced with uprising in the context of development in the colonial rule, the then administration decided to adopt a "well-left" strategy that justified itself on the basis of the already isolated nature of these societies. However, expansionary pressures of trade and market continued, resulting in exploitation of tribals and loss of their natural context. Post independence the socio-economic and educational outcomes of tribals received renewed attention.

The Constitution of India declares that "The State shall promote with special care the educational and economic interests of the Scheduled Tribes and protect them from social injustice and all forms of exploitation".

Amidst a divided sociological debate on tribal development, the first Prime Minister of India articulated a set of tribal policies that articulated among other factors two key principles based on recognizing the knowledge system of the tribal communities and preserving the land and forests of the tribal communities. Several administrative measures have been taken up in the decades since independence based on these policies, including the setting up of a Ministry for Tribal Welfare and the Integrated Tribal Development Authority. The Tribal Sub-Plan which has a long term objective of improving the socio-economic condition of the tribal communities sought to build capabilities and end exploitation. Recognizing the importance of elementary education for working towards these objectives and acknowledging the ineffectiveness of primary schools in addressing these challenges, "Ashram schools" which were residential were set up.

Educational outcomes of scheduled tribes

According to Sujatha, K. (1999)

"Social development through formal education and transmission of higher skills, through the institution of schools, was something new to tribal society. Education, in its formalized structure, was never a part of traditional tribal culture; therefore, it took a longer period for this group to realize its importance."

It is therefore not surprising to see that the literacy rates of tribal communities have remained lower than their counterparts. The following tables give some data on participation of children from scheduled tribes in the formal school system.

Table 1: Enrolment in schools

In million	Class 1-5			Class 6-8		
All	Boys	Girls	Total	Boys	Girls	Total
2009-10	69.7	63.9	133.6	31.7	27.8	59.5
2010-11	70.1	64.6	134.8	32.7	29.2	61.9
2011-12	72.64	67.2	139.9	33.1	29.9	63
Scheduled castes						
2009-10	13.49	12.52	26.01	5.75	5.12	10.87
2010-11	14.03	12.90	26.93	5.98	5.32	11.30
2011-12	14.80	13.89	28.69	6.32	5.92	12.24
Scheduled tribes						
2009-10	7.71	7.21	14.92	2.75	2.41	5.16
2010-11	7.67	7.18	14.85	2.84	2.58	5.42
2011-12	7.86	7.42	15.28	2.91	2.70	5.61

Source: School education statistics, 2011-12, MHRD, India.

Table 2: Drop outs from schools

Percentage	Class 1-5			Class 6-8		
All (%)	Boys	Girls	Total	Boys	Girls	Total
2009-10	31.8	28.5	30.3	41.1	44.2	42.5
2010-11	29.0	25.4	27.4	40.6	41.2	40.8
2011-12	23.4	21.0	22.3	41.5	40.0	40.8
Scheduled castes						
2009-10	33.7	25.6	30.0	50.8	51.5	51.2
2010-11	30.2	23.4	27.1	46.8	39.1	43.4
2011-12	22.3	24.7	23.5	43.3	36.4	40.2
Scheduled tribes						
2009-10	38.1	35.4	36.8	54.6	59.1	56.8
2010-11	37.2	33.9	35.6	54.7	55.4	55.0
2011-12	36.1	34.4	35.3	57.3	57.1	57.2

Source: School education statistics, 2011-12, MHRD, India.

The literacy rates among the scheduled tribes shows the following trend:

Literacy rates	2001 (M)	2001 (F)	2001 (Total)	2011 (M)	2011 (F)	2011 (Total)
Total	75.3%	53.7%	64.8%	80.9%	64.6%	73%
SC	66.6%	41.9%	54.7%	75.2%	56.5%	66.1%
ST	59.2%	34.8%	47.1%	68.5%	49.4%	59%

(Source: Census of India, 2001 and Primary Census Abstract, 2011 India).

Andhra Pradesh has the lowest literacy rate of ST at 49.2%. Of these, the Yenadi tribals have the lowest levels of literacy above primary level.

The following trends have been observed in educational outcomes of scheduled tribes:

1. Lower enrolment figures of ST as compared with general category students and SC students
2. Higher drop out rates of ST as compared with general category students and SC students
3. Literacy rate lower among ST as compared with general category students and SC students
4. The literacy rates among girls lower than that of boys, in all categories of students

A study of the literature on tribal education reveals that the causes for the low levels of attainment have to do with the design of the educational processes, administrative limitations and the psycho-social conditions of the tribal people.

Objectives of this study

It is in this context, that this paper seeks to explore if and how an alternative approach to curriculum and school can be imagined, in a marginalized tribal community, with empathy as the cornerstone. The study attempts to delineate the development of an educational context which includes the students, teachers and the local school community and how such an approach can develop aspirations for an empowering model of education. This study focuses on the aspects of educational design and the psychosocial aspects of first generation learners from tribal communities.

Inferences have been drawn from the experiences of schools run by the Kaigal Education and Environment (KEEP) program[1], in Chittoor district, Andhra Pradesh, perspectives shared

from other community supported schools and have been framed in the context of education for tribal communities in India. The schools studied as part of this paper are from 5 remote tribal villages. The communities here are marginalized, belonging to the scheduled castes/ tribes and many households are below the poverty line. The Yanadi tribal community is the predominant tribal group in this area. Majority of the community members around these schools are forest produce collectors, with a deep knowledge of the local biodiversity and traditional medicinal practices. The schools emerged as a response to the demand of the community to have a formal and appropriate educational environment for their young. When the schools started in 2004, all the students were first generation school-goers with no access to any formal school system nearby.

The study has defined empathy to include all participants in the educational process – the students, parents and teachers – and explores aspects of educational design that results in the development of all these actors. Teacher development, a context-sensitive curriculum and conservation of the tribal habitat are the three strands explored in this study. This is analyzed along the dimensions of curriculum, teacher development programs and community engagement.

For the purposes of this study, parents, teachers and students were interviewed to understand their perspectives on the educational process. Key informant interviews were also conducted with select educational initiatives which worked with similar or comparable contexts. This allowed us to abstract out common principles and challenges.

The workings of the school

Basic demographic profile

The Kaigal village is adjacent to the Kaundinya Wildlife Sanctuary (KWS), in the Palamner Ghats, Chitoor District, Andhra Pradesh. The people living here and other neighbouring villages are marginal farmers, shepherds and daily wage earners employed in growing rain-fed crops, tending flocks or seeking seasonal employment as farm hands or stone cutters. They belong to the most backward communities, scheduled castes, and scheduled tribes and most of them live well below the poverty line. Yanadi is the most common ST community living in these villages.

The program began in 2002 with an in-situ conservation and afforestation program to protect the local biodiversity. Interactions with the community on various conservation aspects led to the awareness about the need for a school (primary level) and based on the request from community elders the school began operations. These are called 'Sanctuary Schools' and today there are about 50 students in the age group of 3 to 14 attending the school. Apart from free education and lunch the students are also given clothes, books and all the required school supplies.

While originally the program started out as 5 schools in 5 different tribal villages, currently two[2] schools are operational in two tribal villages of Kalligutta and Mugilupodarevu.

The main objectives of the schools include the following:

1. providing meaningful education to children in tribal villages who have no easy access to school education
2. addressing the overall development of the children
3. helping children grow into healthy, happy and responsible adults

The schools are for the children from the age group 3-12 and the classes are conducted in mixed age groups where

the students are grouped according to their learning levels. The language of instruction is in the child's first language and the pedagogy is based on exploratory activities to construct knowledge. The school activities have consciously been developed so as to draw from the child's and the community knowledge of the local environment and the classroom is structured to allow for peer learning and not a mere transmission from teacher to student.

The schools completed their 13th year in March 2017, from the time they began in response to the need felt by the community for a good environment for their children. Over the years the schools have grown in their operations in Kalligutta and Mugilupodarevu. All children above 3 years of age in these villages come to schools and almost all of them continue with their studies by joining a Government High School - day school or residential - once they reach 11 or 12 years of age when they leave the Sanctuary Schools. A few students also continue their studies after class 10. Both the schools are registered under the Right to Education Act (2009)[3] and are staffed by qualified teachers. All the teachers have finished their graduation/post-graduation followed by a B.Ed degree. They either belong to the community or are from the neighbourhood villages.

Curriculum development processes

It has been documented widely in educational literature that young children learn best when the learning is situated in their context. One of the challenges of education in tribal contexts is the relevance of the curriculum to their everyday contexts. Curricular development in Indian school system has proceeded as a series of incremental changes, starting from a western knowledge system that created a homegenized curriculum for all students and contexts.

In the schools studied here, the challenge was in terms of developing a curriculum that made sense to the community and their ways of living and working. In a community that until about 30 years ago was living in the forests, the challenge of introducing formal education was enormous. The tribal communities were knowledge holders and possessed a large amount of indigenous knowledge about the local forests and intuitively understood the connection between the local ecology and their life. However, with the mainstreaming of tribal communities– through education, development programs and more recently, the media – there was a perceived need to read and write and get meducation.

The challenges therefore, were three-fold:

1. Developing a curriculum that was relevant, interesting and engaging for the students while at the same time valuing their knowledge, lived experiences and traditional skills
2. Introducing the processes and demands of areas of formal schooling in a community with no literate adults and introducing subjects that had no apparent bearing to their everyday life
3. Developing an educational process that allowed the children, the teachers and the parents in the community to flower and grow as human beings who can be happy, healthy and responsible

Key principles of curriculum design

To address these challenges, the curriculum was developed with the following key principles:

i. Integration of the the care of, and responsiveness to, the local ecology and environment, where the community elders share their

knowledge of the local ecology as part of the school learning.

ii. Educating in the child's first language, with an integrated approach to art, craft and other school subjects

iii. Providing spaces for play, community service, creative pursuits, silence, reflection and introspection (not fitted into a defined structure) for the students and adults. The spaces for quietness and reflections may not have visible, measurable outcomes but are crucial for the development of empathetic people

iv. Autonomy and flexibility to the teacher in order to be creative and to be able to explore with the students

v. Designing experiences for the teachers and adults who are empathetic towards the children -accepting children as they are– help them discover their strengths so as to build their self esteem and experience the joy of understanding and succeeding – however simple and small it may be

vi. Participatory designing of the curricular materials with teachers along with resource persons and educators with experience in similar contexts. It is important to note that the curriculum of every subject evolves continuously with addition of new ideas, newer concepts, novel approaches and tools.

vii. Structured experiences of participating in events with the world outside their village – through academics, art and sports

viii. Games and physical activity along with quiet time are to be an integral part of the curriculum

Progressive pedagogies

The processes in the schools were designed for the teachers and students to learn in an atmosphere of inquiry, where there was no authority of the teacher. This aspect of relationship building between the teachers and students has been emphasized as the core principle of the school and the teachers have been encouraged to understand the students, their lives, their interests and structure learning experiences accordingly. These ideas are also constantly reinforced as teacher development processes.

The key pedagogic principles are as follows:

1. The schools were based on a mixed age grouping with children grouped according to their learning levels

2. Subjects were introduced in an integrated manner through exploratory activities that originated in the context around them and experiential learning was prioritized, thus combining the learning of local ecology with other subjects. There was no textbook used until the child is at the level equivalent of Grade 5.

3. Child centred approaches like the Montessori method, Kindergarten -which respected the autonomy of the child – were adapted to the school context

4. Creation of a resource rich classroom where the living world of the teacher became important and the teaching was not limited to the textbook ; materials were made and adapted to suit the local context

5. Conscious structuring of activities to include forest walks, seed collection and documenting biodiversity that changed the direction of classroom discourse where the students share the knowledge with the teachers

6. Resource persons from the community were brought in to share

their experiences and knowledge, through structured activities

7. Participatory activities introducing art, pottery, music and craft to allow students and teachers to express themselves in multiple ways
8. Continuous, formative assessments and individualized learning plans were developed for the students
9. Peer learning and sharing have been emphasized between students, between students and teachers and between teachers; peer feedback and evaluation has been an important process of teacher development
10. Introduction to skill based work – like stitching, macarame, that was connected with a local women's enterprise where students and teachers could see the value of meaningful work

Teacher development programs

The role of the teacher, as a facilitator and change maker, has been very critical in the functioning of these schools. Teachers have been identified from the local communities and nearby villages, and have been mentored through a continuous process of workshops, peer interactions, training with external resource persons and exposure visits to other organizations. The focus has been on development of teachers as individuals and professionals in addition to supporting them for classroom transactions. All the teachers working in these schools have a basic degree in arts, language and mathematics in addition to a B.Ed qualification.

1. Participatory workshops were conducted for teachers to make materials for teaching that introduced them to the idea of multi-level materials for transacting in a mixed age setting.
2. The teachers are trained to develop their own materials, contextualized to the learning needs of each individual child. The classrooms are structured as mixed age groups and the teachers are assisted by the older students teaching the younger ones. Teachers are mentored regularly and peer evaluation and feedback constitute an important process of continuous teacher professional development.
3. Observing children, recording their progress and making individualized lesson plans were introduced to the teachers.
4. Teachers carry images of themselves, of the students they work with and the communities they are a part of. Through reflective workshops, teachers are encouraged to interrogate their beliefs about learning, learners, especially tribal children.
5. Academic strengthening of the teachers is a key priority. Over time it becomes possible that the students, who have been introduced to child centered approaches for learning, become confident learners and are ready for receiving more inputs. Strengthening the teachers' own academic capabilities for them to facilitate the students' learning thus becomes paramount.
6. The teachers in these schools are from the local community, familiar with the ways of life of the students and their families. This allows them to be sensitive to the needs and rhythms of the local community, their work practices, their food, as well as respond to individual needs.

Reflections from the stakeholders

An educational design that is participatory and contextually relevant

can be an empowering model. The objective is to create a mutually empathetic environment across all stakeholders. To understand the impact of these processes, parents, teachers and students were interviewed. Other similar programs were also studied to learn from other experiences of curriculum design.

Students

The students - young and old – were interviewed to understand their relationship with the schools, with one another, with the teachers. During conversations with the students, we attempted to find out how a non-hierachical classroom and an empathetic teacher can help alter the psychosocial context of first generation school going children from a tribal community.

The students articulated subjects and activities they like to do in school. Some of the subjects the students have reported liking include mathematics, art, music and Telugu.

Several of the students interviewed spoke of an aspiration linked to the education received in school – some of them wanted to change their village, some wanted to become good teachers and yet others spoke of good jobs. One of them said she wanted to contribute to society's well-being.

All the students reported discussing about the school with their parents, an act that could produce change of a more lasting kind. It suggests the child finds the school important enough to speak about and the school becomes relevant to the community.

Teachers

Teachers from both the schools were interviewed. We also interviewed two teachers who have now moved on to supporting a community led enterprise. Teacher reflections were sought broadly along four areas – the curriculum and pedagogy of the school, their relationship with students, parents and the school community, their own development and their vision for education in these schools and its contribution to the village community.

All the teachers interviewed were able to draw parallels from their own school experiences – either as a student or as a teacher and spoke about the individualized learning experiences of the schools as the most significant change. One of them remarked "What kind of school is this I thought when I first joined" when she spoke about a non-textbook-based method of teaching suggesting the extent to which education gets submerged and ideas on education are influenced by the administrative rigidities of a school.

The teachers were able to articulate the importance of understanding the child as an individual – her feelings, her interests, her family and her capabilities – before proceeding to teach them. Observing, planning and record keeping were described as the process of instructional delivery (though this was acknowledged by many of them as a challenging process which they needed to improve upon). This is not surprising either, as traditional teacher training programs until recently have had a behaviourist orientation and education has often been considered as a set of inputs to get some desired outcomes.

Teachers were also self-reflective when they spoke of their own journey of learning as teachers. They spoke of their learning on how to make resources, how to plan and transact in a mixed age group and the difficulties in preparation. One teacher who had only finished her "Inter" (Class 11) when she started teaching, described how the desire to be prepared to teach gave her the interest and motivation to

complete her own graduation in arts. The teachers exuded confidence when asked about their own growth and spoke with aspirations to do better as teachers and learners.

Their own journey of teaching has helped them develop their understanding of methods of teaching and the psycho social processes of learning. Though none of the teachers themselves are from the tribal community, they belong to the same or nearby villages and are able to relate to the community and the children. For example, all of the teachers were accepting of the absence of the children during specific harvest periods and often made the accommodation necessary for these children to learn.

All the teachers spoke of the importance of understanding the tribal community, their needs and priorities and spoke of how their understanding developed. One of the teachers expressly articulated that when she made the effort to relate to the community, the school benefited as the parents became more trusting of her. This shows that when a teachers' interest extends beyond the classroom it improved relationships with the community members. They spoke of the development of the community. They articulated aspirations for the school to provide learning opportunities for the parents, addressing addiction and related health problems in the community, skill building for the community, reviving traditional music and drumming to include in the school curriculum and formally bringing in traditional practices of forest produce collection as part of the curriculum. Two of the teachers expressed very clearly the need to document and preserve traditional knowledge.

Parents

Parents of students presently in the schools as well as those who have finished studying in these schools shared their views. The parents were interviewed to get their ideas on what their children are learning, their understanding of the importance of education as well as their own aspirations for learning.

None of the parents had been to school themselves and were very happy to send their children to school. They seemed to believe that a formal education would help their children to get better jobs, perhaps as teachers and help in the development of the village. A few of them believed that schooling and reading and writing will enable them to work in better jobs other than being a "coolie". All of them reported that their children are very keen to come to school; a few of them said that the children cry if they cannot come to school. Many of them shared that their children discuss about school at home. This has the potential to change the discourse of knowledge when in a tribal community, the child is able to talk about her learning in school and possibly bridge knowledge systems.

Several parents were keen to come to school for themselves to learn "at least basic reading, writing and signing my name" as well as skills like stitching and embroidery. They were happy that their children were now being introduced to computers. The parents seemed to implicitly believe that the school will not and could not teach their children their own traditional knowledge and even seemed to suggest that their children should learn things other than what they are doing. This perhaps suggests a sense of devaluation of their own knowledge. One of the grandparents shared with one of the teachers that he feels that the students may not like his work (of honey collecting) after he finishes his schooling in the government schools. While the environment and their local

context is integrated within the regular school processes in these two schools, when these tribal children go to government schools for classes 6 and above, they are introduced to a formal knowledge of the letters and numbers without much connection to their own ways of life and work. This alienation has also emerged in a key informant interview we conducted with the team member from a learning centre to which Adivasi children come. The need to develop an inclusive curriculum with non-judgemental, non-discriminatory practices gets underscored when we are dealing with education of children from marginalized communities.

Outcomes from the schools

1. There are no drop-outs and all the children in the community above the age of 3 come to school.
2. Students are engaged with multiple activities in the school and have developed an aspiration for their learning – many students seek to become teachers in their careers
3. Many students who have completed their elementary level school proceed to the government residential schools for further studies. The students who are not able to leave the village come back to finish their NIOS exams.
4. Increasing community ownership of the schools and growing recognition in parents of the value and possibilities of education
5. Schools are embedded within the community and are seen by the community as their resource
6. The discourse around learning is changing in these communities as the school becomes a topic of conversation at home when the child talks to the parent about school
7. Parents are able to articulate learning needs for themselves as well as for their children
8. The education of girl children has become more important; this assumes particular significance in the context of lower levels of participation of tribal girls in formal education

Conclusion

It seems that a participatory approach to educational design that includes teachers, students and the local community could lead to better educational outcomes in terms of retention and student engagement. A sustained relationship also gives the legitimacy of the school to fashion itself as a resource institution that can take on a more integrated approach to development, education and skill building in a tribal community. The continuing pull of the market and the incentive of "work-based' programs could result in erosion of the local community knowledge making it all the more important for local, community based initiatives to develop alternative frameworks. It also seems that for the education programs to sustain their relevance, they must be rooted to the local communities. Community ownership and participation are essential for a sustainable education program in tribal areas; it is important to adequately resource such initiatives.

Every tribal community – by virtue of their own self-contained life, occupations and habitats – tends to be unique in terms of the knowledge it has, skills that need to be developed and the imperatives of ecological conservation specific to the community. For the Panchsheel principles of tribal development to be actualized, it is important to recognize this diversity in the framing of a curriculum for tribal communities. Autonomy for the schools to develop a learning program,

contextualized to the local environment and sensitive to the community needs is critical to creating an inclusive, empathetic learning environment. Formalizing local knowledge into the curriculum means that the schools become natural places for learning, relevant to the community. Pedagogical innovations and associated teacher development are the complementing aspects of developing an inclusive curriculum. Building linkages with educational institutions and share learnings is important for the innovations and models to be sustained and replicated.

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[1] Krishanmurti Foundation of India, Bengaluru Education Centre.

[2] One of the schools were closed when the communities were promised the opening of a government school nearby. Two other schools could not continue for lack of availability of teachers.

Rajashree
rajashree@apu.edu.in

Pre-service Teachers' Beliefs about Moral Aspects of Teaching

Abstract

This paper examines the beliefs of pre-service teachers about the moral work of teaching. A short questionnaire containing open-ended questions and an interview were used in the data-collection process of this research. Sixty student teachers from secondary teacher education institutions answered the questionnaire. Twenty of these student teachers were selected for in-depth interviews. Three categories of beliefs, namely psychological, educational and teaching beliefs of the pre-service teachers were analyzed in relation to the moral work of teaching. The pre-service teachers' articulation of beliefs, not only indicate the presence of moral language but also reveal their desire and motivation to engage with moral work of teaching. The paper recommends the need for teacher educators to pay attention to the moral work of teaching in the pre-service teacher education programme.

Background

Schools and classrooms offer opportunities to children to form close and valuable relationships with teachers and serve as a context for development of the child. In the short span of an academic year, the teachers have an important role to play in the child's epistemic, emotional, intellectual and moral development. The teacher requires relational capabilities that offers the crucial wellspring for development of the children's social experiences, academic competencies and above all the formation of morality. Thus teaching is a purposive activity aimed at ensuring child's well-being, and bringing about shifts in not only the learners' knowledge and skills but also in the values and dispositions towards others, society, family, school and self. Teaching is also viewed as a moral endeavor that places responsibility on the teacher for the formation of moral sensibilities among the young ones. Teachers constantly make educational judgments in the classrooms, which requires them to have a moral imagination of the classrooms. Whenever teachers engage in such moral work in the classrooms, it occurs as a tacit and interactive process in the class room. Engaging in such work requires them to not only gain knowledge about moral issues and moral development in children, but also acquire the qualities of care, empathy and so on in their own selves. Pre-service teacher education curriculum and pedagogy requires to pay equal attention to the moral work of teaching as it does to develop the content and pedagogical knowledge of the student-teachers. The key question here is: How do we as teacher educators explicate the tacit aspects of the moral component of school class room interactions and help teachers to engage with it? How do we build

the moral component of teaching into the pre-service educator programmes? This partly entails examining the pre-service teachers' beliefs and attitudes regarding their moral work of teaching, and helping teachers understand that teaching is a moral practice. However, very little attention is paid to these aspects in the curriculum that is offered to pre-service teachers. Further, there is scant research that attempts to understand pre-service teacher's beliefs about moral aspects of teaching. This article is an outcome of a study that aimed at understanding pre-service teachers' cognition and learning, specifically in relation to the moral aspects of teaching. This paper begins with an overview of teaching as a moral activity and briefly sketches the importance of moral beliefs in teaching. A short analysis of student teachers' beliefs about the moral work of teaching is presented followed by a discussion that highlights the implications for teacher education pedagogy.

Teaching as a Moral activity

Teaching is a purposive activity engaged between two or more individuals with the intention of learning. It is necessarily rooted in the aims of education. The teacher has the responsibility of helping the child attain the goals of the curriculum and the educational vision, by nurturing a close relationship with the students. The teacher also makes educational judgments based on his/her values and beliefs on what children should know and become. Thus, teaching is fundamentally a relational and moral activity aimed at the development of the youngones. Teaching has long been understood as a moral activity with a rich history in philosophy. Philosophers like Plato, Socrates, Aristotle, Kant and others maintained that the core of teaching involves a moral relationship between the teacher and student. Drawing from works of several philosophers, Hansen (2001) constructs the moral as, "an orientation towards practice, a way of perceiving the work and its significance" that manifests itself in countless forms of human interactions. He characterizes the morally salient aspects of teaching in two ways: First, "teaching reflects the intentional effort to influence another human being for the good rather than for the bad" (Hansen, 2001, p. 828), and second, teaching as a moral activity that calls attention to teachers' conduct, character, perceptions, judgment, understanding, and more.

That teaching is a moral and at the same time an intellectual endeavor has found persuasive arguments in the work of several thinkers and researchers (Scheffler (cited in Siegel, 1997); Ball & Wilson, 1996; Boostrom, 1998). For Scheffler, "teaching may be characterized as an activity aimed at the achievement of learning, and practiced in such a manner as to respect the student's intellectual integrity and capacity for independent judgement" (p. 309). Tom (1984) uses the phrase-'moral craft' and Hansen (1998) calls it 'intellectual and moral attentiveness' to demonstrate the inseparable aspects of teaching. While recognizing the moral assumptions underlying the process of teaching, scholars such Hisrst and Peters (1964) and Scheffler(1968) (cited in Hare, 1997) emphasize the moral qualities of a teacher. Hare (1997) in his analysis of Scheffler's ideas of teaching observes: Scheffler makes the important point that the teacher influences the student not just by what he or she *does*, but by what he or she *is* (emphasis in original) and these virtues come through in the very manner in which the teacher engages the students. To engage in this rational dialogue, Scheffler points, requires

humility, confident, courage to take risks, being impartial and receptivity to surprise. However, Hansen, 2001 hints to the limits of the above and frames the moral significance of teaching as an activity to include reflection and private thought of the teachers rather than solely what is visible to others. In other words, teachers' possible moral influence may not occur only from the array of the public acts of the teacher but may include pondering, wondering, worrying, hoping and so forth, which constitute the fabric of pedagogical intentionality.

From the above we may tentatively arrive at the morally salient features of teaching to include: 1) Teaching as rooted in the ideals of education; 2) Teaching contributes to the moral development of the student; 3) Teaching includes the cultivation of moral sensibilities/qualities of the teacher; 4) The process of teaching is imbued with the moral and intellectual dimensions; 5) Teaching includes contemplation /reflection component related to teaching. A single definition of the moral as pertains to teaching is injudicious, given the uncertainties and complexities of teaching as a practice in a context. The moral domain has at its centre knowledge of right and wrong and involves a transcendent universal set of values around issues of human welfare, compassion, fairness, and justice (Nucci,2001). It includes a complex aspect of human life that involves guidance of our actions, deliberations, judgments, issues of good, right and virtuous in what and how we think, feel and act (Sanger,2007). In this study, I use the term moral as expressive of principles of right and wrong, which influence beliefs, intentions and behavior. The intent of the study is not to define moral but to position the principles of right and wrong as descriptors of knowledge and conduct of the pre-service teacher and focus on their understanding of moral as it sheds light on the work of teaching.

Pre-service teacher beliefs about moral aspects of teaching

Pre-service teacher education is the first phase of contact between a teacher and their prospective profession. The student teachers as adult learners enter the programme with an array of previous social experiences and often unexamined assumptions, beliefs about education, children, teaching etc. Beliefs are personal beliefs, which are subjectively true for the person in question and have links to cognitive, affective and behavioral elements (Pajares, 1992; Richardson, 1996). This implies that they influence the ways in which teachers interpret and engage with the problems of practice. Meaningful pre-service teacher education pedagogic practices should challenge the learner's point of view and experience and facilitate them to reconsider/question their existing beliefs and knowledge in the light of their experiences. Such a process of refining, qualifying of the students' experiences may help generate new knowledge and diverse conceptions (Kagan, 1992; Pajares, 1992; Richardson, 1996). Studies that have attempted to examine the pre-service teacher 'beliefs' on moral work of teaching are few (Johnson and Reiman, 2007; Sanger and Osguthorpe, 2011). In the context of India, the influence of teacher cognition and learning research has gained importance only in the last two decades. It may be not be inappropriate to say that with the ideas of constructivism finding an entry through the NCF (2005), concomitant shifts in teacher education sees the ideas of examining beliefs, assumptions, reflection enter

the lexicon of the teacher education curriculum document. For e.g., NCFTE(2009) states, "structured space to revisit, examine and challenge mis-conceptions of knowledge" (p 52); "professional opportunities need to include reflection on their experiences and assumptions as part of the course and classroom inquiry; critical observation and reflective analysis of the practice of teaching". In the context of teaching as practice, beliefs play an important role. While recognizing that teacher beliefs don't predict practice entirely, why they hold those beliefs and the implications of those beliefs may be important points of initiation into understanding their practice of teaching. For the purpose of the study, I adopt Rokeach (1968) definition of beliefs as *"any simple proposition... inferred from what a person says or does, capable of being preceded by the phrase 'I believe that...'"* (p. 113)

Studies such as the present one, which help gain entry into the pre-service teachers' beliefs about the moral work of teaching can help teacher educators gain knowledge about how pre-service teacher acquire and interpret these dimensions. It may help reveal how these notions about the moral work of teaching may be infused in the goals and curricula of the TE programmes. The key research questions of this study: 1. What are the beliefs of the pre-service teachers with respect to the moral aspects of teaching?; 2. What are the key processes or aspects of the TE programme through which understanding the moral work of teaching can be introduced or initiated?. This paper addresses only the first question. The moral aspects of teaching conceptualized for this study will build on the moral work of teaching (MWT) framework by Sanger and Osguthorpe (2011) that includes: psychological beliefs, moral beliefs, educational beliefs and 4) Contingent factors. The table below outlines the various categories of beliefs and their corresponding descriptors, which form the framework for the present study.

Categories of beliefs *	Descriptors of the beliefs relevant to moral aspects of teaching (MAT)
Educational beliefs	Aims of education in society and the scope of schooling
Psychological beliefs	Moral development and functioning of young people, and how it can be influenced
Good/ responsible teaching beliefs	Meaning and scope of morality/good/right Teaching as an intellectual and moral activity Qualities of teachers
Contingent factors *belief categories may overlap	personal aspects of an individual's experience, history, culture, political or institutional factors that help to explain the beliefs

I use this framework for guiding my study as it a) brings together several theoretical and conceptual orientations that may be explored on the moral work of teaching. b) It aligns with the broader set of ideas that is derived from the literature review of this study on the moral dimensions of teaching c) The framework allows to identify pre-service teachers beliefs, establish inter-linkages between beliefs and draw out curricular and pedagogical implications.

Methodology

The central aim of the research was to examine the beliefs of the pre-service teachers with regard to the moral aspects of teaching. The study used mixed method research design to understand the beliefs of teachers. Data collection happened in two phases. The first phase of the research was a survey design that included a short

questionnaire and the second phase included in-depth interviews. The first phase provided for a general picture of the research problem. The second phase allowed to refine, extend or explain the general picture. The sample consisted of pre-service teachers at two colleges of secondary teacher education (B.Ed colleges). These colleges have a long history of reputation for running quality teacher education programmes. Sixty pre-service teachers constituted the sample size. There were totally 44 female participants and 16 male participants. Of the 60, 32 of them had a post graduate degree and 12 of them had prior school working experience. Twenty students were randomly sampled for in-depth interviews. The questions formulated were derived from the moral aspects of teaching framework outlined above. The questions about the moral work of teaching remained same in both the phases. Anonymity of the individuals and confidentiality of the responses was strictly maintained. Informed written consent was obtained from all participants in the different phases of the research. The analysis of the responses to the 'semi-structured' questions was summarised and classified according to the specific themes (broadly under the various categories identified through the MAT framework). In both the phases, inductive coding technique was used to generate and refine themes.

Analysis

Analyses of the pre-service teachers' beliefs about the moral nature of teaching are briefly presented along four dimensions: psychological beliefs, educational beliefs and teaching beliefs.

Educational Beliefs

Educational beliefs refer to beliefs about the nature and aims of education as well as the scope of schooling. The pre-service teachers were asked, "what according to them are the aims of education and aims of schooling?" Only purpose of schooling is analyzed here. Student teachers expect schools to: (a) encourage all-round development; (b) Nurture academic capabilities; and (c) prepare students for adult life. Many candidates used this word- "all-round development" to mean that the experiences provided by the school should address the physical, social, emotional and moral development of children. In other words, they emphasized that schools were not meant for gaining only academic knowledge but were well-springs of the varied areas of child development. They also added aesthetic and spiritual development. Student teachers also saw the "future of the child" and their roles in the society- either as responsible citizens or as productive citizens, as the main purposes of schooling. Regardless, the student teachers seem to hold a notion about the potential of schooling to accomplish these important goals.

Psychological Beliefs

Psychological beliefs refer to beliefs about how we develop and function as moral beings. Majority of the teacher candidates shared that teachers should influence the moral development of children in order to ensure the *well-being of the society and child's individual growth*. Forty percent of the respondents observed that children were *young, less knowledgeable and less experienced and they may go in the wrong path* and therefore teachers should care about their moral development. A small number stated that children *spent a great deal of time at the schools* and therefore children's moral development becomes the responsibility of the schools and teachers. These beliefs about the

collective and individual well being held by these student teachers appear to be derived from their own schooling and life experiences.

In response to the question about how moral development could be brought about among children, the pre-service teachers were asked to order their preferences on a set of six responses, The responses that emerged were: role modelling, integrate themes on morality along with other subjects, have moral education class separately; have school assembly on moral themes; enable print-rich school corridors on moral issues; and direct telling. About 70% of the student teachers marked role model as the first choice and the last preference was direct telling. The results of the present study align with the study by Sanger and Osguthorpe (2011). In their study of 92 pre-service teachers, 62% of them identified modelling as the primary means through which moral education occurs. In their classroom-based study of the moral life of schools, Jackson et al. identify several categories of formal and informal instruction and activities in which moral lessons are taught: these include official curricula, rituals and ceremonies, visual displays of moral content, spontaneous interjections or moral commentary, and rules and regulations. Pre-service teachers' beliefs on the various modes through which children can be morally developed reveals that they possess an introductory understanding of the approaches to developing morality and becoming moral persons. It is these emerging ideas of moral work of teaching that the teacher educators may require to pay attention to.

Teaching beliefs

The pre-service teachers were asked, "what in your view is good teaching"? Two broad categories of notions emerged. One, good teaching as referring to helping students understand core subject matter. i.e., good teaching is about helping children understand, good planning, making concepts clear. And the second category included characterizing teaching as helping students with content matter along with a moral or affective characterization. That is, besides reference to understanding of content knowledge, sixty percent of them included child-centeredness, motivating, encouraging, developing moral values, being caring, developing critical thinking, being fair, being inclusive and so on. Concerns for the moral and the intellectual go hand in hand. Pre-service teachers' responses confirm at the inseparability of the intellectual and the moral in teaching. Student-teachers as novices to the teacher education programme carry implicit beliefs about teaching and learning. Making explicit these beliefs and going beyond merely acquainting them with moral values rests on the nature of learning experiences provided by the pre-service teacher education programmes.

The secondary teacher candidates were asked what constitutes morality and second, what according to them were four moral qualities/attitudes that teachers require to work with children. Being fair and impartial, caring, open-minded and honesty were identified as the top four moral qualities that teachers require to relate with children. In their conversations, they extensively referred to *relational values,* that is, values about how to treat others, such as showing respect to children, being kind, friendly and polite, showing empathy, helping others, acting fairly or justly, and not criticizing children. Halstead and Taylor (2001) (cited in Campbell, 2003), citing numerous sources, conclude: It

is through relationships that children learn the importance of qualities such as honesty, respect and sensitivity to others. Children are most likely to be influenced by teachers whose qualities they admire. Such qualities include tolerance, firmness and fairness, acting in a reasonable manner and a willingness to explain things and, for older pupils, respect and freedom from prejudice, gentleness and courtesy, and sensitivity and responsiveness to the needs of pupils.

Some pre-service teachers recalled their own past experiences as students. They referred to teachers who had humiliated them, and how those unpleasant memories of such experiences made them join the profession and shared intentions to teach children with greater empathy and justice. Majority of the pre-service teachers condemned corporal punishment. They spoke vehemently against the corporal punishment in schools and the increasing culture of violence. They were aware about the moral agency of the teachers and they emphasized the need to develop this moral sense in the pre-service education programmes. It is clear that the layered complexity of ethics to be displayed in the classrooms and schools requires a continual cultivation of moral perceptions on the part of all teachers, new and experienced(Buzzelli and Johnston, 2002). Explicit attention to the moral formation of pre-service teachers is crucial towards ensuring sensitivity to childhood and moral accountability towards children's learning.

Discussion

The pre-service teachers in this study have explicitly expressed their beliefs about the moral nature of teaching. While they were uncertain about some of the aspects, their ability to articulate their beliefs and their willingness to learn and engage is a testimony that they only need more opportunities to develop their moral knowledge. Teaching is viewed as moving beyond helping learn content knowledge to include nurturing moral qualities, developing sensitivity, encouraging child needs etc., While they have identified a range of moral qualities such as justice, care, open-mindedness etc., that can affect children profoundly, these normative assumptions have nuances of meaning that need to be examined further. Bringing about a sophistication in the beliefs about moral work of teaching rests partially on the responsibility of teacher educators to elicit and engage with these aspects and prepare them for the prospective moral work that awaits in the school classrooms. Helping students understand linkages between 'knowing' and 'doing' moral work will be central to developing their moral awareness and agency.

Teacher candidates come into the programme with a range of personal, social and historical experiences -assumptions, beliefs, stereotypes and biases about various facets of life - of conflicts, violence, identity, religion, caste, culture, inclusion, among others. Given the complexity of moral work of teaching, it becomes pertinent to develop curriculum and pedagogic practices that are sensitive to these subtleties and complexities of human thinking and understanding. Hamberger and Moore (1997) claim that, 'teacher educators must enable students to become professionals who reflect, as a matter of practice, on three key questions: What are my values and how do these values guide my actions? Who am I? How do I resolve the value conflicts within myself and with others as I perform the role of teacher?'

The Moral Aspects of Teaching framework developed in this study (based on the moral work of teaching

framework by Sanger and Osguthorpe, 2011) does provide direction for further research and practice work in this area. While the study provides preliminary empirical evidence on the inseparability of the moral and the intellectual in teaching, its exact characterization requires further scrutiny. Teacher educators may use this framework to design and plan their approaches to moral work of teaching. Teacher educators may choose content for classroom discussions from any of the four domains.

The subtleties and tensions in the moral work of teaching will remain, given the nature and purposes of teaching. It is the attunement of the teacher educators' moral sensibilities to perceiving the moral nature of classrooms and teaching that is most essential to elicit or provoke moral imagination of their students. We need to nurture in ourselves the moral dispositions that we seek to develop in our student teachers. It may be worthwhile for teacher educators to use their own contexts of practice to further their understanding of the moral work of teaching. It is only when teacher educators, policy makers and others associated with the curriculum and practice of pre-service teacher education programmess believe that being good, doing right and caring for others is as important as the three R's, can curricular and pedagogical imagination of the moral work of teaching flourish in teacher education programmes.

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रश्मि पालीवाल
paliwal_rashmi@yahoo.com

शिक्षकों में बदलाव की चुनौतियाँ और संभावनाएं

सार

एकलव्य ने पिछले 30 सालों में शिक्षकों के साथ पाठ्यक्रम विकास और प्रशिक्षण आदि का कई तरीकों से काम किया है। लेख शिक्षक-विकास पर शोध–साहित्य की मदद से इन अनुभवों की समीक्षा करता है। इसमें एक अहम् सवाल की पड़ताल की गई है कि शिक्षकों से बदलाव की अपेक्षाएंकिस आधार पर की जाती हैं? क्या वे अपेक्षाएं अनुचित हैं? क्या शिक्षक को एक व्यक्ति के रूप में हम समझ व स्वीकार कर पाते हैं? इन सवालों पर गौर करते हुए यह समझने की जरूरत है कि शासन की या किसी भी कार्यक्रम की तात्कालिक जवाबदारियां निभाने में शिक्षकों को अपने विकास के सीमित मौके मिल पाते हैं। इसके लिए लंबी दूरी के प्रयासों की जरूरत है जिनमें शिक्षकों को अपने शिक्षण-अनुभवों पर स्वयम् विमर्श करने के लिएनियमित अवसर मिलें। सोचना यह है कि ऐसे अवसरों को बनाने में क्या शासन तंत्र के प्रावधान काफी होंगे या उनके लिए अशासकीय संसाधनों का भी सहयोग लिया जाना चाहिए।

एकलव्य और सेवाकालीन शिक्षक-सहयोग

पिछले 30 सालों में एकलव्यसंस्था सेवाकालीन शिक्षकों के साथ कई तरीकों से काम करती आयी है। शासन के सहयोग से जब पाठ्यक्रमों में नवाचार किए गए, तब उन नवाचारों को विकसित करने के लिए शिक्षकों की भागीदारी बनाने में और उनकी क्षमता के विकास में कई सालों तक सघन काम किया गया। शासन ने अपने स्तर से जो राज्य व्यापी कार्यक्रम लागू किए, उनमें शिक्षक प्रशिक्षणों की रूपरेखा बनाने और शिक्षक संदर्भ समूह को तैयार करने में समय समय पर सहयोग किया जाता रहा। इसके अलावा, स्थानीय स्तर पर शिक्षकों की स्वेच्छा के आधार पर भागीदारी लेते हुए कार्यशालाएं, प्रशिक्षण व कोर्स संचालित किए गए हैं। कभी इनके लिए शासकीय अनुमति भी मिली है। शिक्षकों के लिए कुछ स्रोत केंद्र भी स्थापित हुए हैं। इस संदर्भ में हाल में छिंदवाड़ा जिले के तामिया विकास खण्ड में हुए अनुभवों पर गौर करना उपयोगी होगा।

तामिया के शिक्षकों के साथ प्रयास (2015-18)

एकलव्य ने छिंदवाड़ा जिले के एक विकास खण्ड तामिया में6 से 14 वर्ष के बच्चों की शिक्षा के लोकव्यापीकरण में सहयोग करने के लिए कई कदम उठाए। हमने 34 गांवों में *शिक्षा प्रोत्साहन केंद्र* संचालित किए हैं और 15 माध्यमिक शालाओं में पुस्तकालय भी। कई स्कूलों के शैक्षिक माहौल का दस्तावेजीकरण व अध्ययन भी किया गया। इस अध्ययन मेंशिक्षक अपने काम को कैसे देखते हैं, इसके कई नजारे हमारे सामने आए- कहीं शिक्षक सरकार की योजनाओं का पालन करने में ही अपनी भूमिका देखते हैं और योजना के खतम होते ही उसके तरीकों व सामानों को ताक पर रख कर अगली चालू योजना के क्रियान्वयन में लग जाते हैं। कहीं कोई शिक्षक अपनी निजी समझ को बनाते हुए हर योजना के सार्थक लगने वाले आयामों को अपनी कार्यप्रणाली का हिस्सा बना कर काम करते हैं, चाहे वो योजना बंद ही क्यों न हो गई हो। शिक्षकों के बीच निष्ठा, समझ, शैली, विचार, स्वभाव, रुझान के सैकड़ों अन्तर हैं।

नोडल केंद्र के प्रयोग-एकलव्य की योजना में सोचा गया था कि शिक्षकों के लिए नोडल केंद्र संचालित हों।शिक्षकों के लिए पुस्तकालय और संदर्भ केंद्र संचालित करना शासकीय और गैर-शासकीय प्रयासों का

एक लोकप्रिय कार्यक्रम रहा है। बी आर सी, सी आर सी कार्यालयों में अलमारियों में पुस्तकें भी पाई जाने लगी हैं। फिर भी, उनका सक्रिय उपयोग नहीं हो पाता क्योंकि अधिकांश शिक्षक स्कूल के अलावा समय निकाल कर वहाँ नियमित रूप से आने व किताबें लेने में असुविधा महसूस करते हैं। इस अनुभव को ध्यान में रखते हुए तामिया परियोजना में हमने एक अलग प्रयोग करके देखने का फैसला किया।

परियोजना में 13 कार्यकर्ता शामिल थे जिनकी जिम्मेदारी थी सप्ताह में एक दिन एक स्कूल में शिक्षक के सहयोग के लिए जाना। वे जिस स्कूल में जाते, अपने साथ शिक्षा साहित्य की कुछ प्रतियाँ ले जाते- जैसे, *दिवास्प्न, बच्चे असफल कैसे होते हैं, बच्चों से बातचीत, अध्यापक, मेरी ग्रामीण शाला की डायरी, समरहिल, लोकतांत्रिक विद्यालय, दीवार का इस्तेमाल* आदि। ऐसी करीब 30 किताबों की 15- 15 प्रतियां एकलव्य कार्यालय में संदर्भ के तौर पर रखी गईं थीं। कार्यकर्ता स्कूल विजिट के दौरान वहाँ के शिक्षकों को किताबों का परिचय देते और जो शिक्षक चाहते उन्हें इशू भी कर देते। कई शिक्षकों ने किताबें लीं, कईयों ने कहा कि हमें समय ही नहीं मिलेगा, कुछ ने 4-4 किताबें एक साथ लीं यह कहते हुए कि उनको इस तरह की चीजें पढ़ने कोमिलती ही नहीं हैं।

महीने भर बाद हमने यह सोचा कि यदि शिक्षकों ने किताबें पढ़ ली हों तो उन पर कोई चर्चा आयोजित करें या स्कूल में ही बैठ कर उन पर बातचीत कर लें।यह प्रस्ताव रखने पर अधिकाँश शिक्षकों ने कहा कि वे किताबें घर ले तो गए थे, पर पढ़ नहीं पाए हैं, इसलिए लौटा भी नहीं रहे, पढ़ के देंगे। हमें लगा कि एक सिलसिला बनाने के लिए हम ही उनके साथ स्कूल में बैठ कर कुछ अंश पढ़ कर देखें। तो लंच के समय जब बच्चे खेल रहे होते, हम वहाँ मौजूद एक दो शिक्षकों के साथ बैठ कर किसी किताब के 1-2 पेज पढ़ने की कोशिश करते।कभी कभी इस तरह के पठन में ठीक से माहौल नहीं बन पाता क्योंकि लोग बहुत कम होते और समय व ध्यान भी व्यवस्थित नहीं होता।

शिक्षकों के साथ अन्य संस्थाओं की एकस्पोज़र यात्राएं– दूसरा प्रयास जो हम कर सके वो था शिक्षकों को एकस्पोज़र विजिट के लिए ले जाने का। हम एक साल सेवाग्राम स्थित आनंदनिकेतन स्कूल की विजिट पर गए। आनंद निकेतन स्कूल गाँधी जी की नई तालीम की सोच को साकार करने में संलग्न है। इस विज़िट में तामिया की प्राथमिक शालाओं के करीब 30 शिक्षकों ने भाग लिया। 15 मिडिल स्कूल के शिक्षक बच्चों के साथ छिंदवाड़ा स्थिति "स्किल सेंटर" की विजिट पर गए। अगले साल, शिक्षकों व परियोजना के कार्यकर्ताओं के साथ भोपाल स्थित 'आंचलिक विज्ञान केंद्र','आदिवासी संग्रहालय' व 'मानव संग्रहालय' की विजिट की गई। इन एकस्पोज़र यात्राओं के लिए एक बार हम शासन से अनुमति की व्यवस्था कर सके। एक बार, अवकाश के दिन विजिट आयोजित की जिसमें शिक्षकों ने बढ़ चढ़ कर भागीदारी की। वे एकलव्य के भोपाल व होशंगाबाद कार्यालय और 'पिटारा' एजुकेशन स्टोर को भी देख सके।

एकस्पोज़र विजिट्स का यह अनुभव काफी उत्साहवर्धक रहा। इस के दौरान कोई किसी को कुछ सिखा-समझा नहीं रहा था, किसी बदलाव की योजना नहीं बना रहा था। बस, मर्जी का देख रहे थे, मर्जी का बोल रहे थे.. सभी। किसी चीज से रोमांचित हो रहे थे, किसी से प्रभावित हो रहे थे और जो रस खोजा उसे अपने अंदर जज़्ब कर रहे थे- सभी। साथ में यात्रा करना, खाना खाना- इसके भी अपने मजे थे। एकस्पोज़र विजिटें शिक्षकों के विकास में बिना किसी अपेक्षा के किया गया निवेश था... व्यक्ति के तौर पर उनसे बनाया गया संबंध था।

कार्यकर्ताओं की बैठकों में स्कूल के शिक्षक– एक तीसरा प्रयोग था एकलव्य की परियोजना के कार्यकर्ताओं की बैठकें हर सप्ताह स्कूलों में करने का। परियोजना के 60 कार्यकर्ताओं की एकलव्य टीम के साथ माह में एक बार नियमित बैठकें हुआ करती थीं।ऐसी 3 बैठकों में 20-20 कार्यकर्ता शामिल रहते थे। इस व्यवस्था को और सघन व सुदृढ़ करने के लिए हमने तय किया कि 7-8 गांवों के 10-12 कार्यकर्ताओं की अलग अलग बैठ कें हर सप्ताह करेंगे और इसको बदल बदल कर किसी प्राथमिक शाला में आयोजित करेंगे। ये कार्यकर्ता पिछले

ढाई साल से इन्हीं शालाओं के बच्चों को स्कूल समय से पहले दो घंटे का शैक्षिक सहयोग दे रहे थे और बच्चों की शाला में नियमित उपस्थिति की मॉनीटरिंग भी कर रहे थे।

हमने यह योजना बनाई कि साप्ताहिक बैठक में शिक्षा साहित्य का पठन व चर्चा एक घंटे के लिए नियमित रूप से करेंगे। कार्यकर्ताओं की सप्ताह भर के काम की डायरी का पठन भी एक घंटा करेंगे। इन सत्रों के लिए संबंधित स्कूल के शिक्षक को भी बुलाएंगे, बल्कि शिक्षक के पास उपलब्ध समय के अनुसार इन कामों का समय रखा जाएगा। उस समय जब शिक्षक बैठक में शिरकत करे, कोई कार्यकर्ता बच्चों के साथ काम संभाल सकता है अगर इसकी जरूरत हो तो।

अलग अलग स्कूलों में होने वाली एकलव्य की बैठकों का सिलसिला जुलाई 2018 से चल रहा है। 50 से ऊपर बैठकें हुई हैं और अधिकतर बैठकों में शिक्षक भी जुड़ पाए हैं, हालांकि सभी में नहीं। इसके कई अच्छे परिणाम देखने को मिल रहे हैं।शिक्षकों के साथ उनके समय व सुविधा के अनुसार, संवाद करने की संभावना बढ़ी है।उन्हें ऐसी बैठक के लिए स्कूल छोड़ कर नहीं जाना पड़ता। शिक्षकों ने गिजु भाई की किताब *दिवास्वप्न* का पठन साथ में किया है। 8 – 10 लोगों के समूह में मिल कर पढ़ने व सोचने से शैक्षिक विमर्श का उपयुक्त माहौल मिल जाता है जो पहले नहीं मिल पा रहा था। शिक्षकों को अपने ऊपर कोई दबाव महसूस किए बगैर किसी औरके शैक्षिक प्रयास को देखने व उसकी समीक्षा करने का मौका मिलता है। उन्हें एक अलग कार्य- संस्कृति को अपने ही गांव व स्कूल में पनपता हुआ देखने का मौका मिलता है यानी एक नया एकस्पोज़र उनके आंगन में ही उन्हें हो जाता है।

दो साप्ताहिक बैठकों की झलकियाँ

***दिवास्वप्न*का पठन**

स्कूल ए-प्राथमिक शाला के प्रधान पाठक इसमें शामिल हुए। हमारे पूछने पर उन्होंने अपनी अलमारी में *दिवास्प्न* खोजी पर उनकी अलमारी में यह किताब नहीं निकली (पिछले सप्ताह, एक अन्य प्राथमिक शाला की अलमारी में यह किताब शिक्षक ने निकाल कर हमें दिखाई थी)। पर उनको एकलव्य के कार्यकर्ता द्वारा दी गई किताब- *अध्यापक-* का ध्यान आया, जो उनके ही पास है। मेरे मन में विचार आया कि किसी महीने उनके साथ बैठ कर*अध्यापक* से कुछ पढ़ा जाना चाहिए। मैंने *दिवास्वप्न*(जो हम साथ ले कर आए थे) के कई पेज पढ़े। फिर प्रधान पाठक सर से पढ़ने को कहा तो वे मान गए। उन्होंने पहले खंड को आखिर तक पढ़ा। बीच बीच में वे रुक कर अपने मन में आ रही बातें, यादें, किस्से शेयर करते गए। उनको पढ़ने में रस आने लगा था और वो अन्त तक पढ़ते ही गए।

स्कूल बी-जब मैडम (प्रधान अध्यापिका) साढ़े तीन बजे बैठक में शामिल हुईं हमने *दिवास्वप्न* का दूसरा खण्ड पढ़ना शुरू किया। मैडम ने ही खंड 2 को पढ़ा। बच्चों को सज़ा देने की उपयोगिता पर विचार हुआ। कुछ कार्यकर्ताओं को लगा कि सज़ा तो देनी जरूरी है।तब बच्चों के आत्म अनुशासन पर बात हुई जो गिजु भाई बताना चाहते थे।

हमने याद किया कि बच्चों को अनुशासन की ओर लाने के लिए गिजु भाई ने क्या क्या किया था। लोगों ने पिछले सप्ताह पढ़े गए अंश को ध्यान करते हुए कहानी कहने और खेल खेलने की बात सामने रखी। मैडम भी बच्चों के स्वयं के अनुशासन को महत्वपूर्ण मान रही थीं। इसके बाद श्रुतलेखन के बारे में गिजुभाई के तरीकों और विचारों की समीक्षा की जिसमें एकलव्य के एक कार्यकर्ता ने कहा कि वो भी गिजु भाई की तरह बच्चों के लिखे हुए पर सही गलत कहने का काम नहीं करती।

बच्चों को बेहतर रूप से जानना– इन बैठकों में अपने ही छात्रों के कामों और क्षमताओं से भी शिक्षकों का परिचय होता है। एकलव्य की परियोजना के कार्यकर्ताओं की दैनिक डायरी सुनते हुए वे बच्चों के ऐसे काम को जान पाते हैं जिसका उन्होंने पहले अनुभव नहीं किया था। उदाहरण के लिए एक प्राथमिक शाला की दो शिक्षिकाएं यह सुन कर हतप्रभ थीं कि उनके स्कूल की कक्षा 2 के बच्चों ने एनसीईआरटी की गणित की किताब के कुछ पन्नों पर 20 तक की संख्याओं के साथ कई गतिविधियां ठीक से कर लीं। कक्षा 2 व 3 के बच्चों का सरल शब्द पढ़ना, उनके अक्षरों से नए शब्द व छोटे वाक्य बना कर पढ़ना भी शिक्षकों को अचरज में डाल गया। उनकी प्रतिक्रिया थी कि कार्यकर्ता बच्चों के साथ बहुत मेहनत करते हैं, फिर कुछ बच्चे ध्यान नहीं देते तो सीखते भी कम हैं।

स्कूल महौल के अध्ययन के दौरान भी हमें इस बात

का अंदाजा मिला था कि बहुत से शिक्षक अपने छात्रों की कई क्षमताओं से अनभिज्ञ रह सकते हैं क्योंकि वे उनके साथ बहुत सीमित तरीकों से अंतर्क्रिया करते हैं। जैसे, एक स्कूल की शिक्षिकाओं से जब हम एक बच्ची के बारे में चर्चा कर रहे थे तो हमने पूछा कि क्या वो अपने मन से कोई बात कुछ वाक्यों में लिख लेती है। इस सवाल ने उनको सोचने पर मजबूर कियाऔर उन्होंने कहा कि यह उन्होंने कभी करवा के देखा ही नहीं कि बच्ची अपने मन से कुछ लिख लेती है या नहीं। वे उत्साहित थीं कि अगले दिन स्कूल जा कर वे बच्ची से इस तरह का लेखन करवा के देखेंगी।

कभी शिक्षक साप्ताहिक बैठक के मौके पर अपनी जरूरतें भी हमारे सामने रखते हैं और हमारे काम की कमजोरी को बताते हैं। एक स्कूल की प्रधान अध्यापिका ने कहा कि हमारे सहयोग के बावजूद बच्चे हासिल व उधार वाले सवाल सही नहीं कर पा रहे, तो हमें स्थानीय मान पद्धति सिखाने पर ज्यादा ध्यान देना चाहिए। हालांकि इस विषय पर लंबी चर्चा की दरकार होती है, जो उस दिन संभव नहीं थी, पर शिक्षिका की तरफ से अपनी परेशानी बाँटना एक सकारात्मक बात थी।

इन साप्ताहिक बैठकों में हम बच्चों की कम उपस्थिति या सीखने में आ रही चुनौतियों की समीक्षा भी करते हैं। शिक्षक इस के दौरान अपने अनुभव सामने रखते हैं और उन बातों को भी जहां वे लाचार हो गए थे। ऐसा अक्सर उन बच्चों के संदर्भ में होता है जिनकी कोई विशेष आवश्यकताएं होती हैं। या जिनकी आर्थिक स्थिति बहुत ही संकटपूर्ण होती है। तब शिक्षा के मापदण्ड, परीक्षा व सतत आकलन के ढाँचे, अधिकारियों की मॉनीटरिंग के तरीके आदि पर सवाल सामने आ जाते हैं, जिनका असर शिक्षक के विचारों, तनावों और काम के तरीकों पर होता है।

शिक्षक के काम पर विमर्श की संभावनाएं-आगे के लिए एक लक्ष्य हमारे मन में ये है कि शिक्षक भी इन साप्ताहिक बैठकों में अपनी डायरी पढ़ें- चाहे शुरू में वो लिखी हुई न भी हों.. तो भी- अपने किसी दिन के काम का ब्यौरा प्रस्तुत करें और उस पर समूह में विमर्श करें।

हमें शिक्षकों के साथ इस तरह के संवाद को लम्बे समय तक नियमित बनाए रखना बहुत महत्वपूर्ण लगता है। इसके लिए शासन से प्रावधान किया जाना जरूरी तो होगा पर उसमें निहित समस्याओं को संभालने का भी कोई उपाय निकालना होगा। शासन के पास शिक्षा की गुणवत्ता सुधारने के लक्ष्य हासिल करने की बड़ी जवाबदारी रहती है। समय समय पर इसके लिए अलग अलग योजनाएं व कार्यक्रम चलाए जाते हैं और शिक्षकों की उनके लिए ट्रेनिंग की जाती है। ट्रेनिंग के बाद, हर महीने होने वाली स्थानीय बैठकों में अधिकारी शिक्षकों के साथ इनकी मॉनिटरिंग करते हैं। तात्कालिक उद्देश्यों की जरूरतें इन बैठकों व प्रशिक्षणों में हावी होती हैं, जैसा कि होना पड़ता है, और शिक्षक के ज्ञान की बुनियादी तैयारी के लिए इन आयोजनों में उपयुक्त समय व माहौल नहीं मिल पाता। हम देखते हैं कि कुछ शिक्षक इनसे लंबी दूरी के लाभ ले पाते हैं जबकि बहुत से शिक्षक एक कार्मिक के रूप में अपने को देखते हुए, तदर्थ लाभ ही लेते हैं।

शासन के स्तर पर इतना भी ठीक से होना एक बड़ी चुनौती है। इस स्थिति में शिक्षक को सहयोग करने के पूरक व दूरगामी प्रयास कैसे किए जा सकते हैं, यह सोचा जाना चाहिए और उनकी व्यवस्था बनाई जानी चाहिए। पर,इसे पहले स्वीकार किया जाना होगा कि शिक्षकों की क्षमता बढ़ाने के लिए यह एक बहुत गंभीर जरूरत है। इसकी गंभीरता का अहसास करने में हमें शिक्षक शिक्षा पर हुए शोध व अध्ययनों से मदद मिलेगी। आगे ऐसे कुछ अध्ययनों के बारे में विचार किया जाएगा।

शिक्षक-विकास के मुद्दे

शिक्षकों की आत्म छवि-सोच, समझ व निष्ठा में भिन्नता सभी तरह के स्कूल शिक्षकों में देखी गई है जैसा कि मीनाक्षी थापन रिशी वैली जैसे वैचारिक आधार वाले स्कूल के शिक्षकों के अध्ययन में भी दिखाती हैं (थापन, 1986)। इस भिन्नता के बहुत से स्रोत हो सकते हैं।शिक्षक की सोच समझ उसकी आत्म छवि से और जीवन के पिछले अनुभवों से गढ़ी जाती है, साथ ही उसकी उम्र, कैरियर का पड़ाव, जेंडर, जाति जैसे कई आयामों से प्रभावित होती है। एक अध्ययन में यह देखाने की कोशिश की गई है कि भारत में शिक्षकों को अपनी आत्म छवि बनाने के लिए किस तरह के अलग अलग स्रोत

मिले (काले, 1970)। भारतीय परंपरा में गुरू की छवि बहुत से शिक्षकों के मन में छाई मिलती है। गुरू छवि के चलते उन्हें इस विचार पर सख्त ऐतराज होता है कि उनके छात्र उनके द्वारा दी गई जानकारी पर सवाल करें या चुनौती दें। पर शिक्षकों के मन में यही एकमात्र छवि नहीं है।

ब्रिटिश काल में सार्वजनिक शिक्षा व्यवस्था में किए गए व्यापक बदलावों के कारण शिक्षक के मन मेंगुरू के बदले एक शासकीय कार्मिक की छवि भी बनी है। आगे चल कर शिक्षक की छवि शासकीय कर्मचारी के साथ साथ एक ऐसे व्यक्ति की बनी जो छात्र को एकतरफा ज्ञान देने की बजाय कई सक्रिय, प्रत्यक्ष व ठोस अभ्यासों-अनुभवों से सीखने में उसकी मदद करता है।यह मूलभूत रूप से एक नई छवि है पर यह शिक्षक प्रशिक्षण संस्थानों के दायरे में सिमटी रही और स्कूलों की असल दुनिया में शिक्षक इससे हट कर ही अपने काम को अन्य छवियों के सहारे अंजाम देते रहे। आजादी के बाद राष्ट्र निर्माता के रूप में भी शिक्षक को प्रस्तुत किया गया।

ये सारे बदलाव एक कार्मिक की मूल छवि व असलियत को छू नहीं पाए। काले के अनुसार, शिक्षक को एक बुद्धिजीवी कभी नहीं माना गया।शासकीय पाठ्यचर्या, पुस्तकें, परीक्षाएं, निरीक्षण आदि के तन्त्र में शिक्षक से एक निष्ठावान कार्मिक की ही अपेक्षा होती रही, एक विचारशील बुद्धीजीवी व पेशेवर व्यक्ति की नहीं। कृष्ण कुमार ने शिक्षक की इस वास्तविकता को 'दब्बू तानाशाह' के पद से निरूपित किया है। इन जटिल छवियों में से कोई शिक्षक किस के साथ कितना तादात्म्य महसूस करता है यह उसके निजी जीवन के विकास व उसे मिले अनुभवों से तय होता है।

शिक्षक माल-वाहक नहीं, एक व्यक्ति है-शिक्षकों की स्थिति को समझ पाने में अन्य देशों में हुए अध्ययन भी मददगार हैं और वे दिखाते हैं कि शिक्षक की सोच समझ व कार्य क्षमता में बदलाव लाने के मुद्दे कितने व्यापक हैं।उदाहरण के लिए, माइकेल फुलन और ऐंडी हारग्रीव्ज़ (1994) का तर्क है कि शिक्षा में सुधारों व नवाचारों से हमारी उम्मीदें बहुत ऊंची और संकीर्ण स्वरूप की हो जाती हैं जो शिक्षक को एक व्यक्ति के रूप में अनदेखा करके एक निष्क्रिय व्यक्ति के रूप में देखती हैं जिसे ठीक करने की जरूरत है। इसी कारण नवाचार असफल भी होते हैं। इस कारण भी कि वे यह नहीं पहचान पाते कि शिक्षक अपने अध्यापन कार्य से महत्वपूर्ण नैतिक व सामाजिक उद्देश्यों को पूरा करना चाहते हैं- शिक्षक को बदलना यानी इन उद्देश्यों को बदलना। यह ऐसी प्रक्रिया है जिसमें समय लगता है और विनम्रता बरतने की जरूरत होती है। इसे पोसा जा सकता है पर बलपूर्वक विकसित नहीं किया जा सकता। शिक्षक जिस प्रकार के शिक्षक हैं- उसके बनने में उनको स्कूल प्रबन्धन व शासन से मिले अनुभवों की भी बड़ी भूमिका होती है, उस काल की और समाज की भी भूमिका होती है जिसमें वे जी रहे हैं। उनकी उम्र की भूमिका होती है, कैरियर के जिस चरण में वे हैं उसकी भी। पर हम जब कोई नई विधि लागू करने चलते हैं हम शिक्षकों के बीच मौजूद भिन्नताओं को अनदेखा कर के उन्हें एक समजातीय समूह मान कर काम करने लगते हैं। इसमें मौजूद जेण्डर भेद को भी हम गहराई से नहीं पहचान पाते। हमें वास्तविकता को पहचान कर त्वरित और कठोर बदलाव के विचार को त्याग कर एक अधिक विनम्र, व्यापक व स्थाई बदलाव के लिए प्रयास करना चाहिए जो शिक्षक को एक व्यक्ति के रूप में संबोधित कर सके।

शिक्षण का ज्ञान कहाँ मिल सकता है-शिक्षक के ज्ञान को पुष्ट करने में किस तरह के प्रयास कारगर होंगे, यह एक गहरी समीक्षा का विषय है। भारत में सेवा पूर्व पाठ्यक्रमों की समस्याओं को कृष्ण कुमार (2002) शोभा सिन्हा आदि के लेखन से समझने का मौका मिलता है। विश्वविद्यालयों में दिया जाने वालाशिक्षा का सैद्धान्तिक ज्ञान कितना उपयुक्त साबित हुआ है, इसपर गौर करते हुए मनबी, रसल व मार्टिन (2001)एक गहरा विमर्श खोलते हैं। वे लिखते हैं कि दरअसल शिक्षण का ज्ञान एक कारीगर के ज्ञान की तरह असके कामकाज में, उसके व्यवहार में गुंथा हुआ मिलता है- और विश्वविद्यालय नहीं समझ पाते कि इस क्राफ्ट नौलेज को वे कैसे सिखाएं और मान्यता दें।विश्वविद्यालयों को यह भी स्पष्ट नहीं हो रहा कि अधिकांश शिक्षक सैद्धान्तिक धारा से आ रहे ज्ञान को अनुपयोगी क्यों पा रहे हैं। शोध यह भी उजागर कर रहा है

कि शिक्षक का ज्ञान ही नहीं उसकी मान्यताएं और उसके मूल्य इतने बलवान होते हैं कि वे शिक्षक शिक्षा के कोर्स करने पर भी नहीं बदलते और शिक्षण के कार्य पर आगे चल कर लगातार असर डालते हैं।

सैद्धान्तिक अध्ययन के अलावाहम प्रशिक्षु शिक्षकों को शाला अनुभव व प्रैक्टिस टीचिंग के लिए स्कूलों में भी भेजते हैं। सवाल है कि क्या यह व्यावहारिक ज्ञान ज्यादा उपयुक्त साबित हुआ है? इस सवाल की समीक्षा करते हुए मनबी व अन्य का कहना है कि स्कूल में अध्यापन का अभ्यास भी शिक्षकों की शिक्षा के काम के लिए उपयुक्त नहीं पाया जा रहा है। स्कूल की व्यवस्थाएं, अन्य पुराने शिक्षकों, पालकों, बच्चों, प्रशासकों के पुराने विश्वास व अपेक्षाएं नए प्रयोगों को करने व उन पर चिन्तन से सीखने की स्पेस नहीं देतीं। वे उल्टा पुरानी धारणाओं में नए शिक्षक को तेजी से ढाल देती हैं। छात्रों की परीक्षाएं, ग्रेडिंग, मानकीकृत टेस्टिंग, शिक्षकों का मूल्यांकन आदि तत्व स्कूल के माहौल में हावी रहते हैं। स्कूल के इस माहौल को तय करने में प्रशिक्षु शिक्षक और उसके प्रशिक्षक (टीचर एजुकेटर) का कोई हाथ नहीं हो सकता।

अपने व्यवहार पर विचार करते हुए सीखना ही रास्ता है-इस संदर्भ में एक सुझाव उभरा है कि शिक्षक को अपने व्यवहार पर बहस व तर्क करने के अवसर दिए जाने चाहिए। वह किसी विवेचक मित्र के सामने अपने कक्षा-व्यवहार की सफाई पेश करे- अपने तर्क रखे- और वह विवेचक मित्र उसकी परिस्थितियों की सराहना करते हुए उसके व्यवहार को समझने के लिए प्रश्न करे। इस तरह की संवादपूर्ण प्रक्रिया के जरिए शिक्षक अपने नैतिक या व्यावहारिक कारणों, या पूर्व अनुभवों से बनी छवियों आदि का खुलासा करेगा और उनकी जांच-परख करेगा। यह है रिफ्लेक्टिव प्रैक्टीशनर की धारणा (शुल्मन, 1994) इस धारणा में यह माना गया है कि शिक्षक को अपने काम से जुड़ा ज्ञान होता है और उस ज्ञान को दूसरों के सामने जस्टीफाई किया जा सकता है- उस पर उठ रहे प्रश्नों के जवाब दिए जा सकते हैं और उन प्रश्नों की रोशनी में उस ज्ञान का विकास किया जा सकता है। इस तरह के अनुभव आधारित संवाद और विमर्श के मार्ग से शिक्षकों को अपनी मान्यताओं, विश्वासों व धारणाओं को परखने व बदलने का मौका मिलेगा जो अन्य पारम्परिक साधनों से नहीं बदल रहे थे। यहां शिक्षक को किसी और की सत्ता के सामने झुकने का दबाव महसूस नहीं होगा- जैसे कि वे अब तक किसी अधिकार सम्पन्न व्यक्ति की सत्ता या किसी हावी होते हुए तर्क की सत्ता के सामने महसूस करते रहे हैं। वे अपने अनुभव की सत्ता के साथ काम कर सकेंगे और इसके बल पर अपने लिए नए विश्वासों का निर्माण कर पाएंगे।

रिफ्लेक्टिव प्रैक्टीशनर की इस परिकल्पना में विचारणीय बात यह है कि शिक्षक के अनुभव की सत्ता की अहमियत के साथ साथ उनके अनुभव के **विस्तार** की बात भी अहमियत रखती है। इस अनुभव –विस्तार पर ध्यान नहीं दिया गया तो अनुभव का पुनर्उत्पादन भी होता रह सकता है। दूसरी बात जिसे अनदेखा नहीं किया जा सकता वो है कि शिक्षक के साथ विवेचना करने वाले सहकर्मियों की उपलब्धता के बारे में सोचना। तामिया परियोजना में एकलव्य ने देखा कि उसके ग्रामीण कार्यकर्ता अपने समानांतर शिक्षण अनुभव के बल पर स्कूल के शिक्षकों के साथ ऐसे सहकर्मियों की भूमिका निभाना शुरू कर पाए थे। यह एक प्रकार की संभावना है... पर, संभावनाएं और भी खोजी जानी चाहिए- जैसे शासकीय-अशासकीय शिक्षकों में से। जिला शिक्षा संस्थानों, शिक्षा महाविद्यालयों की फैकल्टी आदि की भी भूमिका हो सकती है हालांकि स्कूली शिक्षण का ताजा अनुभव न होने से इसमें एक सीमा आ जाएगी। शिक्षकों के प्रति एक रचनावादी दृष्टिकोण इस सामा को लांघने में सहायक हो सकता है।

भारत में हम 2005 की राष्ट्रीय पाठ्यचर्या की रूपरेखा के बाद से बच्चों के प्रति एक रचनावादी नजरिए को अपनाने की बहुत वकालत कर रहे हैं, पर क्या यह बात सिर्फ बच्चों के लिए प्रासंगिक है?दरअसल, शिक्षकों के साथ अपने संवादों, निर्देशों व प्रशिक्षणों को एक रचनावादी आधार देना भी बहुत जरूरी है। शिक्षक भी शिक्षण के बारे में अपने ज्ञान की रचना करता है... इसलिए हमारे सुझाव, निर्देश आदि की भूमिका यह नहीं हो सकती

कि वे शिक्षक को बता दें कि उसे क्या करना है।शिक्षक की एजेंसी के क्या मायने हैं और इनको सामने लाए बगैर हम कैसे एनसीएफ 2005 को अंजाम नहीं दे सकते, यह समीक्षा बत्रा ने सशक्त ढंग से की है (बत्रा, 2005)। जाहिर है इसके लिए सेवाकालीन शिक्षक सहयोग की अर्थपूर्ण व्यवस्थाएं सोचनी पड़ेंगी ताकि वास्तविकता में बदलाव देखा जा सके।

पिछले कई सालों से एकलव्य में शिक्षकों के साथ दूरगामी संवादों को बनाने के रास्ते खोजने के लिए पहलकदमी जारी है।इसके कुछ अनुभव इस लेख में साझा किए गए हैं। शिक्षकों के साथ इस तरह का काम कई और संस्थाएं भी कर रही हैं।इनकी समीक्षा करते हुए शिक्षकों के सेवाकालीन सहयोग का एक खाका विकसित करने और उसके लिए नीतिगत प्रावधान करने की सख्त जरूरत है। इस काम की दो-तीन बड़ी चुनौतियां दिखाई देती हैं। एक चुनौती है शिक्षक की एजेंसी के बारे में एक सैद्धान्तिक समझ विकसित करने की। दूसरी, अपनी क्षमता के दूरगामी विकास के लिए शिक्षक को समय उपलब्ध कराने की। तीसरी, ऐसी स्कूल लीडरशिप विकसित करने की जो शिक्षक के विकास की समझ का सही उपयोग कर सके।दुर्भाग्य से सरकारी व निजी शिक्षा व्यवस्था की खामियां व कमियां इतनी विकराल हैं कि शिक्षक विकास के जो मुद्दे इस लेख में रखे गए हैं, वे बेमानी लगने लगते हैं, चाहे वे हमारे लिए कितने भी महत्वपूर्ण क्यों न हों। उम्मीद है एक बार फिर उन मुद्दों की ओर ध्यान दिलाने में यह लेख सहायक सिद्ध होगा।

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Hriday Kant Dewan
hardy@azimpremjifoundation.org

Distance Education

Abstract

The article discusses distance education and its role in a democratic society arguing that for democratic society possibility of continued learning is essential. This is not only required for educating stalls, opening avenues for professional careers but also participating in the democratic conversations in the society. The driving for a of open education cannot be degree and certification but to give people the confidence to learn what they want.

It mentions the development of distance education and its gradual evolution in to a major possibility for continuing education particularly higher education. The paper clarifies the open and distance learning as a term and how the materials for these programs should be structured and what their nature including the language, style, exercise tasks and presentation should be.

It underlines the importance of dialogue in the learning process and low open and distance learning programs can build that possibility. It subjects that careful use of ICT can help in making such programs qualitatively more engaging and meaningful.

Background

Distance Education has become a part of human societies. Started with a limited purpose and limited scope in the 18th century, it has become a fairly widespread phenomena[1]. The key purpose of Distance Education today can be said to be to open the avenue of continuing education for people in diverse places and diverse contexts[2]. It is to make further learning possible for those who cannot be in a university or a regular college setting. Its nature thus needs to be such to allow the person to evolve a basket of courses as per her needs. The main purpose of a formal distance education program in the context of any principles of equity and justice has to be higher education. We would want all children till secondary education to go to full time school even though, at the school stage some flexible programs must exist for those that may need. We would however focus this on the context of higher education and teacher education and in these explore the general features of distance education.

What is distance education:

There are many neat descriptions of distance education available today and the one main common aspect of all these is that distance education is meant to be a response to the need for continuing education after a long gap or engaging in continued education in a manner that is not regular and continuous. It also acknowledges the need for education not merely for adding skills and professional certification but also for

widening horizons and simply to learn more. This caters to and simultaneously suggests the need to give any person who so desires the opportunity to do a programme at her own pace and in an open ended manner and also encourage and inform others to do so as well. The open programs should also allow the learner to make choices of courses, their combinations and disciplines not normally taught together. For societies that are developing and growing, these provide opportunities to extend learning, widen knowledge and skills that maybe necessary for a variety of purposes. Learning opportunities that can make possible choice of changing direction of profession also can become available. Distance learning, therefore, necessarily should include flexibility and openness of options and extend the possibility of learning throughout ones' life. As mentioned above for any developing or developed society particularly for a democratic society, education and learning need to be for purposes wider than mere certification and eligibility for a professional career. Therefore, the fact that there is distance education available is of significance only when it can give people the confidence that they can continue to learn whenever they want to and almost whatever they want to, provided they are willing to make the necessary effort. Distance learning cannot only be about individual desire to learn what she wants but has also be organised around systems for guidance.

Higher education and distance education:

Higher education is available to many but the number of places available are far less than those who finish senior secondary. The choices available after school apart from higher education including general education, all kinds of engineering courses, medicine and related health courses, commerce, management etc can not accommodate those who are looking for such opportunities. To take care of this schools of correspondence were set up in many universities. They admitted students who could not get admission to regular colleges and hence generally had students with lower ranks. The courses at these colleges were constructed in a manner similar to the other university courses. In order to be equivalent they had to have the same kind of content and structure of programs and even the same kind of assessment. That restricted the possibility that open programmes offered. We will discuss this more when we talk about the features, nature and possibilities of distance courses. In this context we will also discuss the teacher education courses and the need for open and distance learning for teacher education emerging out of the Verma1 committee report and the seminars on teacher development[2].

The challenge however, has continued to be that higher education, is even now fairly restrictive and unfortunately has continued to be a sieving mechanism. This has resulted in a situation where most of those pursuing higher education and those engaging them professionally look at it largely as an certification exercise. This is even more stark for many professional courses and their sites as some have become fairly non-rigourous for example in teacher education and even engineering. While, the non-rigour does not permeate to all universities and certainly not to all institutions they are particularly manifest in some of these. The consequent effect and the clamour for certification manages to vitiate many processes of education and often the system is twisted and bent to accommodate certification through all kinds of practices. Given

the urge and value for certification and in general situations only a scant respect to learning and building knowledge, the construction of courses by the universities and then also by the leaners themselves does not lead to a cohesive well-integrated program. The nature of content, transactional processes and assessment all make learning memory focused and limited. Consequently this problem also besets distance education and there is not much difference between the issues of curriculum and governance processes of the two systems, given that they are both focussed on assessment. The system is not sufficiently cognisant of the need to promote higher education as an essential part of a growing democratic society. The majority of open education programs therefore are not constructed keeping its purpose in mind while ensuring relevance and quality. Distance education thus faces the dual challenge of being considered second-grade and not being able to effectively use the flexibility its format may allow it otherwise.

General features of distance education:

There are many definitions and form of distance learning but the main features are that this asynchronous and the taught and the teacher need not be physically in the same location. It may have face to face component just as the face to face courses may have some components that seem like distance mode but it is the overall composition that decides whether it is constituted as a distance course or a face to face course. The earliest distance courses were what were called the correspondence courses. By its very name it suggests a course that is completed using materials sent through post. The materials could have assignments to be completed and sent back for review and assessment. They also had an introductory counselling session where the course outline and guidelines about how to go about doing the course were told to the student. There were also intermittent counselling sessions imagined where faculty would be available to respond to the questions and difficulties of the students. The quality and nature of these were varied for many reasons largely governed by the attitude to correspondence courses and the resources that could be allocated for it. It was in some thought to be a less expensive way of doing education without thinking of the possibilities this could offer.

As we can see from from above a distance education program has a nature that can be quite distinct from the face to face program. For example even when there are large numbers involved it can offer to the learner a flexibility to learn in her own manner, at her convinence and in the order of her choice. She can also curate her own program and make a portfolio of courses for her program that match her curiosity and her need. It makes possible for the program to be Learner-Centered in a emphatic manner. It is obvious the commitment and the motivation to struggle through is far more when the learner has made the option of choosing her own courses. It is both because it would give learner a feeling of empowerment and not a victim of have to do but also because she can choose areas that she likes and is good at.

The sense of engagement and the effort of making the choice would perhaps also help the student understand the program structure and motivate her. Clearly in distance prgrams the teaching learning process are very differently organised. They expect a lot more energy and initiative from the learner besided expecting

her to become self-reliant in her own journey of learning. The nature of the freedom and the way the programmes are set up alllows an interested learner multiple ways of gathering experience around the ideas being transacted. Her wider ambit of interaction also allows her connections that link the ideas of the books and the syllabus to the experience in life. So an important attribute of the distance program is that it must attempt to make as varied educational experiences becomes available as is possible.

It is also obvious that for these programmes the role of the educators and their relationship to the students can be very important but quite different from that in a regular classroom. The nature of the learner, her motivation and state of preparedness also must be different. The programmes must have a component that makes the learners capable and confident of learning on their own. And this must include the ability to read and comprehend besides other abilities like the ability to schedule time for working on the materials and expectations of the program in her daily or weekly time table. The educator in giving feed back and in the contact therefore has making the learner independent, self-disciplined and capable of responding to the tasks and understanding and working on the feed back given. The contact time must be spent on giving the learner an overview of the course as well as the basic elements that allow her to subsequently move forward on her own. The feed back on the assignments also has to be detailed and yet specific in what it expects and should almost be able to guide the student in a way that is like a close one-to-one conversation. The in-between follow-up contacts would aid in this task.

Having said that we realise that this kind of process would also make the face to face programmes more effective and is certainly one of the goals of any educational program. We must also point out that over the year the nture of 'regular' and 'distance' programmes has been evolving and changing and there are no longer absolute separations in all cases. There are short term programs that are face to face and distance programs that have contact and synchronous presesnce of even a group of learners with the teacher and certainly some amount of synchonous presence in learning for the student and the faculty but yet there are broad distinctions that are there and make the nature of these programmes fairly distinct from each other. It is this difference that we talk about in the next section.

The fact is that over a period of time correspondence courses that were almost entirely designed as substitutes (to accommodate more numbers and cheaper cost) or as just some minor technical skill development courses have started evolving. With the addition of technological capability many forms of ICT usage to aid the transactional process have been discovered and are practised. A change in the understanding and acceptance of the distance programmes and their visualisation as in some senses an equivalent alternative with some pluses and some minuses, has slowly begun. The change is however, extremely slow and the common perception still continues to be that of /not as good'. So what could be the reason for these perceptions. Some of these are arising out of anxiety of the unknown and the lack of faith in even most of the face to face or so called regular systems to govern themselves. So the fear is that for distance programs quality maintenance and quality check is even more difficult. There are also other challenges as well. We will consider the

attributes of the distance program and then look at the challenges they pose and the advantages they provide.

Challenges of Distance Education:

The distance education program whether with and without ICT is basically an individual learning program. The use of ICT makes some contact and virtual classroom like, peer like or tutoring sessions like interactions possible, but the major part of the programmes remain to be non-synchronous and non co-located learners and teachers. This implies the virtual absence during learning of discussion of any kind that would require the learner to formulate coherent statements to argue her position, think about multiple constructs and find logical reasons to agree or disagree to the challenges posed by the faculty to enable the learner to escape from the circular arguments and explanations that she may have constructed. In the absence of peer interactions, apart from lack of exposure to multiple perspectives around the concept of the course and to natural mutual scaffolding that happens in such interactions, there is also opportunity for immersion in to multiple perspectives and ways of life. A variety of backgrounds and circumstances among the learner group would widen their world-view. In essence distance programs offer little peer or teacher support. The distance program learners also lack even the possibility of natural mutual scaffolding, co-learning, widen world view and perspective and be encourages to even see interconnections between different papers, subjects and even domains of knowledge.

The students do not easily have access, certainly not easy access to books and materials. There are no libraries, laboratories, sports facilities and other such activities. Students generally get restricted to the reading materials and assignments within that. Assessment processes in such programmes also may have less variety and frequency. We may add that while, some of this maybe overcome in some distance courses or that they maynot be available even in many of the regular programs, yet the nature of the opportunities are potentially different. To summarise the major concern is that there is no peer interaction, no opportunity to be reer or teacher scaffolded, no campus atmosphere and overall development, no academic dialogue and finally no one to push effort or to engage with.

The second challenge is creating possibilities of counselling and understanding the need for it and the resources that maybe required for it It requires no argument to believe that for conceptual understanding to develop, there must be space available for dialogue. There must be occasions where the learner can articulate and express what she has learnt and be able to engage with somebody and get feedback and occasionally even a different perspective to enrich her own view. Since, in a distance mode such opportunities would not be regualry available. It is, therefore, critical that spaces for such dialogues are created to some extent. Besides before starting reading the materials for distance education course the learners have to have an opportunity to get an insight into the nature of the course and its structure through an advanced organiser. This advanced organiser can be a written text in the materials or an induction interaction. The extent and nature of the induction interaction has two parameters that influence it. One is the nature of the course and its complexity and the second is the requirement of the learner and the possibility available for the interaction.

Distance education, however, needs to go beyond induction which has formulated such that presently no appropriate content or ideas, a facilitator, o tutor to implement them is available for such interactions. And all this requires setting up good and functioing counselling centers for which we need good counsellors and understanding of the role of counsellors and assignments

The third challenge after the setting up of reasonably endowed counselling centers with good counsellors, is to get the acceptance and understanding of these centers and their role. The general feeling about distance education is that this does not require any educator to work as a faculty as these there are self-learning programmes. The hangover from cheaper alternatives for students who are not good enough to come in the college or are for some other reason unable to be in classroom implies that these are still seen as second-grade. It does not matter if in reality some of the distance programmes are ensuring rigour and quality that many other face to face programs are not able to.

Advantages of Distance Education:

The challenges to distance education seem many, yet there are some clear advantages of distance education as well. The first advantage is that, these programmes necessitate the development of the ability to read, understand and summarise. A reasonable distance program expects and demands learner to make an effort to read with understanding, take notes and respond to assignments. It also develops the ability to seek answers from the materials provided and the habit of learning on one's own. However, to counter balance this advantage, in the regular university or college environment, is the dialogue available and therefore for distance mode as peer platform to share ideas does not exists with the same possibility. These two points are important to keep in mind when discussing the quality of distance education.

The programmes can also catalyse the creation of learning materials that are specifically intended to allow students to learn on their own. It builds educational discourse around methods that can help better transactions in the class-rooms even in 'regular' face to face programmes. This includes for example, the nature of exercises and mechanisms for giving feed-back to the learners. The focus on self-learning and allowance for asynchrony enables a larger set of course options to be offered and also choices of courses that can be taken up by a student in her basket of credits. There is ofcourse flexibility in terms of the time table in the 24 hour clock but also in the monthly or semester/annual schedule for the learner. It is not neccessary for the person to do the course with the same set of papers and not in the exactly the same time. These courses also help higher education reach those who are far away from the university and in case of creation of online sharing and chat classrooms lead to possibilities of interactions that can outlast the course as well.

The spirit of open distance learning is in the learners having a desire to add exposure to more areas. It can also function with the additional limited purpose of alternative mechanisms of certification but that should not become the driving purpose of such programs. The openness in the programs and constructions that combine different strands and also include learners with different academic backgrounds and exposure level implies multiple packages must be available. Constructing such combinations involves careful devising of learning materials, assignments and

assessment procedures. A task that is complex. The open programs are different from general correspondence courses as they allow for multiple academic backgrounds and multiple time spans. The flexibility and openness increases complexity of actually making a quality learning experience possible with reasonable support and meaningful assessment processes. Materials used for the programs need to be able to address this challenge of diversity. The possibility of using Information and communication technology (ICT) can make possibility of handling diversity easier. We look at possibilities of this in a later section.

Materials of ODL:

Distance education is primarily through materials and hence there need to be produced carefully. The learners may not have access to many other library materials. In the regular or face to face stream the students have generally access to so much more. This potential however, is hardly utilized. Given the in principle availability for 'regular' students it is crucial to ensure the materials are readable, correct and relevant.

We must also recognise that while there are many possibilities of using online exchange and today the sharing of audio-visual materials and online interactions could soon become feasible this would substantially enhance the possibilities in distance education to allow for the kind of programmes and manner of interaction mentioned above, for the moment, however, for which the quality parameters may be differently defined, we have to still rely on printed materials that would be available to learners of the programme. The quality of these materials and the kind of opportunities that they provide to the learner to engage with the texts, therefore, become very important. It is crucial that the materials are not dense and abstract but have a fluid flow. They must use many examples that build in the experience of the learner. It is very easy to almost rote remember texts and therefore materials that have a focus only on giving correct definitions, facts and correct lists can only lead to a greater amount of material memorised. Distance education, therefore, forces us to create material that reflect the objectives of higher education clearly. Unlike regular classrooms where the task of transaction and giving students a feel of the objectives of the course rests with the teachers, here it is the material that has to carry the load.

It is also clear that the students of distance learning cannot have an access to libraries. It is, therefore, important that the materials reflect a spectrum of views and scope. The materials that are being produced need to be engaged with by the learner. In the absence of peers and regular tuition, the texts itself must help the learner, discover ways of creating her conceptual framework. The task in the material need to, therefore, be of a kind that help the learner reflect on the portion read and also identify the key ideas in it. She needs to be able to recognize what is expected to be learnt and given opportunities to assess by herself whether she has grasped it. There must be practice items within the text of the material such that the learner can pause and reflect on what she has read and attempt to respond to what she has read. The self-learning material therefore needs to have regular exercises and tasks interspersed.

The nature of tasks and exercises is also something that deserves attention. We also need to have exercises that give the learner confidence that she can learn something from the material. As already said they also need to be such that help the learner understand what is to be learnt. The third aspect that

needs to be covered by the tasks is to bring in the experiences of the learner related to concepts being discussed. In this they need to also analyse their experiences carefully and develop a deeper sense of it. The exercises and tasks would help in conceptual development much more, if they also bring in the earlier experiences of the learner or expect her to gather concrete observations and experiences within the framework of the texts.

The second aspect of dialogue is that while going through the materials, the learner needs feedback and alternative view points. Distance courses therefore need to have a mechanism by which this can be provided. Good distance education programmes need to have assignments that are to be supported regularly and assessed. These assignments need to be vigorous in providing feedback to the learner and helping her learn. They also need to be able to point out to her where she should improve her performance. Besides feedback on assignments, mechanisms to share questions and articulate understanding must be set up. The mechanisms of counsellors requires appropriate preparations such that the counsellors are capable of both, the academic inputs as well as prepares for pedagogical interaction keeping the needs of distances learners in mind. The process of scaffolding and support in distance education is vital but extremely neglected except in some rare courses.

They have to be presented with a clarity, preciseness and comprehensiveness that encourages the learner to develop her own conceptual framework and ask questions. The materials need to be able to pose issues to the learners such that they can relate to them and the materials also need to give the foundational ideas of that discipline to help the learner engage with the questions posed. The teams that should produce the material, therefore, need to have both appreciation of this dual requirement as well as the experience and capability to create such materials. Many of the materials used by distance learning Universities will not satisfy these criteria.

Information and Communication Technology and Open Distance Learning:

While Information and communication technology (ICT) has tremendous possibilities its potential gets multiplied many times with the availability of the computer and intranet. And the expansion of ICT as **i**nteractive computer technology sums up the immense possibility that ICT can unleash in a distance program and converts it to a partial face to face program. The ways in which it can influence the open distance learning are many. It can change the nature of materials, nature of teaching-learning process, nature and possibility of interaction among student of a particular course and also with students of other distance education courses. It also effects the way assessment can be done and makes possible the shift towards better assement and towards how assessment should ideally be done. In fact much more than the mundane even though important use of the computer system to receive textual materials to read or information about contact programs, assignments etc., ICT can be used for purposes that enhance the quality and in fact the nature of the materials themselves. The course materials can now include short and long films, power points, interactive sessions with machines that can provide some inputs to support learning, systems of sharing assignments and getting feedback on them and even having chat sessions

that are virtual discussion groups or small classrooms. In case needed, live or pre-recorded lecturers with visuals to illustrate can be also provided. The availability of ICT takes us far beyond just the audio lessons or beamed television sessions.

It is clear that these additions change the quality of the transaction process and the materials considerably. The availability of ICT can also be useful for regular face to face programs but for the distance programs the opportunity that can be created for supplementary support is of a different order of magnitude. The possibility of virtual classrooms, one to one feedback on assignments and chats with faculty and peers open new vistas. There is some need of synchronous availability of the participants but the locations need not be the same. The assignments and feedback exchange made multiple iterations of the assignment possible. From the above it is clear a purposeful use of ICT has the potential to significantly widen the scope and improve open courses provided it is used with care and wisdom and not a short cut for all processes.

There are however, certain infrastructural challenges in the use of ICT. Its larger use requires the availability of a computer, a network that allows for web access with a reasonably good speed and computer literacy. There is also currently a lack of appropriate content that can use the full potential of the ICT besides the lack of interactional expectation in the transactional processes as well. The acceptance of open courses, their curation in a manner that uses the technological possibility actively and meaningfully also requires a lot of thinking, exploration and vigorous evaluation of the processes and ideas tried. ICT mitigates some of the challenges of just a distance correspondence course and as its accessibility improves and better utilisation happens, the full potential may become visible. For example there is yet very little possibility for transverse entry into courses. Even in open universities sometimes the prerequisites defined exclude a lot of people from taking those courses. There are some other barriers due to suspicions about the open system itself. Most science and technology courses, teacher preparation courses, medical and nursing courses and perhaps all courses preparing people for professions are not allowed to the open universities. The face to face universities not only would not accept a transverse movement from an open university to their university but may be reluctant to admit them to courses dependent upon having passed the previous course. The universities count the hours spend for each component of the course and match them with their regular courses. The open system is also beset with the problem of higher education performing the role of a sieve. And since the fact is that the sieving operation is not based on characteristics of understanding or on the basis of learning to think ahead, there is yet no way for a large majority to escape rote learning even being in the open university system.

Assessment:

All education particularly higher education requires an assessment programme that not only provide feedbacks to the learner but also judges whether she is capable of certain level of understanding and articulation in that area. Distance mode demands an ability to learn on ones own and therefore needs to have an element where the ability to self-learn is tested. It also aims to bring the experiences of the learner in contact with the content of the discipline and therefore

the assessment must also look at how far has the learner has developed an ability to do that. There also needs to be a mechanism to support and scaffold the learner such that she appreciates the expectations from the nature of assessment. In my experiences as working with some distance education courses it is evident that learners are not aware of the purpose of the courses and how they would be assessed. Most learners assume that distance learning programmes require remembering texts and in fact often may be believing that they would be allowed copying from the materials during the examinations. The nature of questions in distance learning because of the clear identification of the 'textbook' requires that we force the learners to think and not find questions that can straightway be copied or written down verbatim from the materials.

Summary:

To summarise, for a democratic society open learning is an insight for that distance education has a very important role. However, these rules need to be clearly defined and not reduced to mere certification exercises. The tremendous possibility of distance learning need to be harnessed and utilized properly. It should not be seen as a way of certification for a larger number in a hurry. Should not be seen as a rival to regular college going educational process. It is a complementary system to add value and reach. The care with which assignments and contact need to be treated and assessment done, needs to be re-energised periodically. This cannot be merely seen as a cheaper option for reaching higher education certification to a large group. While numbers of students in a course and in the whole university is an indication of its usefulness, a very high number also indicates lax standards and hence the course being viewed as a quick certification model. Distance mode has to focus on provide flexible reach and an openness. The acceptance of the open and distance learning systems and development of parameters that assess its quality and its comparison with other programs can increase the scope and the number of students opting for it.

Short hand in 1728

Univ. program Univ. of London 1858 – In USA 1888

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Parul Malik
parulmalik0@yahoo.co.in

Anita Rampal
anita.rampal@gmail.com

Humanist Education at Anand Niketan: An Intercultural Exchange

Abstract

Learning which is meaningful, relatable to one's life and surroundings, and exemplifies a sense of community, togetherness and love is part of students' schooling experience at the Gandhian school Anand Niketan in Sevagram. This paper emerges from an intercultural exchange project on Education for Sustainable Development (ESD), which a group of Swiss student-teachers and teacher-educators, along with a professor and research scholars from Delhi University, engaged in at Anand Niketan. The theme for this academic trip was 'Cotton' – to understand the concept of ESD in the local, rural Indian context, while juxtaposed with and in contrast to urban, industrialised, and Euro-centric Western contexts. In this paper, we explore the humanist ethos of this school at Sevagram detailed through curricular examples of collaborative, multidisciplinary crafts-based learning and productive labour, and make critical reflections on the experience of intercultural exchange itself.

Introduction

As one enters Anand Niketan at Sevagram for the first time, one is instantly struck by the sheer joy imbued in this space - the children, teachers, the air, trees, soil, scattered concrete structures of the school seem to be engaged in soulful interactions that are comforting and reassuring. The children and teachers appear to be as free as the birds and flowers that fearlessly partake in the everyday life here at this school.

A visitor may wonder if schools can really be this welcoming. Or how a school originally envisioned on the principles of decentralised, localised functioning and self-sustenance, to promote productive labour and craft-centred learning through a child friendly pedagogy and curriculum, can possibly function as part of the present government system. Can such education be critical – unravelling and problematising the realities of the world around us – or is it an end in itself? Can the curriculum and ideology of the school stand the onslaught of the current neoliberal times? Some of these questions were answered over the course of the next few days at the school – and some even months later, continue to be reflected upon - where a group of Swiss student-teachers and teacher-educators, along with a professor and research scholars from Delhi University engaged in a project on Education for Sustainable Development (ESD). The theme for this intercultural exchange was 'Cotton' – to understand the concept of ESD in the local, rural

Indian context, while juxtaposed with and in contrast to urban, industrialised, and Euro-centric Western contexts.

This paper in three parts, attempts to detail these intercultural reflections with the Swiss group at Anand Niketan.

Practising community, love and togetherness: *mil ke chalo*

The Gandhian principles of *Ahimsa* and *Swaraj*, among others, are deeply rooted and practised in the way of life at this school. The process of *Swaraj* for Gandhi denoted not only the rule over oneself, being free from oppression and dependence of any kind, but also extended to mean unifying and becoming one with oneself and with one's community (Gaur, 2018; Parel, 2009). Living peacefully, non-violently, truthfully and with frugality added to the other values one needs to inculcate in one's life to coexist with all. The students, therefore, rightfully begin their day by singing of harmony, freedom, love and togetherness, passionately encouraging one another to walk together, challenge oppression, end violence. The rhythm and sway of "Let's Walk Together" ("*mil ke chalo*") is such that it is hard for one to not hum the tune for long after it has been sung thus:

> *"mil ke chalo, mil ke chalo, mil ke chalo/ yeh waqt ki awaz hai, mil ke chalo/ yeh zindagi ka raaz hai, mil ke chalo…aaj dil ki ranjishein mita ke aa/ aaj bheid-bhaav sab bhula ke aa/ azadi se hai pyar, jinhe desh se hai prem/ kadam kadam se aur dil se dil mila ke aa…yeh bhook kyon, yeh zulm ka hai zor kyon/ yeh jang-jang-jang ka hai shor kyon…"*

Though difficult to literally translate the song from Hindi to English, it is a call to walk together, putting our differences behind, emerging from oppression and divisiveness, towards freedom and love, away from hunger, violence and wars.

The lesson on togetherness extends to how learning is organised in the school. It is characteristic for work – labour that is productive, learning that is craft centric – to be undertaken collaboratively. The idea behind working with one's hands was to engage in learning that brings not only one's mind, but the body and spirit also into unison (Gaur, 2018; Kumar, 2015; Skyes, 2009). Gandhi's engagement with the nature of 'productive schools' extended across his earlier 'experiments' at Phoenix and Tolstoy Farms in South Africa through to the Basic School, Anand Niketan. He sought to challenge the historically entrenched social stigma and exploitation of caste linked to vocations and manual labour through the model of Basic Education or Nai Taleem, with craft and productive labour at its core (Rampal, 2010). It was also through the emphasis on crafts based education that Gandhi envisioned the anti-colonial struggle for '*swaraj*', for self reliant and sustained village societies. It has been argued by scholars that the Gandhian vision was not resistant to scientific advancement (Arnold, 2013; Kumar, 1993), although it did vociferously critique the Nehruvian ideal of 'development' (Jodhka, 2002), that saw large scale heavy industrialisation as the answer to India's poverty and unemployment in the post Independence era.

Students at Anand Niketan learn to progressively work the *charkha* – which historically symbolised *swadeshi*, *swaraj* and *satyagraha*, among other things (NCERT, 2014; Brown, 2010) in the national struggle for independence. Younger children of primary classes try their hands on the relatively simplified table-top *charkha*, practising hand-eye coordination in a playful manner; while older children go on gradually from a box *charkha* to a two or four spindle *amber charkha*. All this happens as

part of their co-curricular activity classes, scheduled in the afternoon hours. The students learn together – no matter the age – as well as assist one another in spinning, calculating the amount of thread being spun into units of *gundi*, fixing and maintaining their machines, so on. At one point of time, multiple age groups and grades could be learning and spinning together in one area designated for the activity – thereby, making multi-age learning and mentorship possible. Girls and boys unhesitatingly work with one another, without the teachers or school processes trying to segregate the students into gendered groupings. When Kiran's continuity of her thread being spun was broken, it was Pranav's gentle and encouraging assistance to re-work the piece of *kapaas* (cotton), that got her spinning again. On another note, it is significant to highlight here, that the *gundis* of thread being spun from raw *kapaas pedus* (small cotton balls/pieces) are sent to weaving units outside school (one of which we visited at Gopuri) to convert into cloth. This cloth is later stitched by the students to make a handmade product – bag, purse, pouch, etc. – in another one of their craft classes and then sold at their school fair. The shirts stitched in these sessions by the girls as well as boys of the senior-most class X, with their choice of cloth from home, is worn by them on their school farewell day. This sense of satisfaction from 'creating' something original is clubbed with the economic value that the finished product stands to generate, contributing to Gandhi's vision of economic self-sustenance of a school.

Another example is that of agriculture and their engagement with the school vegetable garden, which like the crafts, provides an interdisciplinary approach to learning (detailed later in section two). The presence and guidance of teachers is ensured, but it is the support of learning with peers – juniors with seniors, or girls with boys – that stands out. Such cooperative peer learning is a fundamental aspect of Nai Taleem and comes through in all activities ranging from cooking, painting, to stitching, pickle making, seed preservation, so on.

The morning assembly is organised in a way that students find space to bring forth and share their first-hand academic endeavours through personalised presentations. The sharing happens without any nudging, bullying, and in the least intrusive way. It, moreover, prioritises a student's own voice, sense of thinking and creative expression - showing a unique and a non-bookish understanding of an experience, concept or reflection. When Kashika tried to do an impromptu translation of her Marathi write up into Hindi - for our convenience - about their recent field-trip to Baba Amte's Ashram, *Anandwan*, she hesitated and started crying. The whole school patiently waited for her to find the right words, and displaying empathy, applauded her effort to attempt a spontaneous translation from her mother tongue (Marathi) to another language (Hindi). It is a way of life for students to confidently put up doubts, engage in dialogues, or gently argue their cases – quite openly even during the morning assembly – and respectful disagreement and dialogical resolution to the same is common. One is reminded of such a dialogue between Gandhi and Tagore following differences in opinion and ideology, which were respectfully approached (Patel and Skyes, 1987). Harsh or demeaning reproach and reprimand by the teachers was never observed here – something which could otherwise be a common feature of a child's life, making her schooling experience undignified, undemocratic and oppressive.

Students display a deep sense of ownership of their school, and a spirit of community comes through in the manner in which they move around, explore, access and approach this space. They maintain and respect their school property, like the school toilets are regularly cleaned by *all* students in rotation – dismissing notions of caste inequality, rejecting socio-cultural taboos of pollution, and embracing dignity of labour. All present - students as well as their teachers – are living endorsement of fearlessness and togetherness. The ease with which a young child can approach the school Principal, Sushama *Tai*, practically hanging by the doors of her office or even onto her shoulder, calling out to her repeatedly, is the same as a senior student or teacher would approach her. All are free to move about the school at will – no doors are meant to be closed to anyone, spaces cordoned off, norms of access or timings prescribed. Be it *Kala Bhawan* or *Kabir Bhawan*, or the room where they stitch, draw or paint, or where their garden is, or where their play area and swings are – activity and congregational areas are as much one's own as the academic spaces. Children can be seen confidently using these spaces even before or after school timings.

"*Mil ke chalo*" finds a unique meaning of its own in this community, which lives by and strives to base their education on ideals of respect, love and empathy, in a world where we prepare our students for cut-throat and self-destructive competitiveness.

Connecting with the 'real' world: multidisciplinary learning

It is entirely possible to enlist the multidisciplinary and integrated nature of crafts-based learning at more than one place in this school. Take for example the spinning of the *charkha*. Here one would apply mathematics when measuring, say, how much thread a student spins on an average in an hour - amongst a long list of other measurements and calculations she can do. Working with the local *kapaas* in hand, she enquires what Social Science would help her learn about the lives of farmers, minimum support prices, nature of cotton crop, seasonal changes, gendered nature of labour, so on. The economics of selling a finished product and its entire chain of distribution from farmer to retailer can be further discussed (NCERT, 2017). Moreover, she could design an enquiry about the science of crop protection against infestation of many kinds to get a healthy crop. Science can intersect with the Social Sciences as she spends time researching ways of local seed preservation and that of a people's indigenous knowledge (for example, refer to this photo essay, Daga, 2015, Oct. 7). Much of this exploration can be done beyond the classroom or even the school through field visits where students can interact with, interview, record narratives of local farmers, craftspersons, government officers, women's self-help groups, so on. The learning can be designed using a variety of educational media like news articles, farmers' rally pamphlets, samples of the seeds/crop, so on. The session on spinning the *charkha*, thereby, de facto makes multidisciplinary 'real' world based learning as well as "*critical* craft learning" possible (p. 55, NCERT, 2005).

Since the theme of our academic trip to Sevagram was 'cotton' – on the lines of phenomenon-based learning (Spiller, 2017, May 29) - much emphasis was laid and effort made to go deeper into the socio-political factors of growing and working with cotton in Vidarbha. In this regard, activities were designed by the Swiss group, as well as by us from

Delhi University, in collaboration with the teachers at the school. The foci of these activities had been wide ranging. For example, the Swiss participants designed a group-based activity for the school students and teachers, which traced the journey of cotton in the case of an industrially made Swiss shirt versus a khadi shirt. It covered ideas ranging in the former (industrially made shirt) from environmentally toxic use of chemicals in production and transportation, labour exploitation, eclipsing local trade practices and small scale industries, to the latter's (khadi's) environmentally and socially friendly shirts, with the downside of them becoming expensive and available in limited designs.

An activity designed by us used an original narrative of a female farmer, Behnabai, in 'The case of uncertain cotton crop'. We worked with the latest data on demand, yield and profit/ loss of genetically modified Bt Cotton in Haryana and Vidarbha (Gangan, 2018, Jan. 1; Saraswat, 2017), along with a preliminary understanding of the history of cotton in India (Menon and Uzramma, 2017). The session on this data lay the ground for an extensive deliberation by the students of their experiences through a collective discussion – "*samuhik charcha*". Ideas, again, ranged from the quality of the new hybrid seeds which cannot be used for the next crop, extinction of indigenous varieties of seeds ("*deshi beej khatm ho gaye*"), famer loans and suicides ("*karz ki wajah se kisan aatmhatya karte hain*"), deficit of monsoon rains (when the "*talaab*" in the village has not been filling for two years, how will the fields get water for irrigation, one student remarked), to the role of brokers/ agents, multinational corporations selling seeds, fertilizers, insecticides, thereby making farmers dependent on them ("*kisan company ke gulam hote hain*"), and so on. Students' in their participation brought into focus their immediate realities, ground based experiences of activism, and textual understanding of concepts. What was interesting was that the sessions were held for the school students of classes seven to ten, so the small groups were mixed in terms of age and nearly evenly distributed in terms of girls to boys. Such a composition encouraged a dialogue and possibility of learning from one another across grades. Our work on creating Circles of Learning (Malik and Rampal, 2016a, 2016b, 2015; Rampal, 2008, 2005) between older and younger students in and out of school contexts, on sensitive issues of gender and sexuality, adds to this work on mixed age collaborative learning.

It is through the example of agriculture that one would like to highlight the applied nature of interdisciplinary integration of concepts at Anand Niketan. Unlike as in routine hobby classes elsewhere, the field or the garden in this school takes the form of a living entity that needs respectful caring, companionship, monitoring, tending, so on. It is evident at Anand Niketan that the tending of the field connects:

> …ecology and environment of the school campus, weather, water and energy issues; cooking in the school kitchen, food and nutrition, health and hygiene; economics of gardening, sale or processing of surplus; management of green and non green waste, recycling; maintenance of the classroom, the school premises and the waste generated; gender and cultural issues; history and traditional knowledge systems, etc…linkages to mindful, cooperative and democratic living can be drawn… (p.2, Coelho, 2014).

At the time, the students were engaged in groups growing *meethi* (fenugreek). One group exclaimed that theirs had gone beyond the consumable stage because they were too late in trimming it, thereby making it bitter. The other group gladly worked on trimming, weighing and preparing to sell their produce. They also sold it to the ashram Guest House so that our group, including the Swiss teachers, could relish it for dinner the same day.

The students have a deep understanding about seasonal variations of crops being grown, about the nature of soil, amount of produce, the economics of its purchase and sale, the procedure to prepare compost, preservation of their own seeds, etc. Vijay of Class X very confidently showed us around the composting pits and detailed the nature of the fruit growing on the regal papaya tree adjacent to it. When it is their turn to cook in the school kitchen, they use some of these ingredients from their garden. They learn science, mathematics, garden economics, cooking, waste management, in and through the garden. They learn to work together, respect and nurture their own relationships and that with the garden, cooperate, make mistakes and learn at their own pace. The curriculum for the learning of Life Skills at schools needs to be grounded in this manner - in hands-on, engaging, self-sustained activities – to ensure that the spectrum of challenging aims of education, of embedding cooperation, empathy, love, respect, compassion, togetherness, creativity, motivation, ethics, conflict resolution, etc. in children's school experience is rendered more meaningful than textual readings limited to the classroom.

Some of the things they had produced in the field, the kitchen or during other cocurricular activities were on display at the Republic Day celebration. From paintings, papier-mâché objects, soaps, hair clips, paper folders, to raw turmeric pickle and hibiscus *ambadi* drink or *sherbet* were on sale. Girls enjoyed selling paintings they had drawn as much as boys took pride in selling the pickle they had prepared with their male teachers, or the soaps and jewellery they had made. In learning to cook, stitch bags, purses, their own shirts and tending to their garden – amongst many other opportunities at school - the boys were questioning the culturally engineered notion of 'masculinity' and gender stereotypical roles in life. Some, by their own admission, were trying to challenge the gendering of domestic labour at home, by lending a hand in everyday chores. Albeit slowly, they did believe that more gender equitable relationships would prevail in their lives.

Reflections on an intercultural exchange

The intercultural exchange during this trip happened at multiple levels. For the Swiss students visiting India for the first time, it was a unique cultural experience. The experience of freedom within the school, and engagement with learning in an inquiry based, collaborative, locally contextualised manner – especially in their craft related sessions – stood out as meaningful learning; not burdensome, as happens for a majority of students (MHRD, 1993).

Another significant component of this multicultural exchange of ideas, actions and commitments was the careful use of language in spontaneous translation from one group to another. The foreign group's mother tongue was French, though some spoke and all understood English. The students and teachers at Anand Niketan spoke Marathi, though some Hindi and

English were also occasionally spoken. Communication rested on much spontaneous translation ensured by the participants, and gestures, expressions, music and drawings were consciously incorporated to enhance interaction when words fell short or seemed inadequate.

The Swiss students were seeing, feeling, smelling, tasting their new surroundings and simultaneously translating them into art in their travel notebook – "carnet de voyage" - that they had been maintaining prior to their visit to India. They went from what they 'imagined' India to be, relying on information they could gather in Switzerland before arriving, from text, images or videos, to what they 'experienced' it once here. It was an art project designed by their Art teacher accompanying them on this trip, to understand cultural differences or similarities if any, help them observe closely, reflect and hone their sensibilities for this exchange. Seeing them comfortably sprawled on the floor, in the gardens, to draw what inspired or struck them, and to find the energy to draw and paint well into the night after a tiring and eventful day, was truly moving. They found inspiration in the new fruits they ate, never before seen flowers and leaves, the Indian toilet, intricately cut out blocks used in block printing, monkeys swinging on branches, *chai*, ceiling fans, among other things. We learnt from them how drawing does not require professional training and nearly everything can be translated into art so long as one can imagine, reflect and express freely. It was significant for all of us to participate in the school assembly in Kala Bhawan, what had been the home of art education inspired by the work of the legendary artist Devi Prasad. He had studied and trained at Tagore's Santiniketan, and developed a deep understanding and philosophy of the basis of art in education at Anand Niketan during its conception phase and even later, and encouraged sensitivity, joy and creativity (Prasad, 1998). He furthermore believed that students did not necessarily need an artist-teacher, but one who encourages artistic sensibilities and expression with the utmost respect. A liberated individual who is creative espouses togetherness and brings a spirit of harmony to one's inner self and that of all humanity. The National Curriculum Framework (NCF, 2005), the position paper on Arts (NCERT, 2006) and the current two-year teacher-education programme (NCTE, n.d.) espouse the value of Art in Education, as a significant resource for learning.

In their pre-planned interactions with students in individual classes, the Swiss students used charts and videos to 'show' the students what Switzerland was about. Their presentations were a little clichéd with beautiful valleys, snow capped mountains, the story of Heidi, pretty looking Swiss cows, chocolates and cheese, but the discussions that followed, often initiated by some of the older school students, led to interesting insights. In class VI, while discussing their currency, students and their teachers tried to calculate the conversion of a Swiss Franc into Indian Rupees and enthusiastically wondered what they could purchase with equal amounts of the two currencies. They attempted to understand each other's food, with students from both contexts explaining to one another the kinds of vegetables they grow in their countries and the ones common to both. To explain that they grow pumpkin in Switzerland, their art teacher (who spoke French) drew one for the school students – the connection made with this local vegetable in Sevagram was instant. When the Swiss group

explained that their country is a 'small' one, in the centre of Europe, the school students (with the help of their teachers) tried to establish what the centre for them in India is - arriving at Nagpur through a quick study of the map of India. Calculating the number of seats in the trains in both countries, the students in Anand Niketan tried to explain to their visiting friends what sleeper, chair car, three tier categories meant in Indian railways. They compared cows of both countries, with students at school explaining to the Swiss participants about their Gir, Kathiawadi, hybrid Jersey varieties of cows. Interestingly, some gestures and 'life-like' mime helped communicate to one another what they were trying to explain. To describe skiing, for example, one Swiss student recreated the sport by imitating the act of putting on skiing pants, shoes, a helmet, then moving left and right by her hips, making a fast moving "sheee-sheee-sheee" sound, to the amusement of all the children.

Indeed, this was a democratic inter-cultural 'exchange' where *all* learnt from one another, without it being a case of projecting any one or more culture/s as deficit and in need of being 'educated'. While the students at the school welcomed with open hearts their Swiss visitors, the latter learnt from them what in-depth learning, being reflexive, employing more than the cognitive to include affective, sense of empathy, awareness of the surrounding and larger social issues could mean. In a subsequent presentation at an International Seminar, at the Department of Education at Delhi University, the Swiss students through their "reflections" shared that the students at Sevagram have a notion of "why" they go to school, instead of being restricted to "what" they learn there – something, they added from their personal experiences, was not common in Switzerland. The fact that the students of the school practised democracy, as a community, with respect, love, empathy for everyone, was inspiring for them.

It was a sense of coming full circle with the Swiss students requesting the school students to write "*mil ke chalo*" for them in Hindi in their notebooks, to get as tattoos on their bodies, as a reminder of their memorable trip to Sevagram. The phrase perhaps etched in memory by virtue of having been melodiously sung each morning for five days, resonated true togetherness for them.

Conclusion: humanist education

In encouraging criticality, hands-on learning, drawing on local resources, or building a relationship with the surrounding world, the students' experiences of schooling become more meaningful. The substance of such an education lies not in cut-throat competition or scoring a hundred percent marks, but in establishing oneness within oneself and with all else around. In the current obsessive onslaught of the neoliberal times – increasingly edging towards marketisation, regimentation and corporatisation of education amongst other debilitating features – schools like the ones at Anand Niketan highlight the often forgotten aims of education to build a society that is compassionate, just and empathetic.

Acknowledgement

This visit to Anand Niketan was part of an Intercultural Project on Education for Sustainable Development (ESD) coordinated by Ms. Nadia Laussselet of the Teacher Training Faculty, Lausanne, Vaud (HEP Vaud), Switzerland, in collaboration with Prof. Anita Rampal, Delhi University. The authors would like to acknowledge

the generous support, including time and effort of the Project Team, and the Director, teachers and children of the Anand Niketan School.

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सुनीता राणा
ranasunitauki@gmail.com
शुभ्रा मिश्रा
shubhra.mishra@azimpremjifoundation.org

बीजों में अंकुरण के जरिये विज्ञान शिक्षण

सार

यह लेख एक बीज़ से पौधा बनने की प्रक्रिया के कक्षागत अनुभवों का विवरण है। कक्षा 5 के पर्यावरण विषय के अंतर्गत खुद से प्रयोग करकेदेखते हुए बच्चों के वैकल्पिक अवधारणाएँ टूटी और नई अवधारणाओं को स्थान मिला। पहले बच्चों का मानना था कि बीज के अंकुरण के लिए सिर्फ पानी आवश्यक है जबकि प्रयोग करके उन्होने देखा कि एक बीज के अंकुरण के लिए पानी के साथ हवा और कुछ तापमान आवश्यक है। आगे, कक्षा में कुल 17 बीज से पौधा बनने की प्रक्रिया का अवलोकन किया गया। कक्षा में 17 बीजों में से 4 बीजों का अंकुरण नहीं हो पाया। अंकुरित होने वाले और न होने वाले दोनों बीजों के संदर्भ में चर्चा की गयी। यह चर्चा बीजों से संवन्धित बच्चों के सवालों के उत्तर खोजने और उससे जुड़ी अवधारणाओं पर समझ विकसित करने का माध्यम बनाई गयी। हमने पाया कि 5 घंटे की कक्षागत प्रक्रिया के बाद बच्चे कुछ हद तक अपने अवलोकनों के प्रकाश में सवाल रख पा रहे थे जबकि प्रारम्भ में उनके सवाल पाठयपुस्तक में दिये गए सवालों से मिलते जुलते ही थे। साथ ही बच्चों में बारीक अवलोकन, मापन और डाटा को एकृत करके उसके समूहीकरण जैसे कौशलों का विकास हुआ।

कक्षागत प्रक्रियाओं ने हम सभी को एक उनसुलझा प्रश्न दिया कि ईलयाची का अंकुरण कैसे होता है। यह सब कुछ जानने की प्रक्रिया से मेरे अंदर की जिज्ञासा सिंचित हुई। अब कोई भी बीज देख कर मेरे मन में अनेक सवाल आते है और मेरे कक्षा के बच्चों के बच्चों के मन में भी। बच्चे आकार मुझसे अब पूछते है कि मेम इसका खोल कैसा होगा कठोर या सख्त, उत्तर भी बे सुझाते है कि मेम इसे बोकर देखें अंकुरण होता है कि नहीं। विचार करूँ तो यही है विज्ञान की प्रक्रिया और इसके शिक्षण का उद्देश्य।

बीज से पौधा बनते देखना हम में से प्रत्येक का अनुभव होता है । यह अनुभव छोटे बच्चों के जीवन का भी हिस्सा होता है । यह अनुभव बच्चों में बहुत से सवाल, अवलोकन, और जिज्ञासा को समाहित किए होता है । इन अनकहे अनुभवों को केन्द्रित करते हुए पर्यावरण का एक अंग के रूप में देखा गया है । जहां,पर्यावरण विषय के अंतर्गत निहित उद्देश्यों में बच्चों में आसपास के अनुभवों पर आधारित नैसर्गिक सवाल पूछना,उनके अवलोकन और पैटर्न खोजना जैसी क्षमताओं को विकसित करना है (एनसीईआरटी, 2005) ।

एनसीईआरटी की पुस्तक कक्षा 5 के "बीजों में अंकुरण" की शुरुआत एक सवाल किया गया कि बीज़ में अंकुरण कैसे होता है ? बच्चे कुछ उत्तर नहीं दे पाये। शायद, अंकुरण शब्द उनके लिए नया था । इसलिए उनसे पूछा कि कौन कौन से बीज़/ चीज़ को पानी भिगो कर खाते है तो उत्तर थे; राजमा,चना,भट्ट,लोबिया। बच्चों ने भीगे हुए बीजों में से सफ़ेद धागे जैसी संरचना को देखने के अनुभव को बताया। एक दो बच्चे उसके साथ नए पौधों के निकलने की बात भी कह रहे थे । बच्चों के इस अनुभव को आधारित करते हुए अंकुरण की अवधारणा पर चर्चा की शुरुआत की गयी ।

12 बच्चों की कक्षा में सभी ने कहा कि पानी में बीजों को रखने से बीजों का अंकुरण होता है। इस तथ्य की प्रयोगिक पुष्टि के लिए हमने एन.सी.ई.आर.टी. की पर्यावरण की पुस्तक में दिये गए प्रयोग का सेटअप बनाए।

(जिसके लिए तीन डिस्पोजेबिल ग्लास किए। पहले में चने के सूखे बीज़, दूसरे में पानी से भीगी रुई में चने के बीज़ और तीसरे में पानी में पूरी तरह डूबे हुए बीज़ रखे। बच्चों का अनुमान था कि तीसरी स्थिति में ही बीजों का अंकुरण होगा। इन तीनों ग्लास को सुरक्षित और समान परिस्थिति में रख दिया गया।

Figure 1 पाँच ग्लासों में रखे हुए बीज। पहले दो में पूरी तरह पानी में डूबे, दो ग्लास में पानी में भीगी रुई में और एक बीच वाले में सूखे बीज

दो दिन बाद (बीच में रविवार था) जब बच्चों ने अवलोकन किया तो वे खुद आश्चर्यचकित थे। यह देखा गया कि उनके अनुमान के विपरीत भीगी हुई रुई में अंकुरण हुआ जबकि पूरी तरह भीगे हुए चने के बीजों में कुछ अंतर नहीं हुआ था। एक कोग्निटिव चेलेंज का सामना कर रहे थे किसी नई अवधारणा के निर्माण के लिए विज्ञान शिक्षण में यह एक महत्वपूर्ण चरण माना जाता है (मुकुन्द कमला, 2009)।

अब बच्चों के साथ संवाद किया गया। बच्चों ने अनुमान लगाया कि दूसरी स्थिति में पानी कम था जबकि तीसरी स्थिति में पानी की अधिकता थी जिससे कि बीजों का अंकुरण नहीं हो पाया था। यहाँ बच्चे खुद से अंकुरण के लिए हवा की उपस्थिति का अनुमान नहीं लगा पा रहे थे। इसलिए,शिक्षिका ने दूसरी और तीसरी स्थिति में और गहराई से अवलोकन करने पर ज़ोर दिया। जिससे यह निकला कि दूसरी स्थिति में बीजों को पानी के साथ हवा भी मिल रही है। इस प्रकार बीजों में अंकुरण के लिए हवा और पानी आवश्यक है इस पर एक स्तर की समझ विकसित हुई।

आगे, बच्चों में अंकुरण की प्रक्रिया को अनुभव करने और उससे जुड़े हुए अन्य अवधारणाओं को स्पष्ट करने के लिए बच्चों से बीज़ लाने के लिए कहा गया। अगले दिन कक्षाकक्ष में कुल 17 बीज़ एकृत हुए थे।

बच्चों ने दिन प्रतिदिन बीजों का अवलोकन किया और निश्चित और बराबर मात्रा में पानी दिया। बच्चों ने प्रतिदिन के अवलोकन को लिखा। इसके बाद, निम्न तालिका जिसे शिक्षिका ने बोर्ड पर बनाया था को भरते रहे। बच्चों ने अंकुरण के समय निकले हुए अंकुरण की लंबाई भी नापी। और यह प्रत्येक बीज़ में 1 सेंटीमीटर से कम ही थी जिसे वे ठीक से नाप नहीं पा रहे थे। एक बच्चे ने धागे से लंबाई नापी फिर धागे को अपने रूलर पर नापा। यह तरीका सभी को अच्छा लगा क्योंकि इससे नन्हें पौधे को टूटने का खतरा नहीं दिख रहा था। यहाँ, यह देखा गया कि बच्चे अपने पौधों के लिए बहुत प्रोटेक्टिव हो गए थे।

क्रमांक	बीज	अंकुरण की तिथि	टिप्पणी
1.	मेथी	27/08/18	
2.	उड़द (काली दाल)	27/08/18	
3.	मसूर	27/08/18	
4.	चना	28/08/18	
5.	सोयाबीन (भट्ट)	28/08/18	
6.	गहत	28/08/18	
7.	मक्का	28/08/18	
8.	लहसुन	28/08/18	
9.	तोर	29/08/18	

10.	अजवाइन	01/09/18	
11.	जीरा	01/09/18	
12.	राजमा	29/08/18	विद्यालय में राजमा नहीं हुआ जबकि समान स्थिति में घर में रखा हुआ राजमा में अंकुरण हुआ जो बच्चों को बाद में दिखाकर चर्चा की गयी।
13.	सौफ	-	
14.	जाखिया	-	भोजनमाता जाखिया की खेती करती है इसलिए हमने उनसे इसके अंकुरण के बारे में पता किया।
15.	ईलाईची	-	ईलाईची को हमने दो तरह से रखा पहला खोल के साथ और दूसरा खोल तोड़ कर। इसके लिए हमने इन्टरनेट से जानकारी ली।
16.	अखरोट	-	6 दिन के बाद हमने यह स्कूल की क्यारी में लगा दिया जिससे की यदि भविष्य में पौधा निकले तो हम देख पाएँ।

बच्चों के साथ चर्चा की गयी। और इसका विश्लेषण किया गया।

1. सभी बीज़ अंकुरित नहीं हुए थे।
2. सभी बीज़ एक समय में अंकुरित नहीं हुए।
3. बीज़ के अंकुरण के समय उसका खोल निकल गया था।
4. मिट्टी बहुत कस देने से बीज़ नहीं निकले थे।

बच्चों के सवाल:

- बीज़ इतना छोटा होता है उससे इतना बड़ा पौधा कैसे बनाता है ?
- पौधों में पत्तियाँ और जड़ कहाँ से आती है ?
- क्या छोटे गिलासों में अंकुरण के बाद पौधे उसमें फल भी लग सकते है ?
- गिलास में पौधा कितना बड़ा हो सकता है ?
- बीज़ के अंदर इतना बड़ा पौधा कैसे समा जाता है ?
- पौधा श्वास कैसे लेता है ?
- बीज़ में अंकुरण कैसे होता है ?
- एक बीज़ से अलग अलग पौधे क्यों नहीं आ सकते है?
- एक बीज़ से एक पौधा ही क्यों निकलता है ?

उपरोक्त कारणों पर चर्चा की गयी। अब यह देखने को मिल रहा था कि बच्चे चर्चा में अपेक्षाकृत अधिक सक्रियता से हिस्सा ले रहे थे। पहले पहले बीजों के बारे में उनके कोई सवाल नहीं आए थे लेकिन आज बिना कहे बे मुझसे अपने प्रश्न रख रहे थे (टेक्स्ट बॉक्स में लिखे बच्चों के सवाल)। इस चर्चा से निम्न बिन्दु स्पष्ट हुए कि

1. विभिन्न बीजों को जमने के लिए अलग अलग समय लगता है।
2. बीज का खोल का महत्वपूर्ण कार्य होता है। वह बीज की सुरक्षा करता है। खोल उतारने पर बीज उगता है (आमोद,संदर्भ-71)।
3. मिट्टी कसी होने से हवा की आवाजाही रुक जाती है और बीज को उगने में कठनाई होती है।

यद्पि तापमान एक महत्वपूर्ण है फिर भी बच्चों का सिर्फ ध्यान इस ओर दिलाया गया किन्तु इस पर विस्तृत चर्चा नहीं की।

आगे, अंकुरित बीजों को आलोक में लेते हुए बच्चों का जिज्ञासा कि कैसे एक बीज पौधा बनाता है, क्या इसके अंदर एक पौधा होता है या कुछ ओर, पर केन्द्रित किया गया।

कुछ सवालों के उत्तर खोजने के लिए एक चने के अंकुरित बीज़ को खोला गया। अंकुरित बीज़ को खोलने पर निम्न अवलोकन किया गया:

1. गूदेदार भाग।
2. ऊपर का हिस्सा जहां से हरी पत्ती निकल रही थी।
3. पत्ती वाला हिस्सा नीचे के हिस्से से जुड़ा था।
4. पत्ती के ऊपर वाला हिस्सा नुकीला था।
5. नीचे के हिस्से निकलती हुई सफ़ेद संरचना।

बीजों के विभिन्न हिस्सों को बच्चे अलग अलग करके देख रहे थे और उन्हें पहचान रहे थे। (Fig. 2)

इसके बाद फिर अवलोकन से कुछ निष्कर्ष की ओर बढ़ाने के उद्देश्य से बच्चों के सामने प्रश्न रखे गए। यदि इस अंकुरित बीज़ से एक पूरा पौधा बनता है तो क्या यह

अनुमान लगा सकते है कि बीज़ के कौन से हिस्से से पौधे का कौन सा अंग बनेगा ? जैसे कि कहाँ से जड़, कहाँ से पत्ती और ताना,इसमें कहीं बीज़ के भोजन की जगह भी दिख रही है ?

Figure 2 कक्षागत प्रक्रियाएँ।

बच्चों के अनुमान भौतिक गुणों के साथ जुड़ाव में होते है। बच्चों का अनुमान था कि अंकुरण केहरे भाग से पत्ती और तना बनेगा जबकि नीचे वाले हिस्से से जड़ बनेगी। भोजन आदि के बारे में बे कुछ कह नहीं पाये थे। बच्चों की कही बात को आधार बनाते हुए मैंने बीज़ के चार हिस्से और उनसे बनने वाले पौधे के हिस्से के बारे में जानकारी दी।

एक अवलोकन यह भी था कि सभी बीज़ एक तरह से नहीं टूटे थे। अतार्थ, कुछ बीज़ तो तोड़ने पर दो भागों में बिभक्त हो रहे थे जबकि कुछ नहीं।

1. एक बीज़ पत्री।
2. द्विबीज पत्री।

Figure 3 द्विबीज पत्री और एक बीज पत्री का अवलोकन।

कुछ एक बीज़ पत्री और द्विबीज पत्री बीजों में पहचान के बाद उनके अंकुरण को देखा गया। बच्चों ध्यान से अवलोकन किया और यह पैटर्न देखा कि एक बीज़ पत्री से तो सीधे हरी पत्ती निकल रही है जबकि द्विबीज पत्री से दो समांतर पत्ती निकल रही है। साथ ही,यह पाया गया कि एक बीज़ पत्री और द्विबीज पत्री शब्दावली और पत्तिओ के निकलने के पैटर्न में एक समवंध था जिसे बच्चे जोड़ पा रहे थे। इसलिए, वे देखकर उसका वर्गीकरण कर पा रहे थे।

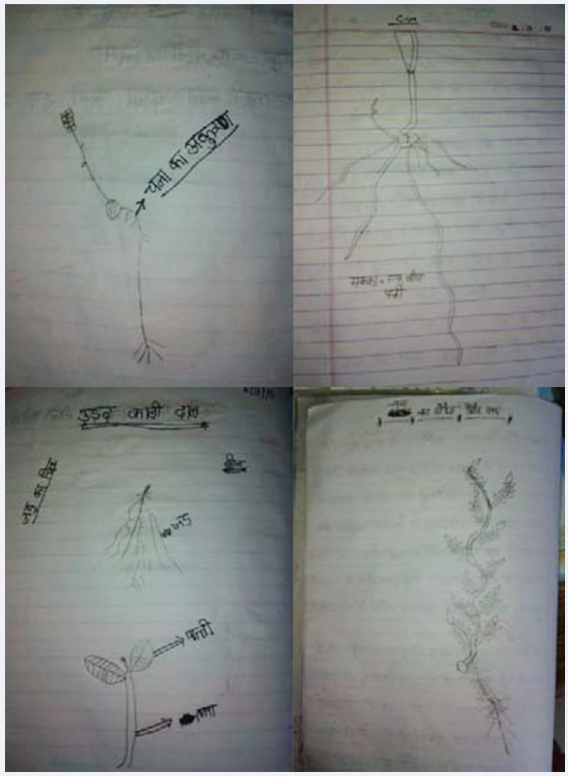

Figure 4 बच्चों द्वारा बनाए गए जड़ों के चित्र।

गहराई से पैटर्न खोजने की प्रक्रिया के लिए बच्चों

को विकसित पौध को जड़ से पत्तियों अवलोकन करके चित्र बनाने की गतिविधि की गयी । इस गतिविधि के जरिये बच्चों के आकलन की प्रक्रिया भी चल रही थी। प्राथमिक स्तर पर बच्चों की आत्म अभिव्यक्ति के लिखने की जगह अन्य अवसर उपलब्ध करना आकलन के लिए सकारात्मक होता है (ब्लेक)। इसके अतिरिक्त मैंने अनुभव किया कि इसमें सभी बच्चे रुचि लेते है।

निष्कर्ष:

बीजों के अंकुरण को पिछले कई सालों से पढ़ाते हुए मैंने किताब में दी हुई जानकारी को ही बच्चों तक प्रेषित किया था । ऐसा करते हुए कक्षाकक्ष शिक्षण चॉक और डस्टर तक ही सीमित था । इस तरह से केवल बीजों के बारे में सिद्धांतिक ज्ञान को ही केन्द्रित किया था जो कि कुछ हद तक मेरे विषय ज्ञान का भी हिस्सा था । इसलिए, मैंने स्वयं भी कुछ नहीं सीखा । ऐसा लगता था कि मुझे तो सब कुछ आता है । किन्तु, जब मैंने प्रयोगिक स्तर पर किया तो मेरे सामने 17 बीजों का अंकुरण था और उससे जुड़े कई सवाल । कुछ सवालों के उत्तर तो मैं जानती थी और कुछ के मुझे खोजने थे । बच्चों के साथ साथ मुझे भी सीखने का समान अवसर मिला । लगभग पाँच घंटे कीकक्षागत क्रिया से बच्चों ने और एक शिक्षिका ने क्या सीखा पर विचार करूँ तो पाती हूँ कि मैंने सीखा कि कैसे करके देखने से बच्चों के साथ एक शिक्षक भी सीखता है । मुझे नहीं पता था कि इलायची,जंखिया का अंकुरण कैसे होता है। कक्षा में तो अंकुरित नहीं हुए थे ।

- **जंखिया का अंकुरण:**

स्थानीय लोग कुछ बच्चों के माता पिता जंखिया की खेती करते थे । हमने उनसे बात की तो पता चला कि यह तीसरे वर्ष ही उगता है । अब कक्षाकक्ष शिक्षण प्रक्रिया से स्थानीय लोग भी जुड़ गए थे ।

- **इलायची का अंकुरण:**

इलायची के अंकुरण बारे में खोजबीन की। विभिन्न स्रोतों से ज्ञात हुआ कि इलायची के बीज का खोल बहुत कठोर होता है जिसे नाइट्रिक अम्ल के साथ धोकर निकालतेहैं । दूसरा कि इलायची के अंकुरण के समान्य से अधिक तापमान 50 डिग्री से 85 डिग्री फोरहेनाइट की आवश्यकता होती है ।और इसके अंकुरण में 40 दिन का समय लगता है । बाजार से मिलने वाली इलायची को कच्चा ही तोड़ लिया जाता है और सूखा कर बेचा जाता है जिसके अंकुरण की संभावना कम रहती है ।किन्तु, यह जानकारी पर्याप्त नहीं है । यह स्रोतों से इसकी जानकारी एकृत कर रही हूँ ।

यह सब कुछ जानने की प्रक्रिया से मेरे अंदर की जिज्ञासा सिंचित हुई । अब कोई भी बीज देख कर मेरे मन में अनेक सवाल आते है और मेरे कक्षा के बच्चों के बच्चों के मन में भी । बच्चे आकार मुझसे अब पूछते है कि मेम इसका खोल कैसा होगा कठोर या सख्त, उत्तर भी बे सुझाते है कि मेम इसे बोकर देखें अंकुरण होता है कि नहीं । विचार करूँ तो यही है विज्ञान की प्रक्रिया और इसके शिक्षण का उद्देश्य ।

बच्चों के संदर्भ में "बीजों के अंकुरण" से निम्न अधिगम को प्राप्त किया गया:

3. अपने आस पास से बीज़ एकृत करते हुए बाहरी दुनिया को कक्षागत प्रक्रिया का हिस्सा बनाया गया ।
4. अवलोकन और पैटर्न खोजने की क्षमता को सींचित किया गया ।
5. प्रयोगों से प्राप्त डाटा को व्यवस्थित करना और उसमें पैटर्न खोजने का विकास हुआ ।
6. समूहों में कार्य करने से मिलजुल कर आपसी सहयोग की भावना का विकास हुआ ।
7. अंकुरण की प्रक्रिया का प्रयोगिक अनुभव हुआ ।
8. विभिन्न प्रकार के बीज़ के बारे में ज्ञात हुआ ।
9. बीजों के विभिन्न हिस्सों के बारे में जानकारी हुई ।
10. पौधों के लिए धूप की आवश्यकता है ।

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Seema Shukla Ojha
seema.ojha@gmail.com

सीखने के प्रतिफल की प्राप्ति: इतिहास के सन्दर्भ में

सार

राष्ट्रीय शैक्षिक अनुसन्धान एवं प्रशिक्षण परिषद् ने हाल ही में 'प्रारंभिक स्तर पर सीखने के प्रतिफल' शीर्षक से एक ऐसा दस्तावेज तैयार किया जिसमें प्रारंभिक स्तर के समस्त पाठ्यचर्या क्षेत्रों के सीखने के प्रतिफलों को उनकी पाठ्यचर्या सम्बन्धी अपेक्षाओं और शिक्षणशास्त्रीय प्रक्रियाओं के साथ प्रस्तुत किया गया है। इस दस्तावेज का मुख्य उद्देश्य विद्यालयों में सीखने की गुणवत्ता को बढ़ाना व शिक्षकों को इस योग्य बनाना है कि शिक्षक बिना विलम्ब सभी विद्यार्थियों के लिए सीखने के कौशलों को अधिक उपयुक्त रूप से सुनिश्चित करते हुए सुधारात्मक कदम उठा सकें। सीखने के ये प्रतिफल न केवल प्रत्येक कक्षा के शिक्षकों को सीखने-सिखाने पर ध्यान केंद्रित करने में सहायता करेंगे, बल्कि ये अभिभावक/संरक्षक, समुदाय के सदस्यों और राज्य पदाधिकारियों को पूरे देश के विद्यालयों में शिक्षा की गुणवत्ता सुनिश्चित करने में उनकी भूमिका-निर्वाह में सहायक होंगे ताकि विभिन्न पाठ्यचर्या क्षेत्र से अपेक्षाओं की पूर्ति हो सके। इस लेख में उच्च प्राथमिक स्तर पर सामाजिक विज्ञान विषय के अंतर्गत आने वाले ऐसे ही एक विषय 'इतिहास' से सीखने के एक प्रतिफल को उदाहरण के तौर पर लेते हुए यह दिखाने का प्रयास किया गया है कि कक्षा में सीखने-सिखाने की प्रक्रिया के दौरान सतत और व्यापक मूल्यांकन का उपयोग करते हुए कैसे बच्चे उन प्रतिफलों की प्राप्ति कर सकते है जो उनसे अपेक्षित हैं।

शिक्षा की गुणवत्ता का मुद्दा विश्वव्यापी है। वैश्विक स्तर पर स्थायी लक्ष्यों के अनुरूप ही भारत में निःशुल्क एवं अनिवार्य शिक्षा का अधिकार अधिनियम-2009 बनाया गया जिसमें 6 -14 वर्ष के प्रत्येक बच्चे को गुणवत्तापूर्ण शिक्षा प्राप्त करने का अधिकार दिया गया।यह अधिनियम सतत एवं व्यापक मूल्यांकन पर भी बल देता है जो कि शिक्षक को प्रत्येक बच्चे की सीखने सम्बन्धी प्रगति को समझने, कमियों को पहचानने, समय-समय पर उन्हें दूर करने तथा तनावरहित वातावरण में उनकी वृद्धि तथा विकास में सहायता करता है। इसी का अनुसरण करते हुए राष्ट्रीय शैक्षिक अनुसन्धान एवं प्रशिक्षण परिषद् ने प्राथमिक एवं उच्च प्राथमिक स्तर पर सतत एवं व्यापक मूल्यांकन सम्बन्धी पैकेज भी तैयार किये। इन पुस्तकों में विषयानुसार उपयुक्त उदाहरणों के साथ सतत एवं व्यापक मूल्यांकन के सम्बन्ध में समझ बनाई गयी कि कैसे सीखने-सिखाने की प्रक्रिया के दौरान सतत एवं व्यापक मूल्यांकन का उपयोग करें।इस तरह वर्तमान परिप्रेक्ष्य में विद्यार्थी और शिक्षक के अलावा माता-पिता, समुदाय के सदस्य और शैक्षिक प्रशासकों ने भी विद्यार्थियों के सीखने के बारे में जानने और उसके अनुसार बच्चों की सीखने सम्बन्धी प्रगति पर नज़र बनाये रखने की आवश्यकता महसूस की। इसके लिए उन्हें ज़रुरत हुई कुछ ऐसे मानदंडों की जिनकी सहायता से वे अपेक्षित सीखने के स्तर का आकलन व उसका पता लगा सकें। हालाँकि सीखने की निरंतरता को ध्यान में रखते हुए व्यवस्था को यह जानकारी देना कि बच्चे ने सटीक रूप से क्या सीखा है, एक चुनौती भरा कार्य है। तथापि राष्ट्रीय शैक्षिक अनुसन्धान एवं प्रशिक्षण परिषद् ने प्रयास कर 'प्रारंभिक स्तर पर सीखने के प्रतिफल' शीर्षक से एक ऐसा दस्तावेज तैयार किया जिसमें प्रारंभिक स्तर के समस्त पाठ्यचर्या क्षेत्रों के सीखने के प्रतिफलों को उनकी पाठ्यचर्या सम्बन्धी अपेक्षाओं और शिक्षणशास्त्रीय प्रक्रियाओं के साथ प्रस्तुत किया गया है (रा.शै.अनु.एवं प्र.प., 2017,पृ.vii)। इस दस्तावेज का मुख्य उद्देश्य विद्यालयों में सीखने की गुणवत्ता को

बढ़ाना व शिक्षकों को इस योग्य बनाना है कि शिक्षक बिना विलम्ब सभी विद्यार्थियों के लिए सीखने के कौशलों को अधिक उपयुक्त रूप से सुनिश्चित करते हुए सुधारात्मक कदम उठा सकें। शैक्षिक सत्र 2017-18 से कक्षा एक से आठ तक के विद्यार्थियों के सीखने के स्तर से सम्बंधित विशेष रूप से निर्धारित मानदंडों को अब नियमों में शामिल कर लिया गया है जिनका क्रियान्वयन अनिवार्य है। ये प्रतिफल आज इस मायने में और महत्वपूर्ण हो जाते हैं क्यूंकि सभी राज्यों एवं केंद्र शासित प्रदेशों में प्रारंभिक स्तर की सभी कक्षाओं में अधिगम न्यूनता की पहचान हेतु किया जाने वाला राष्ट्रीय उपलब्धि सर्वेक्षण अब इन्ही प्रतिफलों पर आधारित है। सीखने के ये प्रतिफल न केवल प्रत्येक कक्षा के शिक्षकों को सीखने-सिखाने पर ध्यान केंद्रित करने में सहायता करेंगे, बल्कि ये अभिभावक/संरक्षक, समुदाय के सदस्यों और राज्य पदाधिकारियों को पूरे देश के विद्यालयों में शिक्षा की गुणवत्ता सुनिश्चित करने में उनकी भूमिका-निर्वाह में भी सहायक होंगे ताकि विभिन्न पाठ्यचर्या क्षेत्र से अपेक्षाओं की पूर्ति हो सके।

इस लेख में उच्च प्राथमिक स्तर पर सामाजिक विज्ञान विषय के अंतर्गत आने वाले ऐसे ही एक विषय 'इतिहास' से सीखने के एक प्रतिफल को उदाहरण के तौर पर लेते हुए यह दिखाने का प्रयास किया गया है कि कक्षा में सीखने-सिखाने की प्रक्रिया के दौरान सतत और व्यापक मूल्यांकन का उपयोग करते हुए कैसे बच्चे उस प्रतिफल की प्राप्ति कर सकते है जो उनसे अपेक्षित है।

इतिहास के छात्रों के लिए ऐतिहासिक घटनाओं और अवधारणाओं को जानना और समझना आवश्यक होता है। इसके साथ ही उनसे आमतौर पर इतिहास के अध्ययन में उपयोग किए जाने वाले विभिन्न आलोचनात्मक कौशलों जैसे ऐतिहासिक साक्ष्य का विश्लेषण, संश्लेषण और मूल्यांकन करने की क्षमता के इस्तेमाल की भी उम्मीद की जाती है। हालांकि, वास्तविकता में ज्ञान और कौशल के इन घटकों को अक्सर एक दूसरे से अलग-अलग देखने की प्रवृत्ति दिखती है। फलतः इतिहास, अधिकतर तथ्यों के संग्रह के रूप में पढ़ाया जाता है। लेकिन जिस तरह से आज इतिहास पढ़ाया जाता है- व्याख्यान के रूप में, पाठ्यपुस्तक पठन, मात्र याद रखने और परीक्षा के लिए- यह न केवल छात्रों के लिए उबाऊ है, बल्कि इतिहास की शिक्षा प्रदान करने में भी अप्रभावी है। सत्य कहा जाय तो, इतिहास को जानने के लिए, जो जाना है उसकी जांच-पड़ताल के लिए, उसको पुष्ट करने के लिए आलोचनात्मक कौशल का अधिग्रहण और उपयोग करना सीखना जरूरी है। आलोचनात्मक कौशल को विषय सामग्री से जोड़ने के लिए, शिक्षण का फोकस 'सीखने की प्रक्रिया' पर होना चाहिए। जब विषय सामग्री का इस तरह उपयोग होता है तभी सोचने-विचारने को प्रोत्साहन मिलता है। इसलिए यह आवश्यक है कि शिक्षक 'इतिहास' को छात्रों के सम्मुख एक बनी-बनाई सामग्री के रूप में प्रस्तुत न कर छात्रों को सीखने के जीवंत और रचनात्मक तरीकों का इस्तेमाल करते हुए स्वयं अपने ज्ञान सृजन की अनुमति दें।

निम्नलिखित उदाहरण छात्रों को प्राथमिक स्रोतों की समझ बनाने में मदद हेतु और सतत एवं व्यापक मूल्यांकन के साथ विभिन्न गतिविधियों के माध्यम से नीचे उल्लिखित सीखने के प्रतिफल (कक्षा 6 से) प्राप्त करने के लिए बनाया गया है।यह उदाहरण निर्देशात्मक नहीं है और इसमें स्थानीय आवश्यकताओं व संसाधनों के अनुरूप बदलाव किये जा सकते हैं। यह उदाहरण अंततः आलोचनात्मक कौशल के लिए आधार विकसित करने में सहायक होगा जो न केवल इस प्रतिफल को प्राप्त करने में मदद करेगा बल्कि इससे इतिहास में अन्य प्रतिफलों की प्राप्ति में भी मदद मिलेगी।

सीखने का प्रतिफल:

- विभिन्न प्रकार के स्रोतों (पुरातात्विक, साहित्यिक आदि) की पहचान करता है और इस अवधि के इतिहास के पुनर्निर्माण में उनके उपयोग का वर्णन करता है (रा.शै.अनु.एवं प्र.प., 2017,पृ.96)।

प्रारंभिक चर्चा / प्रश्न उत्तर

छात्रों के आलोचनात्मक कौशल को प्रोत्साहित/प्रेरित करने के लिए सही प्रश्न पूछना बहुत महत्वपूर्ण है। छात्रों के साथ होने वाली यह आरंभिक चर्चा और उनकी प्रतिक्रियाओं से शिक्षक को छात्रों के मौजूदा ज्ञान को

जानने का मौका मिलता है।

शिक्षक ब्लैकबोर्ड पर 'प्राथमिक स्रोत' शब्द लिखता है, छात्रों को इस पर प्रतिक्रिया करने के लिए कुछ समय देता है और फिर उनसे इन शब्दों को अपने शब्दों में या चित्रों के माध्यम से समझाने को कहता है।

कुछ मिनटों के बाद शिक्षक छात्रों से "प्राथमिक स्रोत क्या हैं" के बारे में सोचने के लिए कहता है। छात्र तरह-तरह के उत्तर देते हैं, जैसे "स्रोत जो हम उपयोग करते हैं," "बहुत पहले इस्तेमाल किए जाने वाले स्रोत" और "इतिहासकारों को स्रोतों की आवश्यकता होती है।"

(छात्रों के जवाब शिक्षक को यह आकलन करने में सहायता करते हैं कि वे स्रोतों के बारे में कितना अधिक या कितना कम जानते हैं)।

छात्रों को अब उन सभी गतिविधियों के बारे में सोचने के लिए कहा जाता है जिनमें वे पिछले 24 घंटों के दौरान शामिल थे। इसके साथ ही उन्हें इसके लिए कोई सबूत प्रदान करने के लिए कहा जाता है जो यह साबित करता हो कि वे पिछले 24 घंटों के दौरान इन गतिविधियों में मौजूद थे। छात्रों द्वारा कई उत्तर दिए जाते हैं, जैसे कि:

"मेरे पिता ने मुझे अपने घर पर कल अपना होमवर्क करते देखा था। " यह छात्र सुझाव देता है कि उसके पिता उसकी इस बात की पुष्टि कर सकते हैं।

एक और छात्र जवाब देता है, "मैं कल अपने दोस्त के घर गया था।" इस मामले में, दोस्त इस बात की पुष्टि कर सकता है कि वह उसके घर गया था।

(यह शिक्षक को यह आकलन करने में सहायता करता है कि प्राथमिक स्रोत सम्बन्धी छात्रों की अवधारणा उनके दैनिक अनुभवों पर आधारित है लेकिन यह अभी स्पष्ट रूप से परिभाषित अवधारणा के रूप में नहीं है। इसलिए वह छात्रों को प्राथमिक स्रोत के विभिन्न पहलुओं को समझने में मदद करने के लिए और जांच-पड़ताल करता है)। छात्रों से पूछा जाता है, "क्या ऐसे कोई जवाब हैं जो आपकी उस गतिविधि/ उस स्थिति में मौजूदगी के सबूत है लेकिन ऐसे सबूत हैं जो लोगों पर निर्भर नहीं हैं?" बच्चे सोचना शुरू करते हैं। एक छात्र जवाब देता है: "मैं कल एक डॉक्टर के पास गया और उन्होंने मेरे लिए कुछ दवाएं सुझाई थीं' तो यह परचा मेरी वहाँ मौजूदगी का सबूत हो सकता है ।एक और जवाब, "मेरी उपस्थिति स्कूल में उपस्थिति रजिस्टर में चिह्नित की गई है।"

सभी छात्र अपने अनुभव के आधार पर कुछ कहने की कोशिश करते हैं। वे इस अभ्यास का आनंद ले रहे हैं और शिक्षक उनमें से प्रत्येक को भाग लेने के लिए प्रोत्साहित कहता है।

(उनका आनंद इस विषय में उनकी रुचि और भागीदारी बताता है, इसलिए शिक्षक प्रत्येक छात्र को कुछ कहने के लिए प्रेरित करता है और साथ ही उन्हें यह समझने में मदद करता है कि किसी चीज़ के बारे में जानने के लिए कई स्रोत हो सकते हैं)।

अब तक उन्होंने जो कुछ भी सीखा है उसे और मजबूत करने के लिए छात्रों को अपने दादा दादी या परदादा दादी के बारे में अपने परिवार के सदस्यों से बात करने के लिए प्रोत्साहित किया जाता है और प्रत्येक को उन 2-3 चीज़ों के बारे में संक्षेप में लिखने के लिए कहा जाता है जिससे उन्हें इन लोगों के बारे में जानने में मदद मिलती है।

(शिक्षक संकेत देता है कि यह चीज़ एक तस्वीर या एक पत्र या उनके बारे में कोई भी चीज़ हो सकती है या उनके द्वारा उपयोग की जाने वाली कोई चीज़ भी हो सकती है)।

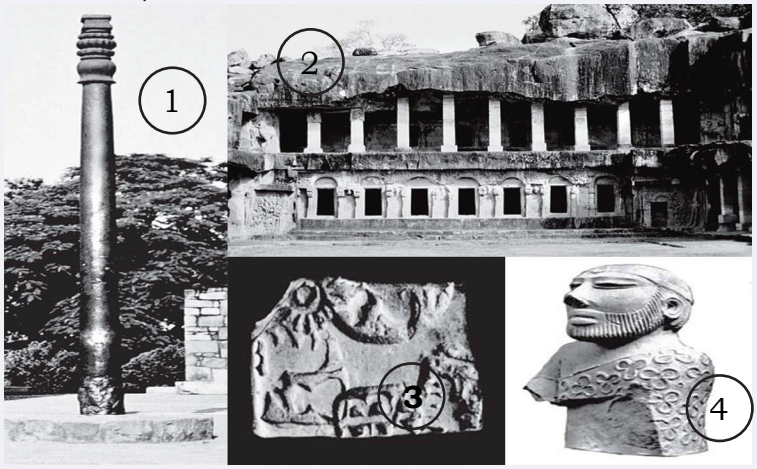
अगले दिन शिक्षक को पता चलता है कि कक्षा में बहुत शोर है जहां सभी छात्रों के पास साझा करने के लिए कुछ न कुछ है। चर्चा शुरू होती है और प्रत्येक छात्र, जो उसने तैयार किया है उसे साझा करता है। एक छात्र कहता है, "मेरे पिता ने मुझे बताया कि मेरे परदादा को घड़ियों का बहुत शौक था और उसके पास एक स्विस घड़ी भी थी जो अभी भी हमारे पास है हालांकि यह अब काम नहीं करती है।" एक छात्र टिप्पणी करता है, "हम कैसे मान लें कि तुम झूठ नहीं बोल रहे हो? "

इसके लिए वह जवाब देता है, "मुझे पापा ने मेरे परदादाजी की एक तस्वीर दी है जहां आप भी देख सकते हैं कि उन्होंने वही घड़ी पहन रखी है"। इस तरह सभी छात्र-छात्राएं अपने दादा दादी / परदादा दादी के बारे में

कुछ न कुछ बताने का प्रयास करते हैं।

(यह चर्चा शिक्षकों को चीजों की पहचान, संग्रह और प्रस्तुत करने में छात्रों के प्रयासों का आकलन करने में मदद करती है। यह शिक्षक को पाठ्य सामग्री को छात्रों के वर्तमान जीवन के साथ जोड़ने में भी मदद करता है और इस मिथक को दूर करता है कि इतिहास में केवल अत्यंत पुरानी घटनाओं और मृत लोगों का ही अध्ययन किया जाता है। विचारों के इस आदान-प्रदान के माध्यम से छात्रों को यह समझने के लिए प्रोत्साहित किया जाता है कि कैसे उनके लेख/ प्रतिक्रियाएं अतीत में घटी किसी घटना या स्थान या लोगों के बारे में एक कहानी बताते हैं और इस तरह ये प्राथमिक स्रोत हैं)।

प्राथमिक स्रोतों के बारे में चर्चा जारी रहती है और छात्रों को कई अलग-अलग प्राथमिक स्रोत दिखाए जाते हैं जैसे कि मातृदेवी, मुहरों, बर्तन, कलाकृतियों, शिलालेखों के अंश, पुरास्थलों, इमारतों और स्मारकों की प्रतिकृतियां/चित्र और इस बात पर चर्चा होती है कि क्यों और कैसे प्रत्येक स्रोत प्राचीन भारत के इतिहास को जानने के लिए प्रासंगिक है।



चित्र: 1 लौह स्तम्भ, मेहरौली (दिल्ली),
2 जैन मठ (ओडिशा),
3. आहत सिक्का
4. मोहनजोदड़ों से मिली पत्थर से बनी एक मूर्ति

(यहां हमें यह याद रखना होगा कि स्रोतों के साथ छात्रों को परिचित कराने और इन स्रोतों को समझने में उनकी सहायता करने के लिए निरंतर मार्गदर्शन की आवश्यकता होती है। इसके लिए हमें छात्रों में अधिक से अधिक प्रश्न पूछने की आदत डालनी होगी। इसके अलावा, यदि शिक्षक कुछ स्रोतों को विस्तार से समझने/ देखने में छात्रों की मदद करें, तो इस बात की पूरी सम्भावना है कि धीरे-धीरे छात्र गंभीर रूप से चीजों को पढ़ना और देखना शुरू कर देंगे और एक विषय के रूप में इतिहास से जुड़े एक महत्वपूर्ण बिंदु को समझ सकेंगे, कि किसी भी घटना का कोई भी विवरण, वह चाहे कितना ही निष्पक्ष रूप से प्रस्तुत किया गया हो, अनिवार्य रूप से व्यक्तिपरक है। एक बार जब छात्र इस तरह के निर्देशित अभ्यास/प्रश्नों से परिचित हो जाते हैं, तब हम धीरे-धीरे उन्हें जटिल व्याख्या और विश्लेषण के अभ्यास दे सकते हैं)।

(विभिन्न प्रकार के प्राथमिक स्रोतों की प्रस्तुति न केवल प्राथमिक स्रोतों के बारे में एक उत्कृष्ट और संवादात्मक चर्चा करने में मदद करती है बल्कि ऐतिहासिक सोच के अधिक परिपक्व स्तरों की नींव बनाने में भी मदद करती है। इन स्रोतों की समीक्षा करते समय निरंतर निर्देश और चर्चा के माध्यम से छात्रों को यह समझने में मदद मिलती है कि कैसे इतिहासकार इन प्राथमिक स्रोतों के ज़रिये अतीत की कहानी बताने का प्रयास करते हैं)।

प्राथमिक स्रोतों की इस बेहतर समझ के साथ, शिक्षक अगली गतिविधि करता है और यह जानने के लिए कि छात्रों ने अब तक क्या सीखा है छात्रों को एक अंश प्रदान करता है।

अपने एक अभिलेख में अशोक ने यह बात कही :
''राजा बनने के आठ साल बाद मैंने कलिंग विजय की। लगभग डेढ़ लाख लोग बंदी बना लिए गए। एक लाख से भी ज्या दा लोग मारे गए।
इससे मुझे अपार दुख हुआ। क्यों ?
जब किसी स्वपतंत्र देश को जीता जाता है तो लाखों लोग मारे जाते हैं और बहुत सारे बंदी बनाए जाते हैं। इसमें ब्राह्मण और श्रमण भी मारे जाते हैं।

जो लोग अपने सगे - संबंधियों और मित्रों को बहुत प्याार करते हैं तथा दासों और मतकों के प्रति दयावान होते हैं, वे भी युद्ध में या तो मारे जाते हैं या अपने प्रियजनों को खो देते हैं। इसीलिए मुझे पश्चोताप हो रहा है। अब मैंने धम्मत पालन करने एवं दूसरों को इसकी शिक्षा देने का निश्चय किया है। मैं मानता हूँ कि धम्मह के माध्य म से लोगों के दिल जीतना बलपूर्वक विजय पाने से ज्यामदा अच्छौ है। मैं यह अभिलेख भविष्यो के लिए एक संदेश के रूप में इसलिए उत्कीवर्ण कर रहा हूँ कि मेरे बाद मेरे बेटे और पोते भी युद्ध न करें। इसके बदले उन्हें यह सोचना चाहिए कि धम्मद को कैसे बढ़ाया जाए।''

हमारे अतीत, कक्षा VI के लिए इतिहास की पाठ्यपुस्तक से लिया गया अशोक के अभिलेख का एक अंश, पृ.79

शिक्षक उन्हें पहले से ही यह बता देता है कि यह गतिविधि किस बारे में है और इस सम्बन्ध में उनसे क्या अपेक्षा है। वह उन्हें प्रश्नों का एक सेट प्रदान करता है (ओझा सीमा एस.2016, पृ.59 -61)। वह छात्रों के साथ परामर्श से तैयार एक मूल्यांकन रुब्रिक भी प्रदान करता है। वह बताता है कि एक इतिहासकार जो इस या किसी अन्य अंश के बारे में अधिक जानना चाहता है, उसके बारे में अधिक से अधिक प्रश्न पूछेगा। शिक्षक उनके साथ चर्चा करता है कि स्रोत पर किये गए प्रश्न स्रोत में निहित जानकारी को समझने और उसका उपयोग करने में मदद करते हैं। इसके लिए वह एक सिक्के का उदाहरण देते हुए कहता है कि,

"हम सभी जानते हैं कि सिक्का इतिहास का एक महत्वपूर्ण स्रोत है। लेकिन तरह-तरह के सवाल जैसे कि यह किस प्रकार से बनाया गया था, यह कहां पाया गया था, यह कब जारी किया गया था, इसे कब जारी किया गया था, किसने इसे जारी किया, और इस पर कौन से प्रतीक हैं सिक्के को एक अलग ही अर्थ और संदर्भ प्रदान करते हैं और इस तरह ये इसे इतिहास का एक महत्वपूर्ण स्रोत बना देते हैं। ऐतिहासिक स्रोत और अनुसंधान को आगे बढ़ाते हुए, इसी स्रोत पर जब नए-नए प्रश्न पूछे जाते हैं, इस बात की संभावना होती है कि नए उत्तरों से सिक्का जारी किए जाने के काल के बारे में अलग-अलग निष्कर्ष हमारे सामने आ सकते हैं।"

इस तरह शिक्षक यह स्पष्ट करता है कि एक व्यावहारिक इतिहासकार की तरह जो इस तरह से स्रोतों की जांच करता है, स्कूलों में इतिहास का अध्ययन करने वाले शिक्षक और छात्र भी सभी प्रकार के स्रोतों पर सवाल उठा सकते हैं और विषय को और गहराई के साथ समझ सकते हैं।

इसके बाद शिक्षक छात्रों के समूह बनाने में छात्रों की मदद करता है। एक समूह में 4-5 छात्र- छात्राएं होते हैं। सभी को कहा जाता है कि वे दिए गए अंश को ध्यान से पढ़ें और फिर अपने समूह के सदस्यों के साथ महत्वपूर्ण शब्दों या विचारों पर चर्चा करें और आखिरकार दिए गए प्रश्नों के उत्तर लिखें। प्रत्येक समूह में एक छात्र को जवाब लिखना है और दूसरे छात्र को जवाब पढ़ना है। छात्रों को अंश पढ़ने के दौरान एकत्र किए गए सभी शब्दों या विचारों की एक सूची भी बनानी है।

निम्नलिखित प्रश्न दिए जाते हैं :

1. स्रोत की पहचान करें?
2. क्या यह एक पत्र है, एक शिलालेख, एक समाचार पत्र लेख, या एक तस्वीर?
3. इसे किसने लिखा / लिखवाया है?

क्या यह एक प्रत्यक्षदर्शी द्वारा अथवा घटना में शामिल व्यक्ति द्वारा लिखा विवरण है, या फिर यह किसी ऐसे के द्वारा लिखा गया है जिसने इस घटना के बारे में सुना है या शोध किया है ?

4. यह कब लिखा गया था?

वर्णित घटनाओं के समय या बाद में?

5. यह किसके लिए और क्यों लिखा गया था?
6. अतीत के बारे में यह अंश क्या कहता है?
7. महत्वपूर्ण शब्द क्या हैं और उनका क्या मतलब है? यह किसके बारे में है?
8. क्या इसमें जो लिखा है उस पर हम विश्वास कर सकते हैं ? क्या यह व्यक्ति वहां मौजूद था?

क्या यह विश्वसनीय है? क्या जानकारी सही है? क्या यह पक्षपातपूर्ण है? दूसरे शब्दों में यह किसका नजरिया है ?

9. उस समय का इतिहास लिखने में क्या यह अंश उपयोगी होगा?

अशोक के समय पर शोध करने वाले इतिहासकार के लिए यह शिलालेख कितना उपयोगी है?

शिक्षक को पता चलता है कि ज्यादातर छात्र पहले 2 प्रश्नों का जवाब दे देते हैं कि यह अशोक द्वारा लिखवाये गए शिलालेख से लिया गया अंश है, और इस तरह यह एक प्राथमिक स्रोत है। **(शिक्षक यहां आकलन करता है कि छात्र जो भी सीख रहे हैं उसका उपयोग करने में सक्षम हैं।)**

प्रश्न 4 के संबंध में छात्रों का कहना है कि कलिंग युद्ध के दौरान हुए नरसंहार ने अशोक पर गहरा प्रभाव डाला, वह पछतावे से भर गया। नतीजतन उसने अपनी भविष्य की पीढ़ी के साथ-साथ सामान्य लोगों को भी युद्ध से दूर रखने के लिए शिलालेख में अपने विचारों को अंकित कराने का फैसला किया।

प्रश्न संख्या 5 के लिए छात्रों के जवाब अलग-अलग होते हैं लेकिन फिर भी वे एक ही विषय के आसपास घूमते है। एक छात्र कहता है, "इससे हमें पता चलता है कि राजाओं ने युद्ध लड़े और अन्य क्षेत्रों पर अधिकार किया और यह कि युद्ध में हर कोई प्रभावित होता है।" एक और छात्र बताता है, "यह राजा के पश्चाताप के बारे में भी बताता है। अशोक ने बहुत सारा रक्तपात देखने के बाद युद्ध नहीं करने का फैसला किया"।

(शिक्षक छात्रों के विचारशील अवलोकनों से बहुत खुश है)

दो प्रश्न जो छात्रों को काफी चुनौतीपूर्ण प्रतीत होते हैं, वे हैं प्रश्न संख्या 3 (यह कब लिखा गया था? वर्णित घटनाओं के समय या बाद में?) और 7 (क्या इसमें जो लिखा है उस पर हम विश्वास कर सकते हैं ? क्या यह व्यक्ति वहां मौजूद था?)। पहले तो, छात्रों को पता ही नहीं चलता कि प्रश्न संख्या 3 के लिए वे अपनी जांच कहां से शुरू करें, इसलिए शिक्षक उनसे पूछते हैं, "क्या आपको इस अंश से कुछ पता चलता है कि कलिंग पर कब विजय प्राप्त की गई थी?" इसके लिए कुछ छात्रों ने जवाब दिया, "हां यहां बताया गया है कि अशोक ने राजा बनने के 8 साल बाद कलिंग पर विजय प्राप्त की। "शिक्षक कहता है कि अगर वह उन्हें वह तारीख बता दें जब अशोक राजा बना था तो क्या वे कलिंग युद्ध की तारीख का पता लगा पाएंगे ? कुछ छात्र 'हां' कहते हैं लेकिन उनके चेहरे से शिक्षक यह जान जाता है कि वे बहुत निश्चित नहीं हैं। तब वह एक सुराग प्रदान करता है कि 269 ईसा पूर्व में अशोक का औपचारिक राज्याभिषेक हुआ था। फिर छात्रों से पूछा जाता है: "जानकारी के आधार पर, क्या आप यह बता सकते हैं कि यह अभिलेख कब लिखा गया था?"

छात्र कुछ बता नहीं पाते। इसलिए शिक्षक उन्हें बताता है कि चूंकि तारीख ई. पू. में है, इसलिए अगर अशोक 269 ईसा पूर्व में राजा बना और राजा बनने के 8 साल बाद कलिंग पर विजय प्राप्त की, तो उन्हें इस तारीख से 8 साल घटाने होंगे और यदि वे ऐसा करते हैं तो देखते हैं कि इस शिलालेख की तारीख 261 ईसा पूर्व आती है।

प्रश्न 6 के संबंध में एक छात्र भ्रमित दिखाई देता है और कहता है कि "शिलालेख में शब्द 'धर्म' को 'धम्म' के रूप में गलत तरीके से लिखा गया है। शिक्षक तब बताते हैं कि 'धम्म' संस्कृत 'धर्म' जैसा ही है लेकिन यहां प्राकृत में लिखा गया है। वह यह भी बताती है कि अशोक के अधिकांश शिलालेख प्राकृत में हैं।

(शिक्षक छात्र के अवलोकन को देखकर खुश है। अन्य छात्रों को भी यह संकेत मिलता है कि कक्षा में न केवल 'सही उत्तर जानना' बल्कि प्रश्न पूछना या संदेह व्यक्त करना भी सीखने का एक महत्वपूर्ण पहलू है)।

प्रश्न 7 के संबंध में एक छात्र कहता है, "शिलालेख अशोक द्वारा कलिंग विजय और उसके पश्चाताप के बारे में है।" एक और छात्र कहता है कि, "अशोक स्वयं इस शिलालेख में लोगों को संबोधित कर रहा है और कलिंग के लोगों के खिलाफ हुई भयानक हिंसा पर पश्चाताप कर रहा है " लेकिन वे इसकी विश्वसनीयता, पूर्वाग्रह और दृष्टिकोण के बारे में निश्चित रूप से कुछ नहीं बता पाते हैं।

इस पर शिक्षक बताता है कि चूंकि यह अशोक का अपना आदेश है जहां वह वही कह रहा है जो उसने स्वयं अनुभव किया है यह भरोसेमंद विवरण लगता है। वह यह भी बताता है कि मौर्य शासन और शासकों का उल्लेख

बाद के साहित्यिक विवरणों जैसे पुराण, बौद्ध और जैन विवरणों आदि में मिलता है। लेकिन अन्य प्रकार के स्रोतों की तुलना में अशोक के शिलालेखों की महत्ता अधिक इसलिए है क्योंकि ये समकालीन और उत्कीर्णित हैं और अभिलेखों का तिथिक्रम निर्धारण अपेक्षाकृत विश्वसनीय है। वह विद्यार्थियों का ध्यान 'विजय' शब्द पर दिलाता है और बताता है कि अशोक निष्पक्ष प्रतीत होता है क्योंकि यहां वह युद्ध की निंदा हारने के बाद नहीं बल्कि जीत के बाद कर रहा है। उसने वास्तव में युद्ध की भयावहता महसूस की और अब वह लोगों को ऐसे युद्धों से दूर रखने के लिए राजी करने की कोशिश कर रहा है। इसी क्रम में वह धम्म के बारे में बात करता है जो देखा जाये तो सभी धर्मों में मान्य समान नैतिक सिद्धांतों के अलावा कुछ भी नहीं है। इसलिए इसे एक संतुलित और निष्पक्ष विवरण माना जा सकता है।

अधिकांश छात्र जवाब देते हैं कि इस समय के इतिहास के बारे में लिखने के लिए यह सबसे महत्वपूर्ण स्रोत होगा। छात्र समझते हैं कि भौतिक या पुरातात्विक सामग्री का तिथि निर्धारण साहित्यिक स्रोतों की तुलना में अधिक विश्वसनीयता से किया जा सकता है यही कारण है अक्सर इतिहासकारों द्वारा इनका अधिक निर्भरता के साथ उपयोग किया जाता है। **(शिक्षक हालांकि, उन्हें सावधान करता है कि किसी भी अवधि की सार्थक समझ के लिए मात्र एक प्रकार के स्रोत पर निर्भर रहना उचित नहीं है।)**

जैसे-जैसे गतिविधि समाप्त होती है, शिक्षक छात्रों को बताता है कि उन्होंने अभी जो कुछ किया है, यानि कि एक अंश को पढ़ना और व्याख्या करना-यह वैसा ही है जो इतिहासकार प्राथमिक स्रोतों के साथ करते हैं।

(यह आदान-प्रदान शिक्षक को यह आकलन करने में मदद करता है कि कैसे कुछ बच्चे रुचि, जिज्ञासा दिखा रहे हैं और खुद को आश्वस्त करने के लिए प्रश्न पूछकर जानकारी का विश्लेषण कर रहे हैं। वह यह भी देख रहा है कि कैसे कुछ छात्रों द्वारा किये गए प्रश्न पूरी कक्षा को बेहतर तरीके से सीखने में मदद कर रहे हैं। यदि चर्चा के दौरान उचित प्रश्न / टिप्पणियां नहीं होतीं, तो शिक्षक स्वयं कुछ प्रश्न उठाता है)।

जैसे-जैसे विषय पर चर्चा अंत की ओर आती है, शिक्षक पूछता है, "अब जबकि हम प्राथमिक स्रोतों के बारे में इतना जान चुके हैं तो क्या अब हम इसे पुनः अपनी भाषा में परिभाषित कर सकते हैं? इस तरह पूरी कक्षा 'प्राथमिक साक्ष्यों' की नयी परिभाषा बनाती है कि 'वे चीजें जो अतीत में किसी की मौजूदगी साबित करे और इस तरह हमें उस समय के बारे में बताये प्राथमिक साक्ष्य/ स्रोत ' है' और "स्रोत मूल रूप से अतीत में घटी घटनाओं और मानव गतिविधियों के निशान हैं। अतीत की घटनाएं अब मौजूद नहीं हैं, लेकिन कुछ समय पहले ये मौजूद थीं। उनके द्वारा छोड़े गए निशानों से हमें उन घटनाओं का पता चलता है। एक इतिहासकार घटनाओं का पुनर्निर्माण करने के लिए इन 'निशानों ' (यानी स्रोत) की सहायता लेता है "।

(शिक्षक देखता है कि छात्रों ने प्राथमिक स्रोतों की उचित समझ हासिल कर ली है, वे विभिन्न प्रकार के प्राथमिक स्रोतों की पहचान करने में सक्षम हैं, उनके उपयोग का वर्णन करते हैं और इसे अपने जीवन से जोड़ सकते हैं। इसी उदाहरण को आगे ले जाते हुए छात्रों को स्रोतों के आधार पर 'प्राचीन', 'मध्ययुगीन' और 'आधुनिक' अवधि में अंतर करने और इन कालावधियों के उदाहरण प्रदान करने के लिए कहा जा सकता है)।

इस पूरी शिक्षणशास्त्रीय प्रक्रिया के आकलन हेतु शिक्षक निम्नलिखित रुब्रिक का इस्तेमाल करता है।

मानदंड	स्तर 4	स्तर 3	स्तर 2	स्तर 1
स्रोतों की पहचान	विभिन्न प्रकार के स्रोतों की पहचान करता है और पाठ्यपुस्तक आधारित तथा स्थानीय परिवेश	विभिन्न प्रकार के स्रोतों (प्राथमिक, द्वितीयक) की पहचान करता है लेकिन इनके उदाहरण नहीं दे पाता।	विभिन्न प्रकार के स्रोतों की कुछ समझ ही प्रदर्शित करता है। जैसे अमुक पुरातात्विक स्रोत है	विभिन्न प्रकार के स्रोतों की कोई समझ नहीं दिखाता।

	जैसे हस्तलिपि, अभिलेख, धार्मिक लेख, पुरातात्त्विक खोज पर आधारित उदाहरण देता है।		अमुक लिखित स्रोत है लेकिन प्राथमिक और द्वितीयक के बीच फर्क नहीं बता पता और न ही उदाहरण दे पाता है।	
महत्वपूर्ण मुद्दों तथा मुख्य बिंदुओं की पहचान करना	प्राथमिक स्रोतों में निहित महत्वपूर्ण मुद्दों तथा मुख्य बिंदुओं को पहचानता है।	प्राथमिक स्रोतों में निहित अधिकतर महत्वपूर्ण मुद्दों तथा मुख्य बिंदुओं की पहचान कर पाता है।	प्राथमिक स्रोतों में निहित कुछ अवधारणा तथा मुद्दों को सामान्य तौर पर बता पाता है।	प्राथमिक स्रोतों में शामिल महत्वपूर्ण मुद्दों तथा मुख्य बिंदुओं को संक्षेप में लेकिन अस्पष्ट रूप से बताता है।
ऐतिहासिक सन्दर्भ का ज्ञान	स्रोत को लिखे जाने वाले या स्रोत सृजन संबंधी काल के बारे में पूर्ण ज्ञान प्रदर्शित करता है तथा स्रोत को उस विशेष ऐतिहासिक सन्दर्भ से जोड़ पाता है जिसमें उसका सृजन हुआ या वह लिखा गया।	सामान्य ऐतिहासिक ज्ञान प्रदर्शित करता है लेकिन स्रोत को विशिष्ट ऐतिहासिक सन्दर्भ से जोड़ नहीं पाता।	ऐतिहासिक सन्दर्भ का सीमित ज्ञान है।	ऐतिहासिक सन्दर्भ की जानकारी नहीं दिखा पाता है।
स्रोतों का विश्लेषण	स्रोत संबंधी गहन अध्ययन तथा व्याख्या कर पाता है, तथ्यों तथा विचारों में भेद कर पाता है, लेखक की विश्वसनीयता का पता लगाता है, लेखक तथा अन्य लोगों के विचारों की तुलना कर पाता है।	स्रोत का सही विश्लेषण कर पाता है।	स्रोत के संबंध में बहुत सीमित समझ प्रदर्शित करता है।	स्रोत से संबंधित कुछ तथ्यों को दोहराता है लेकिन किसी प्रकार का विश्लेषण तथा व्याख्या नहीं कर पाता।

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Shehnaz
shehnazakir@gmail.com

विज्ञान शिक्षण

सार

यह लेख मेरे विज्ञान शिक्षण के कक्षा 6वीं के अनुभवों पर आधारित है। जिसमें मैंने विज्ञान के संदर्भ में कुछ आसपास के अध्ययन करवाए व कुछ जिज्ञासा खोज युक्त चर्चाएं व कार्यकक्षाएं। इससे वे लोग बहुत से ऐसे प्रयास घर पर भी करने लगे। मुझे लगता है कि बहुत से तरीके हैं जिनसे शिक्षक प्रयोगशाला के अलावा भी बहुत से प्रयोग व कार्य करवा सकते हैं जिनसे बच्चों की विज्ञान में रुचि बढ़े व उसकी खासियत उनके सामने स्पष्ट उभरे।

विज्ञान शिक्षण की बात करते ही हमारे विभाग मे जो विचार आता है वह है जिज्ञासा और प्रयोग ताकि विज्ञान विषय जबबच्चों को कक्षा मे पढ़ाया जाता है तो उनके कई सवालों के जवाब उनको मिल जाते है साथ ही कई नए सवाल मन मे पैदा भी हो जाते है। कुछ जिज्ञासाएँ शांत भी हो जाती है तो कुछ नई उत्पन्न भी हो जाती है। कई प्रयोग व अवधारणाओंको समझने के लिए करते है कुछ शिक्षक की मदद से तो कुछ अपने - आप ही कर लेते हैं! इस तरह विद्यार्थियोंमे वैज्ञानिक दृष्टिकोण का विकास तो होता ही है उनके मन की कई भी दूर होती है। और काफी हद तक विद्यालयों मे विज्ञान पढ़ाने का उदेश्य भी यही है।

हमने अपने स्कूल मे ऐसा ही रुचिकर विज्ञान पढ़ा है।तब कक्षा 9 वीं - 10 वीं के लिए भी प्रयोशाला होती थी। जब हमने बी. एड (B.Ed.) किया तो जिस किसी सरकारीविद्यालय मे पढ़ाया जहां प्रयोग करवाने के लिए प्रयोगशाला से सामाग्री उपलबद्ध गई। परंतु धीरे - धीरे माध्यमिक विद्यालयों से प्रयोगशाला समाप्त हो गई। जिससे शिक्षकों के लिए प्रयोग करवाना मुश्किल हो गया! इसके कुछ वर्षो बाद फिर विज्ञान के लिए फिर दिये गए। परंतु उसमे दिये गए उपकरण व रसायनिक पदार्थअधिकांश खराब थे। एसे हालातों के कारण आजकल विज्ञान विषय में रुचि कम होती जा रही है। और सरकारी विद्यालयों में तो 5 – 10 प्रतिशत बच्चे भी उच्च माध्यमिक कक्षायों, में विज्ञान पढ़ाना नहीं चाहते। परंतु जो उन्हें 8वीं और 10वीं कक्षा तक पढ़ाया जा रहा है उससे भी तो वे कुछ सार्थक सीख सके एसे प्रयास किए जा सकते है।

क्या संभव है :- ये तो हम जानते है कि व्यवस्थाओं मे कमियाँ है।विद्यालयों मे सुविधाएं नहीं है। शिक्षको के पास समय नहीं है। फिर भी विज्ञान पढ़ने के साथ - साथ बच्चों को स्वयं करके सीखने के मौके भी दिये जा सकते है! शिक्षक स्वयं प्रयोग करके दिखाने के बजाय बच्चो को समूह मे गतिविधियां करने को दे सकते है। छोटे - छोटे प्रयोग घर पर भी करने के लिए दे सकते है।जिसे करने के बाद बच्चो ने उससे क्या सीखा वे कक्षा मे सबको बता सकते है।

मेरे अनुभव :- कक्षा 6वीं में सजीव – निर्जीव के बारे में पढ़ाते हुए मै बच्चो से लगातार बच्चो से पूछ रही थी कि वे क्या – क्या फर्क देखते है वे बता रहे थे सजीव छोटे से धीरे- धीरे बड़े होते है। तुमने बीज से पौधा बनते देखा होगा ये पूछे जाने पर बच्चे मना करेने लगे। मेरे कहने पर वे घर से मूंग और चने लाये और उनको गीली रुई मे रखकर उन्होने अकुरित बीच से छोटा पौधा निकलते देखा। यह उनके लिए नया अनुभव था।

कक्षा 7वीं में बल के बारे में बात करते हुए मैंनेकंचे खेलने कि बात पूछिए जिस पर लड़कियों का कहना था कि ये तो लड़को का खेल है। मैंने उनसे कंचे घर पर मंगवा लिए और सभी ने चिकने व खुरदरे फर्श पर कंचे खेल कर ये समझ लिया कि चिकने फर्श पर घर्षणबल खुरदुरे फर्श

से कम होता है। इसके लिए किसी प्रयोगशाला कि मुझे जरूरत नहीं पड़ी।

ऐसा ही कक्षा 8वीं मे विधुत कि चालक और अचालक वस्तुयों कि चर्चा करने पर वे घर से सेल, तार व छोटा बल्ब ले आए उन्होने मिलकर परिपथ बनाया और सभी ने समूह बनाकर प्रयोग करके चालक और अचालक वस्तुयों कि सूची बना दी। इस तरह प्रयोग करने के बाद मैंने देखा कि कई चीज़ें बच्चे घर से लाने लगे उनके प्रयोग करने मे रुचि बढ़ने लगी और कई छोटे प्रयोग वे घर पर भी करने लगे। इससे उनको दैनिक जीवन के विज्ञान को समझने मे तो मदद मिलती ही है। उनकी अवलोकन क्षमता और आस-पास के परिवेश को जानने कि जिज्ञासा भी बढ़ती है। मैंने यह भी पाया कि बच्चों को अपने परिवेश में उपलबद्ध संसाधनो के बारे मे भी विशेष जानकारी नहीं होती है।

मैंने उन्हें छोटे-छोटे सर्वे भी करने को दिये जिससे वे वैज्ञानिकविधि से कार्य करना भी सीखें। उन्होने अपने मे ऐसे स्थानो कि सूची बनाई जहां पानी मे गंदगी डाली जा रही है। वे ऐसे तालाब भी जानते है जहां वे उगाते है उनमे प्रदूषण से क्या फर्क पढ़ रहा है वे इसके बारे में जान सके। उनके यहाँ किसान कौन-कौन सी रसायनिक खाद डालते है, आस-पास रहने वाले लोगों में कितनों को ख़ासी और गले सम्बन्धी सांस के रोग है, किस ईंधन का प्रयोग उनके मोहल्ले में सबसे ज्यादा होता है और क्यों। इस प्रकार सर्वे से उन्होने सूची बनाकर विश्लेषण करना सीखा! इससे वे अपने आस-पड़ोस को वैज्ञानिक नज़रिये से देखना भी सीखें।

विज्ञान में कुछ अवधारणाएं ऐसी भी है जिन पर चर्चा करने जरूरी है जेसे:- प्राकृतिक परिघटनाएँ, भूकंप, ग्रहण आदि के बारे में आज भी अंधविश्वास प्रचलित है। शिक्षक बच्चों के साथ चर्चा करके भी उनकी दूर कर सकते है।बच्चों को वैज्ञानिक कारण बताएं तो वे ये समझ सके कि ग्रहण के समय कोई राक्षस चंद्रमा को नहीं खाता और न ही नाम देवता के फन हिलाने से भूकंप आते है। इन बातों की और ध्यान दिलाने के लिए उनसे उनके विचार जानना आवश्यक होता है! ताकि उन्हे भ्रांतियों से बाहर निकाला जा सके।

इस प्रकार के कामों के बाद मुझे लगा कि शिक्षक के पास बिना प्रयोगशाला के भी बहुत सारे ऐसे प्रयोग और तरीके है जिसको करवाने से बच्चों की विज्ञान में रुचि बढ़ा सकते हैं और ये भी समझा सकते है कि विज्ञान अन्य विषयों से केसे अलग है।

Jay Shankar Chaubey
jay.chaubey@azimpremjifoundation.org

प्राथमिक कक्षाओं में लिखना सिखाना

सार

बोलने की तरह लिखना भी अभिव्यक्ति का एक माध्यम है। फिर भी बोलने की अपेक्षा लिखना अधिक कठिन काम है। लिखने की शुरूआती/यांत्रिक योग्यता प्राप्त कर लेने के बाद, लिखने वाले को यह सोचना पड़ता है कि हम क्या कहना चाहते हैं और कैसे प्रभावी ढंग से कहा जा सकता है। यानी अपने मन से कुछ लिखना, अपनी बातो को अर्थपूर्ण बनाने, विचारों को क्रमबद्ध और सुसंगत रूप से लिखने के लिये काफी ध्यान देने कि जरुरत होती है। लिखने की यही प्रक्रिया जीवन पर्यंत चलती रहती है जिस पर हम शुरू से ही कम ध्यान देते हैं और लिखने के यांत्रिक पक्ष पर ही सारी उर्जा लगा देते हैं।

प्राथमिक कक्षाओं में बच्चों को लिखना सिखाने के परिदृश्य पर ग़ौर करें। स्कूल की प्रार्थना के बाद सभी बच्चे अपनी-अपनी कक्षा में बैठते हैं। बच्चों की उपस्थिति ली जाती है। स्कूल में एक शिक्षक और एक शिक्षिका हैं तथा एक अर्द्धशिक्षक भी हैं जिन्हें शिक्षा मित्र भी कहा जाता है। सभी पढ़ाने के पाबन्द हैं। बच्चों को कुछ न कुछ लिखने का काम ज़रुर देते हैं। कक्षा एक-दो के बच्चे एक साथ, कक्षा तीन-चार के बच्चे एक साथ और कक्षा पाँच के बच्चे बरामदे में बैठे हुए हैं। कक्षा एक-दो के लिये ब्लैक बोर्ड के आधे भाग में वर्णमाला आधे भाग में अमात्रिक शब्द लिख दिए गए हैं। बच्चे इन्हें अपनी कॉपी में उतार रहे हैं। तीसरी कक्षा के बच्चे हिंदी की किताब से सुलेख लिख रहे हैं। चौथी कक्षा के बच्चे पाठ के अभ्यास कार्य पूरा कर रहे हैं। अभ्यास कार्य में रिक्त स्थानों की पूर्ति, प्रश्नोत्तर, मिलान करना आदि अभ्यास हैं। पांचवी के बच्चे बरामदे में बैठे हैं। यहाँ प्रधानाध्यापक जी अपनी विभागीय काम करने के बाद एक पेज का श्रुत लेख स्पष्ट स्वरों में बोलते हैं तथा बाद में इसकी जाँच करते हैं। उसमें वर्तनी सुधार के शब्दों पर लाल घेरा बना कर वहाँ शुद्ध शब्द भी लिख देते हैं। जिसे बच्चों को अपनी कापी में सुधार कर पाँच-पाँच बार लिखने हैं। कुछ बच्चों की श्रुतलेख के समय सुन्दर लेख नहीं बन पाया था तो उन्हें अखबार से पैराग्राफ चुन कर लिखने का काम दिया गया। इधर दूसरी कक्षा के बच्चे बोर्ड पर लिखे सभी शब्द उतार चुके थे। प्राथमिक कक्षाओं में लिखना सिखाने के ये नियमित क्रियाकलाप लगभग सभी स्कूलों में देखने को मिल जाते हैं।

प्राथमिक कक्षाओं में बच्चों को लिखना सिखाने के इस परिदृश्य को देखकर मन में सवाल यह उभरता है कि बच्चों को लिखना सिखाने का क्या मतलब है? क्या केवल ब्लैकबोर्ड से शब्द उतारना, श्रुतलेख लिखना, सुलेख लिखना, प्रश्नोत्तर लिखना, याद किए हुए निबंध या पत्र लिखने के अभ्यास आदि लिखने की श्रेणी में आते हैं? या लिखने को हम अर्थ निर्माण के रूप में देखते हैं। अपनी अभिव्यक्ति के रूप में देखते हैं। आगे यह भी सवाल उभरता है किइस तरह लिखने का अभ्यास करने के उपरांत क्या बच्चे लिखना सीख जाते हैं? इसका उत्तर शायद 'नहीं' में है। हलांकि अभ्यासकार्य करना भी एक काम है। बच्चों को विविध अभ्यास के मौके मिलने चाहिए। जिसमें बच्चे कुछ सोच कर लिख रहें हों, न कि लिखे हुए को उतार रहे हों। इसी तरह देखे तो आगे की कक्षाओं में बच्चे केवल रटे-रटाए निबंध लिख पाते हैं। यदि उनसे यह कहा जाय कि अपने मन से कुछ लिखकर दिखाएं तो उन्हें काफी दिक्कतें आती हैं। लिखने के उक्त क्रियाकलापों से यह भी समझ में आता है कि प्राथमिक कक्षाओं में बच्चों को अपने अनुभवों को व्यक्त करने के मौके प्रदान नहीं किए जाते।

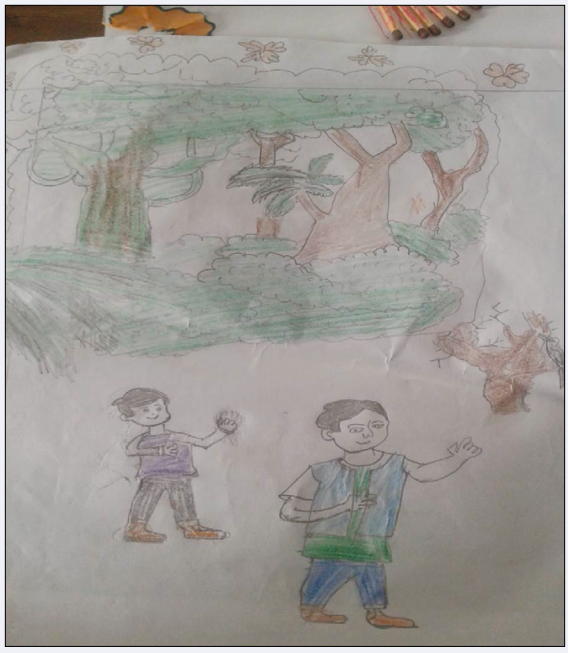
वहाँ एक शिक्षक को यह स्पष्ट नहीं होता है कि वे बच्चों के लिखने में किन बातों पर गौर करें, किन चीजों

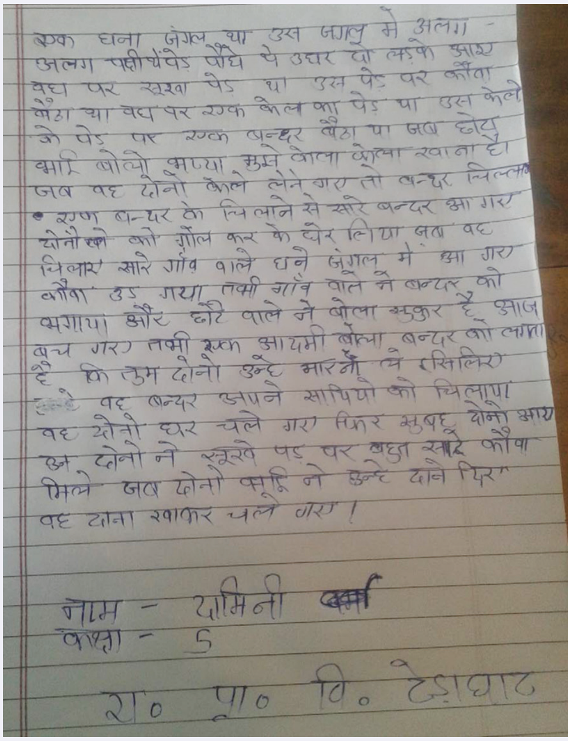
की जाँच करें। अक्सर जाँच का यह काम बच्चों के लेखन में वर्तनी सुधार या व्याकरण सुधार का काम बन जाता है जबकि जरुरी यह है कि बच्चों के लेखन में उनकी कल्पनाशीलता, उनकी स्वाभाविक अभिव्यक्ति को समझने का प्रयास किया जाय तथा इसके नियमित रूप से मौके उन्हें दिए जाएं।

सर्वप्रथम हमें यह स्पष्ट होना चाहिए कि बच्चों को लिखना सिखाने का क्या उद्देश्य है? हम उन्हें लिखना क्यों सिखा रहे हैं? आगे यह भी सवाल उभरता है कि पांचवीं कक्षा उत्तीर्ण करने के उपरांत आगे की कक्षाओं में बच्चे रटे-रटाए निबन्धों के अलावा अपने मन से कुछ क्यों नहीं लिख पाते? यह भी महसूस होता है कि हमारी प्राथमिक कक्षाओं में बच्चों को लिखना सिखाने का उद्देश्य बहुत हीं संकुचित अर्थों में लिया जाता है।बच्चे अपनी शुरूआती कक्षाओं में शब्दों – वाक्यों को उतारने का ही ज्यादा काम करते हैं जबकि लिखना सिखाने के वर्तमान सन्दर्भ में लिखना एक अर्थ निर्माण की प्रक्रिया है। दूसरी बात लिखने का मतलब पढ़ने की भांति किसी सन्दर्भ में अर्थपूर्ण लिखने से है। यह एक प्रक्रिया है न कि उत्पाद।

जब बच्चे अपनी कॉपी पर गोजा-गाजी करते हैं, लाइनें खींचते हैं, चित्र बनाते हैं तो यह एक तरह से लिखने की शुरुआत है। इस दौरान बच्चों के आँख और हाथ का सामंजस्य भी दिन प्रतिदिन सुदृढ़ होता है। अतः शुरूआती दिनों में केवल अक्षर आकृतियों को सुन्दर ढंग से उकेरने पर जोर देने के साथ ही उक्त तरह के अन्य अभ्यास भी करवाए जा सकते हैं जो कि लिखना सीखने की शुरूआती प्रक्रिया का अंग हैं।

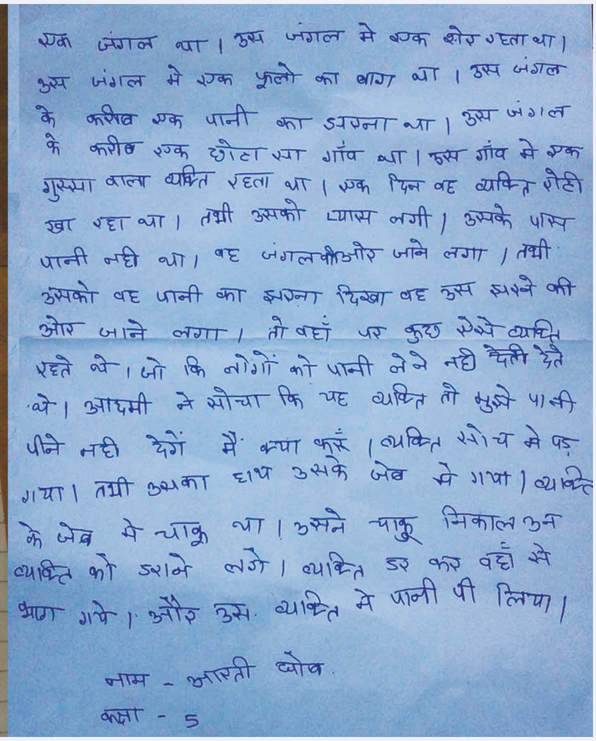
लिखने के द्वारा हम अपने विचारों, अनुभवों को अभिव्यक्त करते हैं। इसके मौके भी बच्चों को कक्षाओं मे देने चाहिए। स्कूल भ्रमण के दौरान कभी–कभी यह भी देखने को मिलता है कि कुछ शिक्षक बच्चों को अपने मन से लिखने का काम देते हैं जिसमें वे अपने अनुभवों या आस-पास की घटनाओं पर कुछ लिखते हैं। यहाँ एक स्कूल का उदाहरण साझा करना चाहेंगे। इस स्कूल में कक्षा पांच के कुल 15 बच्चे एक साथ बैठे हुए हैं। शिक्षिका ने एकलव्य प्रकाशन की एक किताब 'छुटकी उल्ली' हाथ में लेकर बच्चों को दिखाया। किताब का मुखपृष्ठ दिखाकर बातचीत शुरू की। चित्र में क्या-क्या बना हैं? चित्र दिन के हैं कि रात के? कहानी किसके बारे में होगी? आदि सहज सवालों के जरिये बच्चों से बात करना शुरू की। इसके बाद किताब का एक-एक पेज दिखाते हुए, इस पर बातचीत करते हुए कहानी ख़त्म हुई। कहानी के ख़त्म होने बाद भी शिक्षिका नें बच्चों से बातचीत की। इसके बाद शिक्षिका ने कहा कि इसी शीर्षक (कहानी का नाम) के आधार पर अपने मन से कहानी लिखने की कोशिश करिये। इस पर दो-तीन बच्चों ने कहा कि मैम किसी चित्र को देखकर लिखना चाह रहे हैं। मैम ने इसी कक्षा के अशोक विश्वास द्वारा बनाए चित्र को सभी बच्चों को दिखाया और चित्र के आधार पर अपने मन से लिखने का काम दिया। उदाहरण के रूप में चित्र व कहानी को देखें।





एक घना जंगल था उस जगल मे अलग-
अलग पक्षी पेड़ पौधे थे उधर दो लड़के आए
वहा पर सूखा पेड़ था उस पेड़ पर कौवा
बैठा था वहा पर एक केला का पेड़ था उस केले
के पेड़ पर एक बन्दर बैठा था जब छोटू
भाई बोले भैया मुझे केला केला खाना है
जब वह दोनो केले लेने गए तो बन्दर चिल्लाया
एक बन्दर के चिलाने से सारे बन्दर आ गए
दोनो को गोल कर के घेर लिया जब वह
चिलाए सारे गाँव वाले घने जंगल मे आ गए
कौवा उड़ गया तभी गाँव वाले ने बन्दर को
भगाया और छोटे वाले ने बोला शुक्र है आज
बच गए तभी एक आदमी बोला बन्दर को लगता
है कि तुम दोनो उन्हे मारने थे इसलिए
वह बन्दर अपने साथियो को चिलाया
वह दोनो घर चले गए फिर सुबह दोनो आए
उन दोनो ने सूखे पड़ पर बहुत सारे कौवा
मिले जब दोनो भाई ने उन्हे दाने दिए
वह दाना खाकर चले गए।

नाम - दामिनी वर्मा
कक्षा - 5
रा० प्रा० वि० देड़ाघाट



एक जंगल था। उस जंगल मे एक शेर रहता था।
उस जंगल मे एक फूलो का बाग था। उस जंगल
के करीब एक पानी का झरना था। उस जंगल
के करीब एक छोटा सा गाँव था। इस गाँव मे एक
गुस्सा वाला व्यक्ति रहता था। एक दिन वह व्यक्ति रोटी
खा रहा था। तभी उसको प्यास लगी। उसके पास
पानी नही था। वह जंगल की ओर जाने लगा। तभी
उसको वह पानी का झरना दिखा वह उस झरने की
ओर जाने लगा। तो वहाँ पर कुछ ऐसे व्यक्ति
रहते थे। जो कि लोगों को पानी लेने नही देते
थे। आदमी ने सोचा कि यह व्यक्ति तो मुझे पानी
पीने नही देगें मैं क्या करूँ। व्यक्ति सोच मे पड़
गया। तभी उसका हाथ उसके जेब मे गया। व्यक्ति
के जेब मे चाकू था। उसने चाकू निकाल उन
व्यक्ति को डराने लगे। व्यक्ति डर कर वहाँ से
भाग गये। और उस व्यक्ति ने पानी पी लिया।

नाम - आरती घोष
कक्षा - 5

कक्षा में बच्चों को लिखने के मौके देने के लिए कक्षा में बच्चों के स्तर के अनुरूप विभिन्न प्रकार की गतिविधियां करवाई जा सकती हैं जैसे कि पढ़े हुए शब्दों/नामों को लिख सकना, सुने हुए प्रश्नों का एक-दो वाक्यों में उत्तर लिख सकना, क्यों, कब, कैसे वाले प्रश्नों के उत्तर पूरे वाक्यों में लिख सकना, चित्र देख कर लिखना, अपने घर या परिवेश के अनुभव लिखना, डायरी लिखना, सुनी हुई कहानी को अपने शब्दों में लिखना, अधूरी कहानी को पूरा करना आदि अभ्यास करवाए जा सकते हैं।इस प्रक्रिया में शिक्षक को यह ध्यान रखना चाहिए कि बच्चों के लेखन में उनकी कल्पनाशीलता व स्वाभाविक सोच को देखने का प्रयास किया जाए न कि केवल वर्तनी व व्याकरण को देखने का।

बच्चों को इस तरह नियमित रूप से लिखने के मौके देने से उनकी स्वाभाविक प्रवृत्ति का विकास होगा और हम सही मायने में बच्चों को लिखना सिखाने का काम कर रहे होंगे। इन बातों को ध्यान में रख कर यदि कक्षा में लिखना सिखाने का काम हो, तब शायद बच्चे रटे-रटाए निबंध से उबरकर अपने मन से लिखने की ओर अभिप्रेरित हो पाएंगे।

Preeti Vivek Mishra
preetimishraa@yahoo.com

Are Teacher Ethics Really Complicated? Attempting an Uncomplicated Appraisal...

Abstract

The paper engages with the issue of teacher ethics while adopting an experiential-investigative tone as a practicing teacher-educator. It draws upon the existing literature to establish the near ubiquity of positing teaching as an ethical enterprise. However by drawing upon, as an illustrative case in point, the author's recent intellectual run-ins with a promising and critical B.Ed. student, the author attempts to highlight how this ubiquity gets undermined, restricted and challenged in the wake of inter alia institutional collegiality. The paper raises questions on the ethicality of attempting a balancing act among the established taxonomies of ethics and whether a vision of uncompromising ethics in teaching qualify as utopia or are par for course.

Introduction

Teacher Educators are in the same moment being; and training teachers. Given the ubiquity of discussions on ethics and moral matters in teaching (Bullough Jr., 2011), this duality of being in teacher educators necessitates a serious consideration of teacher ethics in their roles .

The belief that teaching is a moral and ethical enterprise is pervasive in academic discourse and discussions on teacher ethics (Buzzelli and Johnston, 2001; Elbaz,1992). This pervasiveness is highlighted by Bullough Jr. (2011) in a systematic review of research articles on this theme. In a consideration of 22 articles published on the theme 'ethics and moral matters in teaching and teacher education', in the influential journal Teaching and Teacher Education, Bullough Jr. rarely finds a position where ethics are not seen as integral and indispensible to teaching.

I, as a mid-career academic and a teacher educator too am disposed to considering ethics an integral part of what we do as teachers (and teacher educators). Yet, as I recently realized, an ethical disposition or an acknowledgement of teaching as a moral enterprise alone cannot imply ethical conduct; not in least for the lack of a...well, disposition, but simply because ethical conduct emerges from "complex and ambiguous moral contexts in which decisions are rarely easy or straightforward" (Elbaz, 1992, p.882).

It is this precise complexity that dawned upon me as I was at the receiving end of an unrelenting question from a bright and critical pre-service teacher education student last month. For convenience, I will hereafter refer to this student as 'NT' (pun intended).

The Context

To share the context first, I teach in a Department of Teacher Education. My average day is littered with invigorating interactions with creative young adults pursuing a degree in initial teacher

education geared towards middle, secondary and senior secondary classes in schools. We question everything from established ontological and epistemological paradigms, their respective reflections in sundry thinkers and theorists, to erstwhile and current educational policies, frameworks and practices, discourses and diktats.

To me, we seemed to be doing enough questioning as teachers: current and prospective. However a question by NT highlighted that I had failed to adequately question myself as an ethical teacher.

NT is enrolled with me in a class on pedagogy of Psychology. She holds a Master's degree in Psychology and is training to teach psychology in senior classes in K-12 schools. As part of the initial teacher training program she has to study a foundational course in Human Development, Diversity and Learning. Given her previous qualifications this course becomes too unchallenging for her as it is. Albeit it is not the repetitiveness of content which fuels her anger and disenchantment; rather by her own admission and acknowledgement it is the insipid, insouciant and passionless transaction of the course by her assigned course tutor which frustrates her.

NT cited this colleague as an exemplar of an unethical teacher during a discussion in my class on 'the ethical teacher'. She acknowledged that she could share this case with me as she felt I could be 'trusted'. Whereas, I saw my trustworthiness as a mark of me doing something right throughout the year as a teacher-pedagogue, it soon happened that her outburst turned towards me. She accused me of being 'not entirely ethical' because I remained inert despite knowing the frivolous treatment meted out to both the content being discussed and the students in the room next door. It dawned on me that in the same moment, I was being trusted and being scorned at; I was trusted as a teacher, and was scorned at for being not entirely ethical about not pursuing the matter of quality in the adjoining classroom any further. In that moment, I was both right and wrong; I was in the same moment ethical and 'not entirely ethical'!

In the discussion that followed, we steered towards the need for students' solidarity to ensure teacher accountability and to ensure that Higher Education remained a space for dissent and disparate voices. Whereas, NT subsequently concluded that it was indeed up to herself and her peers to redress the situation in a democratic and civilised fashion and I could hardly be called unethical, my reflections since then have been dominated by occasions when I have fallen short of my ordained duty as a teacher, teacher educator and a HE academic. While, I have always thought of myself as an ethical teacher-academic, NT's question has led me to another question.

Teacher Ethics: Do they have to be complicated?

I have been questioning the relevance of social conformity norms defined as 'norms prescribing what is important and suitable within the work context including loyalty to one's colleague' especially when the work context is education (Colnerud 1997, p.630). In other words, I am questioning whether collegial loyalty as an ethic has enough weight at all to pose an ethical dilemma for a teacher endeavouring to educate ? to educere? Also, should it have enough weight ?

This specific question to me is a mere manifestation of a graver discomfiture. Scholars have attempted to provide various taxonomies, frames of reference and categories of ethics and ethical decisions (Colneurd, 1997;

Husu and Tirri, 2003; Bullough, 2011). The rationale for these is universally found in the assumption that ethics are embedded in context, in identities and so on.

Whereas, I do cognitively understand these epistemic framings of ethics, as a teacher-educator trying hard not to be 'not entirely ethical', I see the limitations of the ensuing demarcations of ethics. To illustrate, the demarcation that stared me in face, as NT challenged my sense and construction of ethics, was the dichotomy of personal and professional ethics, or ethics of teacher as an individual on one hand and the institutional ethics that bind her on the other.

I have spent the last fortnight asking whether the boundaries and extent of how much we as teachers, whether in schools or in universities, really care for our roles, responsibilities and students has been carefully and strategically curated to appease too many people, and follow too many institutional-structural protocols at the same time? I am questioning whether we, as teachers can really ever be in conflict at the most fundamental level ? Can, for instance, we be content with being 'punctual' or 'dedicated' or 'accessible' professors who strive to practice utmost integrity in their respective classes? Importantly, will these suffice when we are trustingly approached with instances of none of this happening in the next door class of a peer who advertently or inadvertently fails at being any of these?

Or for instance, am I ethical in favourably discussing the role of teachers as agents of social change if in my own conduct, especially as a teacher educator, I feign inability or act oblivious of the immediate need to bring about change in the work ethics and work culture of the institute that I am a part of? Am I ethical, if I voluntarily trade idealism for pragmatism?

I submit that I am not ! My arguments for this position emanate from the typicality of my location as a teacher, and a teacher educator and my epistemological-ontological leanings towards teaching being more, much more than mere transmission of content.

At the outset, I argue that firstly all teachers are inevitably educators; they do far more than teach skills, concepts and content. Any synonymization of mere teaching (as in most formal educational contexts like schools) with education is unfortunate, and should be avoided . As a fellow colleague once remarked, "…even the most ineffective teacher educator educates (by inadvertent modelling) teacher trainees on what not to do as a teacher. There is thus a need to see the inextricability of educating from teaching. The two ought not be seen as ideationally disjunct, disparate or dichotomous (Mishra, 2018).

The above role definition of *all* teachers as educators mandates that ethics are understood only in reference to teachers' responsibility towards drawing out the best in her students at all times. By corollary, ethics in teaching (and in teacher education) also require us to work to challenge mindsets, people and structures which jeopardise this pursuit. Seen in this light, the taxonomies, categories and classifications become redundant.

Epilogue

I realize the risk of an ascription of intellectual naïveté in proposing a seemingly idealist-utopian take on ethics. Whereas a couple of well-intentioned colleagues have already been baffled by the uncomplicated position I have just adopted, my subsequent discussion with NT and other students have been overwhelmingly reinforcing of my position. Interestingly, in the

mixed reception of my position on ethics in teaching and teacher education, I do once again see the earlier discussed tug of war being played out between the *educand* and the institution. This time however, the realization that there is no 'ethics basket' to choose from, I have, I believe ended up choosing my location, indeed, ethically.

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Vikash Kumar Singh
vikashkmchs@gmail.com

Some Aspects of Debates on Curriculum in 19th century South Africa and India

Abstract

This paper examines within a comparative manner of four aspects of curriculum in colonial South Africa and India. These are the space of religious versus secular; vocational studies; segregated versus common curriculum; and gender aspects of education. The findings of the study showed that notwithstanding the presence of the same British rule in both countries, differences were present, which were largely caused by the differential social conditions. At the same time, it was not a picture of complete difference, because on certain issues, curriculum in both countries exhibited similar orientation.

Curricular knowledge had a very fractured and paradoxical character and this character had developed under very asymmetrical power relationship between the colonial state, the Christian missionaries and the indigenous and western intelligentsia. It was shaped by the reluctant attitude of colonial state to disseminate liberal, secular, rational value of enlightenment. On the other hand it was also shaped by intelligentsia both indigenous and western and the Christian missionaries who had their own agenda in the production and re-production of this curricular knowledge. Colonial curricular knowledge also portrayed the influence of religious revivalism of late 19th century.

Introduction

As we know that both South Africa and India were British colonies. South Africa was a settler colony where white settlers formed a dominant class over indigenous population. In India, the dominant class comprised of a small number of White administrators and a larger number of upper caste natives. 19th century was transition period from indigenous knowledge and curriculum to colonial curriculum in both countries. Accordingly, in both countries, the nature and objectives of curriculum also changed. Both adopted new curriculum to produce that knowledge which helped to maintain supremacy of European civilization. This hegemonic colonial knowledge and curriculum helped to reproduce, contributed and benefited the capitalist mode of production and dominant class interests of society in both countries. Despite these broad similarities, the nature and the process of curriculum formation in South Africa and India was diverse and very complicated because both countries have regional diversities, linguistic differences; ethnic and racial pluralities and had distinct histories of state formation. Different agencies like colonial officials, Christian missionaries, nationalist leaders, princely rulers played significant role in the development of the colonial curriculum.

Religious vs. secular debate of curriculum

If we talk about the Religious versus Secular debate in curriculum, we found that it was more intensively fought in colonial India than colonial South Africa. One probable reason was that India had presence of strong religious communities. Many strong religions like Islam, Hinduism and Buddhism were present in India, making Christian monopoly difficult (Carnoy, 1974, p.81). However, in South Africa, Christian missionaries enjoyed almost a monopoly over curriculum. Curriculum of early 19th century was based on Christian religious doctrine and they used it to Christianize indigenous population. The content of education was derived from the Bible and the Christian texts. The primary aim of learning was to be able to read the Bible. The only secular subject at that time was a little simple arithmetic. The few who desired and afford secondary education for their children had to send their children overseas. Bible history, psalm singing, simple arithmetic were the part of curriculum till the mid-19th century. However the development of economy and the discovery of diamond and gold mines during 1860s changed the nature and objective of curriculum. During these decades major changes in curriculum occurred and interference of state increased in curriculum formation. New modern subjects drawing, needlework, woodwork, and the study of nature decreased influence of religious curriculum (Pells, 1954, p.13).

Unlike South Africa different religious groups in India kept a close eye on how curriculum characterized their religious beliefs. Whenever religious identity clashes in these religious groups, they looked forward towards the colonial state for resolution of these contest. Many time these religious and orthodox groups played an important role in the production and re-production of colonial curriculum and knowledge. However till 1813, Christian missionaries were not permitted to work and interfere in educational matters of India because Company had a fear of religious clashes between missionaries and other Indian religious groups. The Company policy in early period was non-interference in Indian education system but favoring traditional oriental learning in Sanskrit and Arabic (Naik and Nurullah, 1974,p. 6-20). Most of the educational expenditure of company was spent on maintenance of indigenous classical learning institutions. Curriculum and knowledge in this period was based on traditional ideas and culture (Naik and Nurullah, 1974,p. 6-20).

During the 1830s utilitarian ideas were growing in Britain and this idea helped to strengthen the Anglicist policies in India. Alaxender Duff, Thomas Macaullay, Buchanan, Travelyan were great propagator of missionaries and western education in India. The Anglicists believed that teaching should be based on a curriculum of western knowledge. Furthermore, the language of instruction ought to be English. Indigenous knowledge was seen as having been surpassed by western knowledge. Teaching an indigenous curriculum could only produce irrational and weak individuals (Macaulay, 1835, p.110-111). As they saw it, the task of education was not simply to produce literate individuals. The idea was to transform them. But here conditions were not favourable for missionaries like South Africa to introduce religious curriculum and knowledge directly to schools because the presence of strong religious communities made Colonial State difficult to direct support Christian monopoly in India.

Government Schools were hurdle in the expansion of Mission Schools because they were secular hence were more popular in Indian people than the Mission Schools those main objective was proselytization (Naik and Nurullah, 1974, p.120-121). In order to deal with such a complicated situation, under the pressure of Christian' Missionaries, Colonial State used Public/State fund as a legal way-out in the form of Grants-in-Aid system to support their enterprise.

But in the 19th century Britain the secular versus religious orientation of education was decisively settled in favour of secular education. However even in Britain during the 19th century we see that question regarding the orientation of knowledge was not completely resolved. Some sections called for it to be based on the Christian ideals while some supported secular education. That education should be secular was in itself a contentious issue in 19th century England. Implementing the colonial education was an experiment and the colonial state was not perfect in doing so. Therefore occasionally curriculum knowledge in colonial South Africa and India contain certain modern, progressive values and at the same time it was also a vehicle for the propagation of retrogressive, orthodox and divisive ideas.

Traditional vs. vocational curriculum

The second part of my paper is about vocational curriculum. We see that Mid-19th century was period of industrialization and emergence of new capitalist market in both colonial countries. 1850s and 1860s was the period of discovery of gold and diamond mines in South Africa and consequently new capital and industrial market developed in South Africa (Pells, 1938, p.44). Similarly in India, it was a period of rapid Westernization of the educational system. Therefore demand of new technical and vocational curriculum increased. New technical and agricultural colleges and institutes were opened in this period. However the growth of technical and agricultural institutions in South Africa was faster than in India. This was also the period of the reduction of importance of purely religious education. Therefore, alongside with a liberal education, new vocational subjects came into existence.

In South Africa, Vocational and agricultural education was used as a tool for making the indigenous population a suitable workforce for skilled plantation and mining work. As we know that South Africa was a settler colony and most of the land was under the control of white settlers therefore they had need of cheap and skill labor therefore they opened many agricultural institutions to provide the Africans with skill for manual labour. Sir George Grey, governor of the Cape in 1855 was the main propagator of Anglicist policy among the Africans and he said that, 'we should try to make them (African) a part of ourselves - with a common faith and common interests, useful servants, consumers of our goods, contributors to our revenue. Therefore, I suppose that we make unremitting efforts to raise the natives in Christianity and civilization, by establishing among them missions connected with industrial schools (Jonsen, 1990, p.195-206).'

The founder of agricultural training in South Africa was superintendent general of orange free state Dr. Viljoen, who was inspired by the first hand study of education in Denmark and inherently convinced of the vital necessity for giving the rural child an education which would enable him to make the most of his environment. He set about persuading the country to

make agricultural science an integral part of the curriculum. Apart from mining, which employs only a very small proportion of white population, the chief industry in South Africa was, and remained for long, pastoral and agricultural farming. So agriculture was introduced as a subject into both the junior certificate and the senior certificate syllabus of the Cape department (Pells, 1954, p.80). Study of biological science, domestic science was also developed for girls in late 19th century.

Similarly the vocational education in India also began in the mid-19th century and the main objective to introduce vocational and professional education was to provide training to Indians for government service. Firstly it was the Christian missionaries who introduced vocational curriculum in India to the Indian converted Christians. They started vocational schools to secure employment under government for the converts in order to give them a living and a status in society (Naik and Nurullah, 1974, p.39). Parinitha Shetty shows how Basel Mission in 1850 established industrial institutions in Mangalore for prepare them for better government jobs for the improvement of the social, cultural and economic condition of the converted people. She emphasized that for the first time 'Shudra children' and girls had access to some kind of social and professional mobility made possible through education, which had earlier been denied to them (Shetty, 2008, p.509-551).

James Thomason, who was the lieutenant governor of the north-western provinces, established a new curriculum of *civil engineering* in November 1847. This civil engineering college of Roorkee with curriculum of civil engineering offered instruction to Europeans, Eurasians, and Indians, with view to their future employment in the public works of the country (Ghosh, 2015, p.88). With the coming of railways, electric telegraph, and construction of roads and irrigations projects in this period the demand of civil engineering and other technical courses increased.

However the vocational and technical education was a very costly affair and no tangible progress was possible unless government took a bold stand and accepted all the financial and administrative liabilities involved in the proposal. The British Govt. in India was not prepared to do so and hence the cause of mass and vocational education suffered considerably. According to Deva Eswara Reddy in the early period, the East India Company's main interest was to obtain necessary raw materials, such as cotton and jute, for manufacturing finished goods in Britain and other commodities, such as tobacco, sugar, indigo, and opium, for trade. Even though the Indian economy to a great extent, depended on agriculture during that period, vocational education and training suffered a great setback and there was a lack of emphasis on agricultural education,. In 1901, only five institutions were imparting theoretical and practical instruction in agriculture (Reddy, 2009, p.319-333).

Since South Africa was a settler country and most of the land in South Africa was under the control of white settlers therefore they needed cheap and skilled labour consequently the colonisers opened many agricultural institutes and also introduced agricultural curriculum at the elementary and secondary level in the school of the native children. Vocational and agricultural education in South Africa was used as a tool of suppression and making people suitable for skilled agricultural work but in India vocational or technical

education was generally dominated by upper caste and class people.

Segregation of curriculum

Third part of my paper is about the Segregation of curriculum on the basis of race, caste, class and gender. It remained a major curriculum issue in both colonial countries. Colonial curriculum helped to produce a type of knowledge which aided in maintaining the existing economic, political, cultural, and social dominance of one group over the other. There was dominance of Indian elites, Brahmins, European settlers in the creation of knowledge in colonial India and South Africa and the orthodox male intelligentsia shaped the curriculum of women education. However we can't deny the fact that colonial education in India helped the tribal people, Dalits and women to develop their consciousness for their right, freedom and justice.

In the early period of colonial rule in South Africa, there was not any officially segregated education/ curriculum for natives and white settlers. Many missionary schools in South Africa were open to children of all races. However it does not mean that there were equal rights and equal opportunities for all children. From the beginning of colonial rule white settlers had tended to send their children to Afrikaans-speaking and English school respectively to maintain their identity. But some lower class or poor white people's children and coloured and African children were attending same mission school where they were taught the same curriculum by the same teacher in the same classroom.

But after mid-19th century white settlers and colonial officials started demanding separate education system on the basis of colour. This racial segregation and different curriculum for the Africans and Europeans did not happen in one day. It began slowly, manifesting itself with the white settler's treatment of the native population (Dube, 1985 p.84-100). According Ernest F. Dube, white conservatives feared that integration with the African people would threaten white supremacy (Dube, 1985 p.84-100). They had feared that if Africans would be given the best educational opportunities they would compete with white economically and politically.

To achieve their goal they introduced different curriculum for native children that was mainly based on manual work to prepare them to work as cheap labour for mining and agricultural operations and the colonial masters could control them. They included handicrafts and agriculture in the primary curriculum because the Native child was destined either for an agricultural future or for a future involving Basket Work, Mat Weaving or Clay Modeling (Poel, 1935, p.135-149). In 1889, Superintendent General of Education Langham argued in the Cape Parliament for a differentiated education thereby ensuring that the Whites maintained their supremacy, while the mass of Africans were confined to a humbler position (Burchell, 1976, p.70-83). As Tabata points out that Non-whites were thrown out and a policy of social segregation was strictly adhered to. As part of this policy, a system of education known as Native Education was evolved for Africans (Tabata, 1960, p.8-9). The main purpose of introducing Native education was to handicap African children with the introduction of an inferior syllabus (Dube, 1985, p.84-100). Curriculum for the lower standards of Black schools was inferior and conceived to ensure that the great majority of Blacks were fitted only for menial jobs (Tabata, 1960, p.9).

Like racial discrimination in South Africa, Indian society had also existence

of caste based discrimination. There was dominance of upper caste and class people over the lower caste and class people in education. Segregation of education in South Africa started from late 19th century but India had always separate educational institutions for lower caste and untouchables in spite of the fact that only a few lower caste people were privileged enough to seek education. There were also separate institutions and curriculum for Hindus and Muslims in India but their objective was not to create hegemony and dominance over others and these institutions were not exclusive for the other community.

We can see the problematic aspects in colonial education system in which missionaries were in favour of changes by and large. However even within missionaries there were differences of opinion on the issues of conversion, curriculum, fighting against caste oppression, fighting against economic oppression etc. But despite these differences the British were in favour of change in the social, religious and educational fields. Even when the colonial state and missionaries started providing education based on principles of fairness, equalities, and justice to people from the lower caste and women, the lower caste started to challenge the dominance of upper caste over education. Therefore the upper caste and nationalist leaders opposed and restricted the expansion of colonial education (Jain, 2015, p.117-118). Some nationalist leaders like Tilak were not in favour for the same curriculum for upper caste and lower caste. He argued that 'subjects like history, geography, mathematics and natural philosophy… have no earthly use in practical life.' He even considered the teaching of reading, writing and the rudiment of history, geography and mathematics to Kunbi (peasant) children harmful. He was in favour of teaching traditional occupation to lower caste children rather than to teach these subjects. General education was to be given to those who had a 'natural inclination' for it, whereas peasants' children were to receive 'the education befitting their rank and station in life (Jain, 2015, p.117-118).' But in contrast of this there were also progressive social reformers like Jyoti Rao Phule and other who wanted to form social institutions based on reason and distinguish between right and wrong (O'Hanlon, 1985, p-117-118).

In South Africa missionaries had a different view on segregation and discrimination against natives on the basis of race but also some were exception to not in favour of segregated institutions and curriculum. The colonial sate was not so inclined for change of social order and they were more in favour of a stalemate. Unlike South Africa, the colonial state in India did not directly adopt a policy of segregation on the basis of caste, but they were also not in favour of interfering in the social order that was based on caste discrimination. Thus the colonial education policy boosted this system. Like white settlers in South Africa, Brahmins and Maulvis played major role in formation of colonial knowledge and curriculum in India.

However the policy of segregated curriculum was more successful in South Africa than India. Perhaps, it was because unlike India, in South Africa, the tension between colonial state and Christian Missionaries was less pronounced. They did not so intensely opposed the policies of the state that favored the settlers over indigenous populations, such as the segregated curriculum.White settlers had feared that if Africans would be given the best educational opportunities they would compete with white economically

and politically. To maintain white supremacy over natives colonial state in South Africa introduced different curriculum for native children that was mainly based on manual work to prepare them to work as cheap labour for mining and agricultural operations.

There was debate on the orientation and nature of the curriculum of women's education in colonial South Africa and India. What kind of curriculum should be instituted for girls? Should it be job oriented or family oriented? How much education they should receive and what should be its content? Irrespective of these differences there was a consensus because everyone focused on education for women which would enable them to be a good wife or a good mother. Even the women activist who wanted education for women and opened schools and colleges for them, were also in favour of domestication of women education. We find that in both countries, teaching nursing and domesticity remained to be the central tenets of the curriculum of girls' education. By and large, academic education was thought to be for boys, while 'domestic' education was for girls. Even Christian's missionaries who were the pioneer in the field of women education made separate curriculum on the basis of gender differences.

From the beginning, South African schools steered males and females in specific directions and into the different curricula designated for boys and girls. E. G. Pells describes the separate instruction that became the pattern: girls were instructed in domestic duties and boys were taught a trade. Early schools also gave less priority to the education of women. In the mission schools, women were not encouraged, if even allowed, to obtain an academic education or skill training (Pells, 1954, p.78). Gaitskell (1988) characterizes missionary education for girls as vocational, domestic and subservient suited to Africans, to women and to subordinate classes (Gaitskell, 1988, p.158). In the 19th century, missionaries were concerned with preparing African women to be good Christian wives and mothers, as well as with teaching domestic skills such as sewing, cooking, and laundry work etc. Indeed, several missionary training institutions such as Lovedale, Blythewood, Healdtown, and St. Matthew's were founded specifically to train African girls as domestic experts.

The African girls who did not attend these missionary boarding schools received a kind of primary education that was only somewhat less gender-slanted. The only trade specifically taught to girls in these schools was sewing. Industrial training was not introduced to them until the upper levels, where they often received housewifery training. In 1871, the government established the Work Department in Cape Town to meet the demand for servants and thoroughly taught workers among the native girls (Pells, 1954, p.78). In the later period of 19th century new science oriented subjects like domestic science, biological science, and domestic economy became a part of secondary and high school level curriculum for girls (Pells, 1954, p.78).

Similarly in India, curriculum for women was also different from men. We found that the structure of normal or male oriented curriculum and knowledge was based upon the economic structure of colonial state and purpose was to maximise their economic profit but the objective of women education was to prepare to maintain patriarchal social structure and trained them for being a good mother and a good wife. By and large, academic education was thought to be for boys, while 'domestic' education was for girls. Increasingly, however, domestic education acquired

a special functional value. It began to be more widely accepted that traditional informal training at home was inadequate for good housewifery and motherhood. Girls were to be taught household work at schools instead, and socialized to carry out their roles as wives and mothers according to ideals set by professionals such as teachers and doctors (Sen, 2002, p.212). According to Nita Kumar(2000), Vidya Devi, founder of Arya Mahila College in Banaras showed a preference for some occupational training rather than book learning for girls (Kumar, 2000, p.98).

The elite schools had much better arrangement than government and aided schools because they had the same syllabus for girls and boys. In government schools we see that alongside the subjects that was there from the colonial period there was increasing emphasis on music, drawing, crafts, and painting. Even in textbooks of other subjects like Hindi or English there was an emphasis to be a good mother, a good child, maintaining a good and clean house. All these point towards the domestication of women education. Basel mission of Mangalore on the one side was against to the Hindu patriarchy and on the other hand they were adopting different types of patriarchal system in which they prepared women for profession like teaching and nursing. These professions were based on and naturalized a gendered division of labour, relegating to the woman the domestic skills of nurture, nursing, and the socialization of the young.

Conclusion:

We see that how colonial state adopted a curriculum that was suitable for to fulfil their economic as well as cultural goal over both colonies. The main objective of colonial education was to maximize the economic profit through the cheap skill labourer and maintain the hegemonic dominance of dominant social groups in society. Colonial authorities, Christian missionaries and indigenous intelligentsia in both countries established a racist, casteist and gender biased education system in which Africans, lower caste/class Indians and women could be relegated to a subordinate position. This education policy helped to promote servility, dependency, and inferiority amongst African, lower caste/class Indians and women. There was a consensus among the officials of the colonial state, nationalists and social reformists that female education should be different from male education. It was held that women were by nature more suited to a certain kind of education such as art, craft, painting, teaching, domestic science, home science and home economics. The entire objective of female education became the production of good mothers, efficient housewives, and enlightened companions.

Colonial education system rejected the indigenous traditional knowledge. The knowledge and curriculum created by the colonisers had no place for the indigenous people and there was a deep conflict between education and culture. School-related knowledge got isolated from everyday reality and the cultural milieu of the child. The objective of this curriculum and knowledge was to keep on categorising the dominant and subordinate groups. Once such categories were established the dominant group and the subservient group acted according to the roles allotted to them. The colonial curriculum was a means of establishing and perpetuating political inequalities. Vocational education in South Africa was a great example of this where native were being prepared for working as agricultural and semiskilled labour on the farms and industries of the white settlers.

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Vivek Singh
vivsingh@gmail.com
Ganga Tayeng

Attitude of Teacher-Educators and B.Ed. Students towards Two-year B.Ed. Programme in Arunachal Pradesh

Abstract

Teacher education is education of teacher to make them progressive, responsible, professional and humane teacher. The mode, structure, curriculum and duration of teacher education programme are perennial issue of discussion. The present research workis an effort to study the attitude of teacher-educators and students of B.Ed. colleges affiliated to Rajiv Gandhi University of Arunachal Pradesh. The purpose of the study is to measure the attitude of teacher-educators and B.Ed. students towards existing two-years B.Ed. programme. The researchershave employed descriptive-cum survey method and used self made attitude scale based on Likert's five points Scale, for the collection of data. Researchers have adopted Simple random sampling method for the selection of the sample and total 7 Teacher education institutions, 62 teacher educators and 158 B.Ed. students have been selected. The data was analyzed by applying percentage measure of central tendency and 't' test. The finding of the study shows that the attitude of the teacher-educators ismore favorable than the B.Ed. students towards two-year B.Ed. programme. The attitude of female B.Ed. studentsis higher than male B.Ed. students. There is no significant difference found in the attitude of Government and private B.Ed. students;tribal and non-tribal B.Ed. studentstowards two-year B.Ed. programme. Finally, it can be concluded that, the teacher-educators and B.Ed. studentsboth have favorable attitude towards two-year B.Ed. programme.

Keywords: Two-year B.Ed., Attitude, Teacher Educators, B.Ed. Students, Arunachal Pradesh

Introduction

Education is changing with the changing needs, demands, expectations and overall scenario of the society. Education is a very vital instrument of all developmental activities and it should be planned,organized and implemented effectively. A Teacher Education institution serves as a key agent of change in transforming education and society. Teacher Education occupies very important place in education system, as it is directly connected with the improvement of education in general and preparing suitable teacher in particular. The quality and nature of Teacher Education determines the success of an Education system. The ability and attitude of the teachers

depends on the functioning of Teacher Education programme. Thus, the Teacher Education is said to be very significant investment for bringing qualitative improvement in education. No doubt a sound programme of education plays a significant role in nation's development and the quality of Teacher Education is greatly determined by the quality of teachers. National policy makers believe that if a revolution in education has to be initiated, then it is the Teacher Education which can be taken as a starting point. Teacher Education is, in one sense, undergoing rapid changes in keeping pace with demands of learning and expectations of learners, community and society as a whole. From time to time, various efforts were made by different committee and commission to improve the Teacher Education. Education commission (1966) recommended that for quality teacher and teacher education an effective teacher education programme was needed, National Commission on Teacher (1985) suggested a minimum two-year B.Ed, Yash Pal Committee (1993), Justice Verma Committee on Vision of Teacher Education (2012) and Poonam Batra committee (2014) have also suggested a two year B.Ed. programme. National Curriculum framework for Teacher Education (2009) also presents curriculum for two-year B.Ed..After National Council for Teacher Education (NCTE) Regulation 2014, B.Ed. programme became of two-years across India. The aim of this change to two-year programme was to upgrade the standard of Teacher Education, enhance the professional and social status of teachers and develop a sense of commitment. The regulation presents norms for infrastructure, fees, intake, eligibility of students and teachers, working days and hours, besides Curriculum, programme implementation and assessment. Apart from comprehensive curriculum, it gives emphasis on professional exposure and experiences through 20weeks internship in schools.

There has been a continuous discussion among the stakeholders of education and teacher education regarding duration of the B.Ed. programme. One opinion suggests that B.Ed. programme is the second degree after three years graduation, so one year should be sufficient; other group advocates for a two-year programme because of the professional nature of the course. Another group says that teacher education is professional course, so it should be of four years or five years after higher secondary, like Engineering and Medical Courses. Attitude and opinion of stakeholders is very important for assessing relevance of new regulation as well as its suitable implementation. Attitude also plays a very important role in effective teaching learning process and fostering positive attitudes towards teaching and learning; and also influences their personality and performances. Here attitude is the degree or tendency of an individual to favor or disfavor same type of object or situation. Two-year B.Ed. programme is one of the recent changes made in the field of Teacher Education. So it is important to study the attitude of stakeholder of teacher education to this two year programme.

Arunachal Pradesh is situated in north-eastern part of country. This is the biggest state of north east India in terms of its area and the lowest in term of population density in the country, which is 17 per square kilometer (Census 2011). Arunachal Pradesh is also known as "The Land of Rising Sun" and "The Land of Dawn Lit Mountains". Geographically it comes under Eastern Himalayan Region, which is very rich in terms of biological as well as cultural diversity. Historically the state was

very much isolated from mainstream society, that is why formal system of education in the state started very late in 20th century especially after independence. Development of teacher education in the state was also very late and the first B.Ed. Course started in 1988 in Department of Education of the Rajiv Gandhi University. Presently, the department of Education of the university and 12 private colleges are also running two-year B.Ed. programme in the state.

Significance of the Study

Teacher Education has been undergoing transformation over the years and assuming new meaning and dimensions due to rapidly changing society. Thus, with the changing time and trend Teacher Education undergo various changes in the curriculum, methods, and duration of the programme. There are good number of studies have been conducted on the attitude of teacher-educators and B.Ed. students towards teaching profession, syllabus, curriculum, textbooks and methods used in teaching-learning process, creative teaching, etc. But very few countable studies have been done on the attitude of teacher-educators and B.Ed. students towards two-year B.Ed. programme. As the increased in the duration of B.Ed. is very recent phenomena that is why no study has been conducted so far on the attitude of B.Ed. studentsand teacher-educator regarding two-yearB.Ed. programme in Arunachal Pradesh. Therefore, the researchers thought to take up the present problem for the purpose of research.

Objectives of the Study

In order tostudy the research problem systematically, following objectives have been formulated:-

1. To study the attitude of teacher-educators and B.Ed. students towards two-year B.Ed. programme.
2. To compare the attitude of teacher-educators and B.Ed. students towards two-yearB.Ed. programme.
3. To compare the attitude of private and GovernmentB.Ed. students towards two-year B.Ed. programme
4. To compare the attitude of male and femaleB.Ed. students towards two-year B.Ed. programme.
5. To compare the attitude of tribal and non tribal B.Ed. students towards two-year B.Ed. programme.
6. 6. To know reflection of Stakeholders on two-year B.Ed. programme.

Hypotheses of the Study

Based on the objectives number 2, 3,4 and 5, following null hypotheses has been made:

1. There is no significant difference between the attitude of teacher-educator and B.Ed. students towards two-year B.Ed. programme.
2. here is no significant difference between the attitude of private and Government B.Ed. students towards two-yearB.Ed. programme.
3. There is no significant difference between the attitude of the male and female B.Ed. students towards two-year B.Ed. programme.
4. There is no significant difference between the attitude of tribal and non-tribal B.Ed. students towards two-year B.Ed. programme.

Methodology

In the present study the researchers adopted descriptive cum survey method to assess the attitude of teacher-educators and B.Ed. students towards two-year B.Ed. programme of Arunachal Pradesh. The researchers

have conducted a survey by administering the self made attitude scale for collection of data from selected sample of B.Ed. students and teacher-educators from different B.Ed. colleges of Arunachal Pradesh. For the purpose of data collection researchers have visited selected teacher education institution and observed the infrastructural facility, classroom, library, laboratory and teaching and non-teaching staff. The researchers have also taken interview (semi-structured) of Teacher Educators and students to know their experiences of two year programme.

Population and Sample

For the present study, population comprises of the teacher-educators, who teach in Rajiv Gandhi University (RGU) affiliated B.Ed. colleges and B.Ed. students of fourth semester. The researchers have employed Simple random sampling for the selection of the sample. Out of total 12 private B.Ed. Colleges 6have been selected randomly and the Department of education of the RGU has been selected purposively, as it is only government institution. From each private teacher education institution 20 B.Ed. students and 8 teacher educators and from department of Education, RGU 42 students and 16 teacher educators were selected. In this way a total of 162 students and 64 teachers were taken as respondent. Further, at the time of analysis it was found that responses of 4 students and 2 teachers were incomplete. Finally, responses of 158 students and 62 teachers were used for analysis.

Tools

In order to measure the attitude of the teacher-educators and B.Ed. students towards two-year B.Ed., the researchers prepared and used attitude scale based on Likert's five point scale. It is a bipolar scaling method to indicate positive or negative response to a statement. In the first draft of the scale 45 items were prepared, out of which 32 were retained in the second draft. Again after item analysis only 27statementswere found meaningful and kept in the final draft. The face validity and content validity of the tool has been established with help of experts. The test-retest reliability score is 0.76 and Cronbach alpha score is 0.82.In order to facilitate meaningful interpretation of score, norm of the test has been prepared on basis of normal probability curve. The scale is prepared in such a way that higher score means positive attitude. The scale is divided in five components: Administrative, Educational, Duration, Quality and Curricular and practical activities.

Results and Discussion of the Study

After the collection of data it has been cross-checked, verified and coded. The data analysis has been performed by using the IBM SPSS statistical package (Version 22.0) and Microsoft Excel software. The data obtained have been examined through percentage and t-test. The result and discussion of the study have been presented below according to sequence of objectives of the study.

1. To study the attitude of teacher-educators and B.Ed. students towards two-year B.Ed. programme.

Table 1: Attitude of B.Ed. students and Teacher-Educators according Scale Norms

Status	Attitude Scores	Response of B.Ed. students	Response of Teacher Educators
High	More than 100	11 (6.96%)	17 (27.42%)
Average	Between 72-100	107 (67.72%)	41 (66.13%)
Low	Less than 72	40 (25.32%)	4 (6.45%)
Total		158	62

Table 1 shows that 27.42% teacher-educators come under high attitude score group and only 6.96 % student come under this category. In average category both group have almost similar percentage. In case of lower attitude 25.32% students come under this category while only 6.45% teachers come in this category.

2. To compare the attitude of teacher-educators andB.Ed. students towards two-year B.Ed. programme.

HYPOTHESIS (Ho_1) – There is no significant difference between the attitude of teacher-educators and B.Ed. students towards two-year B.Ed. programme.

Table 2: Comparison of Attitude between teacher-educators and B.Ed. students

Group	Number	Mean	SD	Difference	SE_D	df	t-value	Remarks
Teacher Educators	62	94.53	12.79	11.71	1.99	218	5.87	significant
B.Ed. students	158	82.82	13.51					

Table no. 2 shows the mean score of the teacher-educators attitude is 94.53 whereas the mean score of B.Ed. students is 82.82 and show the difference of 11.71. The calculated't' value comes to be 5.87 which is greater than the table value of't' at df 218. Thus, null hypothesis is rejected. This states that there is a significant difference exists between the attitude of the teacher educators and B.Ed. students towards two-year B.Ed. programme. From the above table, we can conclude that the teacher educators have shown a more positive attitude towards two year programme than the B.Ed. students. T perhaps give them more time for proper implementation of curriculum, internship, practice teaching, etc. TheB.Ed. students show less favorable attitude as they have to spend an extra one year for same degree. They may feel thetwo-year programme as a wastage of time, money without any assurance of getting a job on completion.

With respect to the two other comparisons namely between the students of the provate B.Ed. colleges and the Govt. B.Ed. colleges as well as between the Tribal and non-tribal stdudents who had taken up the B.Ed. program there is no significant difference. However, between the attitude of the male students and female students there is seen a small but significant difference in the t-value for the both girl students have a comparatively more positive disposition towards the 2 year program.

3.To know reflection of Stakeholders on two-year B.Ed. programme.

Reflection of the Stakeholders

The conversations with the teacher educators showed that many were positive on the two year B.Ed. programme. They opined that a two year duration will give sufficient theory and practice opportunities which will lead to more skill and efficiency. They welcomed the two year B.Ed. programme as a good step taken by NCTE for producing humane teachers. They however suggested need of balanced curriculum preparation, appointment of qualified teacher and staff and maintenance of institutional facilities for improving quality. They recommended the use of Information and communication based technologies in colleges to provide learning as well as exposure to innovation and reduction in fee so that poor students could also get admission. They suggested that

there should be more government teacher education institutions. They said that atwo year B.Ed will provide opportunities to work creatively as well as in collaboration. However, some teacher educators were not happy with the two year B.Ed programme. They argued that it is an unnecessary burden for institution and pupil teachers in terms of money, energy and resources. They said that one year programme is sufficient for developing teaching competencies. A few other teacher educator opined that even though, it is in principle a good idea and a welcome step towards the development of professionalism in education, but it has failed to achieve the objectives of new regulation of National Council for Teacher Education (NCTE) due to lack of qualified teachers, buildings, libraries, laboratories, infrastructure etc.

On the part of the B.Ed. student responses, many of the students did not feel happy about the two year B.Ed programme. They argued that though two year B.Ed could have been a good decision of NCTE to improve the quality of teacher education; but repeated and unplanned curriculum creates problem for both teachers and students. They opined that two year B.Ed. is more focussed on theory part and less on areas like ICT, Yoga, fieldtrip, practical activities. It does not attract students because of time and money and suggested reduction in fees and also an appropriate duration of internship.

Findings, Recommendation and Conclusion

We surveyed the B.Ed. colleges of Arunachal Pradesh and found that most of Teacher Education Institutions suffer in terms of shortage of qualified and permanent teachers; physical infrastructure, buildings, non functioning computer labs, shortage of reading materials. They also seem to have problems in implementing the two-year B.Ed. programme due to its vastness. There is an urgent need to look at this issue. Government should open Government or govt. aided B.Ed. colleges in Arunachal Pradesh. Regular effective inspection of private B.Ed. Colleges should be undertaken by National Council for Teacher Education and the Rajiv Gandhi University. Training programme, seminars, orientation programmes, workshops, should be organised for faculty of the B.Ed colleges. Since positive attitude of teacher-educators and B.Ed. students towards the teaching profession is a pre-requisite for a healthy school system and overall development of the students, efforts need to be made to develop such an attitude.

Acknowledgement- The present research work is a part of M Ed of dissertation. Here researchers would like to thank Department of Education, Rajiv Gandhi University for providing all kind of supports.

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Mukesh Malviya
mukeshmalviya15@gmail.com

विज्ञान के सवाल
विज्ञान हमारी जिंदगी से कैसे जुड़ा है?

सार

यह लेख आज विज्ञान शिक्षण के स्वरूप के बारे में है। यह सवाल उठाता है कि जिस तरह के सवालों के इर्द-गिर्द विज्ञान शिक्षण की रचना होती है वे बच्चों के सवाल तो होते ही नहीं परन्तु ऐसे सवाल होते हैं जो बड़ों के लिए रोचक व जिज्ञासा पैदा करने वाले सवाल नहीं होते। विज्ञान का अध्यापन बच्चों की समझ व अनुभव से जोड़कर नहीं किया जाता वरन तथ्यों को सीखना ही विज्ञान समझा जाता है। लेखक कहता है कि सवाल विज्ञान सिखाने के तरीके का ही नहीं है वरन यह भी है कि विज्ञान है क्या?

आम जिंदगी में विज्ञान की समझ

हम आमलोगों के पास 'विज्ञान' शब्द सहज रूप में मौजूद नहीं है। विज्ञान स्कूली भाषा का शब्द है। आम कामगार लोगों के पास इसके करीबी शब्द, जिनमें कुछ झलक विज्ञान की मिलती हैं या कहें कि विज्ञान का सा अर्थ देने वाले कुछ इस तरह के शब्द हैं– हुनर , अनुभव, टेक्निक,समझ, ज्ञान, तर्क ,जुगाड़ आदि । जिंदगी के संघर्ष में, विभिन्न कामों को करते हुये, वे इन शब्दों से परिचित होते हैं, इनके अर्थों को गढ़ते हैं। साथ साथ ही वे जिस काम को कर रहें है उससे संबन्धित हुनर, अनुभव, समझ... आदि भी हासिल करते हैं या इन्हें सीखना व्यक्ति की जरुरत बन जाता है। इनमें से अधिकांश वह खुद के अवलोकन, दोहराव, अभ्यास से अपने विवेक का इस्तेमाल करते हुए सीखते या अपनाते हैं। जैसे हम सभी ने अपनी माँ या दादी को ऐसे कई काम करते देखा होगा जो उन्होंने अपनी माँ, दादी, नानी या किसी बड़े के साथ काम करते करते सीखें होंगे। मैंने अपनी माँ को सूपे से अनाज को फटकते हुए देखा है वे बड़ी दक्षता से अनाज में मिले दूसरे अनाज, कंकड़, मिट्टी को फटक कर अलग किया करती थी। इसी तरह वे पानी की भाप में पका कर कोदो, कुटकी,समारिया का भात बनाती थी। इसके लिए एक गोल मुँह का बर्तन जिसे ढेचकी कहा जाता है उसमें पानी उबाला जाता है, उसके ऊपर मिट्टी का एक आधा निचला घड़ा जैसा बर्तन जिसके पेन्दे में एक छोटा छेद होता है रखा जाता है इस छेद से भाप अन्दर आती है। मिट्टी के बने इस बर्तन को पैना कहते हैं। इसमें छोटे दाने वाली भात और और कभी चने की भाजी भाप से पकाई जाती है। मुझे मालूम है कि इस तरह की बहुत सारी तकनीक का इस्तेमाल उन्होंने अपनी माँ या दूसरे बड़ों से सीखा होगा पर इस सीख में उनका खुद का विवेक भी शामिल है ही।

क्या हमारे दैनिक क्रियाकलापों में विज्ञान शामिल है

हम अपने दैनिक जीवन के कई कार्यों को करते हुये, कुछ सरल और कुछ जटिल मशीनों का उपयोग करते हैं और इन मशीनों के खराब हो जाने या रुक जाने से उन्हें सुधारने की कवायद करते हुये एक नए ज्ञान या समझ का निर्माण और अनुभव को आत्मसात करते हैं। यहाँ समस्या पहचानना ,प्रयास करना, गलतियों को समझना, सुधार करना, सही तरीके खोजने की कोशिश करना आदि स्वाभाविक और व्यक्तिगत प्रक्रिया से हासिल किया

ज्ञान है। मुझे याद है बचपन में टॉर्च के न जलने पर उसे खोलकर देखना, बल्ब और सेल की जाँच करना, सेल के पीछे सिक्के रखकर टॉर्च जलाना, यह सब टॉर्च को, उसके जलने की प्रक्रिया को समझने की कोशिश थी। किसान का अपने खेत में पानी चलाना या बारिश के दिनों में गाँव की गलियों में अपने घरों के सामने गोल लकड़ी को आड़ी गाड़ देना जिससे गलियों की मिट्टी बहे नहीं और ऊपर से बहकर आने वाली मिट्टी वहीं रुक जाए ताकी सड़क समतल हो जाए। क्या यह समझ कार्य कारण संबंध की पहचान नहीं कराती है? बहुधा इन सूझबूझ आधारित क्रियाओं के पीछे कोई एक व्यक्ति नहीं होता इसमें परम्परा और परिष्कार का तालमेल चलता रहता है। जब मैने पहली बार ईंधन के लिए लकड़ी काटने के लिए कुल्हाड़ी चलाई तो मैं सीधी कुल्हाड़ी लकड़ी पर मार रहा था मुझे मेरे दादाजी ने बताया काटने के लिए कुल्हाड़ी थोड़ी तिरछी मारनी होती है तीन चार बार दाएँ तरफ तिरछा करके फिर बाएँ तरफ तिरछा करके। इस तकनीक से लकड़ी जल्दी और आसानी से कट गई।

हमारे आसपास कई घटनाएँ होती हैं। उन घटनाओं, घटनाओं के प्रभावों को हम एकत्रित कर लेते हैं। और वैसी ही स्थितियाँ बनने पर हम उसके प्रभावों को पहले से बता पाते हैं। हो सकता है कि कभी कभी निष्कर्ष गलत भी हो लेकिन उससे भी हम सीखते हैं और और सीख को भी अपने दिमाग में एकत्र करते जाते हैं। जैसे अधिक बारिश होगी तो मक्का की फसल कमजोर होगी या कुछ परम्परा का अनुसरण करने में आने वाली समस्या पर हम उन परम्पराओं की समझ पर सवाल उठाते हैं और नयी समझ को विकसित करते हैं अपनाते हैं। जैसे मासिक धर्म के समय महिलाओं के साथ परिवार द्वारा किए जाने वाले बर्ताव में अब परिवर्तन आ रहा है।

वैज्ञानिक और गैर-वैज्ञानिक सोच

कोई मशीन कैसे काम करती है, कैसे बेहतर काम करती है, किसी घटना का क्या परिणाम होगा और परिणाम में क्या क्या फेर बदल किस वजह से हो सकता है। इन सब समझ और तर्क आधारित क्रियाकलापों के साथ हम कई सारी कुरुतियों और अविवेकी कामों में भी संलग्न होते हैं। चूँकि व्यक्ति का सामाजिक जीवन बहुत सी परतों औरदबावों में दबा छुपा होता है और कई सारी परिस्थितियों जैसे डर, ऊंच-नीच, राजनीति, धर्म आदि से प्रभावित होता है। विभिन्न राजनैतिक, धार्मिक संगठन एक व्यक्ति के बजाय समूहों के हितों के नाम पर खुद के हित साधने के लिए संगठित होते हैं। इन संगठन में व्यक्ति के विवेक को हतोत्साहित और दमित किया जाता है। लेकिन यहाँ समझ और विवेक जैसे गायब हो जाता है। एक वाकया साझा करूंगा- बड़े पूजास्थलों के निर्माण के लिए मेरे गाँव में हरएक गाँव वासी से से पैसा इकट्ठा किया। बहुत से लोगों के लिए यह पैसा देना संभव भी नहीं था पर किसी ने भी असहमति नहीं जताई।

मुझे लगता है कि विज्ञान की जो थोड़ी बहुत समझ समाज में हैं वह भी खत्म होती जा रही है। ये समूह जो कभी प्रत्यक्ष और कभी अप्रत्यक्ष रूप से समाज में मौजूद रहते हैं। विज्ञान से मिलती जुलती शब्दावली को कम करते जा रहे हैं। उस तरह की चर्चाएँ भी नहीं होती जिसमें आस-पास की घटनाओं के वैज्ञानिक विश्लेषण को प्रोत्साहन दिया जाए या विज्ञान व तर्क के मौकों को विकसित करने के लिए स्कूलों में अथवा बाहर कार्यक्रम हों। हर प्रकार के संचार माध्यमों व मीडिया में इस तरह के वैज्ञानिक सोच-विचार से ज़ुड़े मसलों व उससे संबंधित शब्दावलियों की जगह कुछ और ही बातें ज्यादा सुनाई जाती हैं। आज हुनर जैसे शब्द कम सुनाई देते हैं या तर्क की बात करनेवाले को विरोधी समझा जाता है।

स्कूल की भूमिका

स्कूल बच्चों के सामूहिक सीखने और विवेक के इस्तेमाल करने की जगह बन ही नहीं पाए। आज स्कूल ऐसी चुनौती या परिस्थिति कम ही निर्मित करते हैं जिसमें बच्चों को अपनी मौलिक समझ का इस्तेमाल करना हो। शिक्षकों के पास भी अपना विवेक कम है ,वे पाठ्य-पुस्तक में लिखी बातों को खुद के लिए समझें बिना बच्चों के लिए दोहरा रहे हैं। विज्ञान की विषयवस्तु का आधार कोई विशेष ज्ञान है जिसको छोटे छोटे टुकड़ों में काट कर कक्षाओं के एक क्रम में बाँट दिया है। इस तरह क्रमिक सीढ़ी पर चढ़ने में सीढ़ी के आपसी संबंध तथा कुछ सीढ़ी के अर्थ ही गुम

जाते हैं। इन गुमे हुए अर्थ को रटकर बच्चें आगे बड़ रहे है। उदाहरण के लिए पदार्थ की तीन अवस्थाएँ होती हैं ठोस, द्रव और गैस। इस तथ्य का क्या मतलब है इस पर बच्चों के साथ बात करना, बच्चों के अनुभवों के साथ जुड़कर या जोड़कर समझ निर्माण के वाहक स्कूल हीं बनते। इस तरह के अनेकानेक तथ्य को याद कर लेना ही सीखना माना जाता है। समूहीकरण या वर्गीकरण का विचार मन में कैसे आता है इसके लिए कोई जगह पाठ्य-पुस्तकों में है न ही शिक्षकों के पास। इतनी विशाल प्रकृति का अध्ययन करने के लिए हम आगे कैसे बढ़ें? थोड़ा सोचने पर समानता और असमानता का विचार मन में आता है इस विचार के पीछे भी वह गुण है जिसके आधार पर कुछ वस्तुओं को एक समूह में रख सकते हैं। पूरी प्रकृति में मौजूद पदार्थों (प्लाजमा को छोड़कर जिससे हम आमतौर पर रूबरू नहीं होते) को तीन समूह में रख देना तार्किक विचारों की कितनी बड़ी उपलब्धि है इस पर बगैर सोचे यह तथ्य जब बच्चों या बड़ों के सामने आता है तो वह एक शुष्क जानकारी है जो किसी को छूती ही नहीं। आम जीवन से जो समझ बनती है, जिसके कुछ उदाहरण हमने दिए हैं कैसे बनती है? यह समझ कौन बनाता है? मेरे अनुसार यह समझ विशेष जगह, जहाँ की उस समय की जरूरत, समस्या और परिस्थितियों से बनती है। इस समय व्यक्तिगत निर्णय लिए जाते हैं जो कि उस समय के अनुभव अवलोकन और समझ पर आधारित होते हैं। सायकल पंचर हो जाने पर उसके ट्यूब में मिर्ची के बीज डालकर हवा भरने का उपाय हो या पहाड़ी रास्ते की ढलान पर लकड़ियों से भरी बैलगाड़ी के चक्के को गोल घूमने से रोकने के लिए उनमें एक लकड़ी फंसाना जिससे बैल गाड़ी लुढ़कने के बजाए सरकते हुए उतरे। ये दोनों, व ऐसे अन्य कई उदाहरण मेरे बचपन के अनुभवों में शामिल हैं पर मेरे स्कूल के अनुभव में कोई ऐसा वाकया याद नहीं आता जहाँ मैं खुद की या किसी अन्य की समझ से कोई अर्थ पा सका होउंगा। स्कूल की विज्ञान की कक्षाओं में बड़ों के उत्तर हैं उन उत्तरों का बच्चों के सोचने के ढ़ंग से कुछ लेना देना नहीं है। और अगर सवाल के बारे में सोचें तो वे तो बड़ों के भी करीब के, उनके अपने सवाल नहीं है। यह बिलकुल कहा जा सकता है कि इस लेख में दिये गए सारे उदाहरण तकनीक के इस्तेमाल के हैं फकत विज्ञान की समझ के कम। मैं यह कहना चाहता हूँ कि ये सभी आमलोग अपना जीवन चला रहे हैं जिसमें वे दूसरों की और खुद की ईजाद की हुई तकनीक का इस्तेमाल करते हैं उनकी व्याख्या करना किसी आम व्यक्ति की जरूरत नहीं है अगर वे व्याख्या करें भी तो क्या हम उनकी भाषा को समझने के लिए तैयार होंगे ?

सारांश

सवाल यह है कि इस तरह की विज्ञान की व उसके दायरे की समझ आम इन्सान के व उसकी क्षमता के क्षेत्र से बहुत दूर है। जहाँ एक ओर यह मसला विज्ञान सिखाने का है, वहीं दूसरी ओर बात यह भी है कि हम विज्ञान किसे मानते हैं। क्या विज्ञान सामान्य लोगों के ज्ञान को शरीक करके बढ़ाया जा सकता है? क्या ऐसा होने से लोगों तक इसकी पहुँच बेहतर होगी? और उससे भी बड़ा यह की क्या यह विज्ञान के अध्ययन को और आगे नयी दिशा में नहीं ले जाएगा जो ज्यादा सार्थक व उपयोगी होगी?

Adithi Muralidhar
adithi@hbcse.tifr.res.in

Rendezvous with an Eighth Grader: Insights for Design and Technology Education

Abstract

This article presents some insights gained through an interview with a middle school student. The interview reported here focused on this student's likes and dislikes in connection with school, ideas about science, technology, and society etc. Further, the article outlines the key ideas and themes that emerge from a preliminary analysis of this interview. Though one cannot generalize, the evidence transpiring through this exercise do provide some opportunity to reflect on the way we design activities for children.

Schools are formal institutional spaces for communities of learners, that is students. Designing creative and inclusive spaces for these learners is an important aspect to ponder upon, as also discussed in the National Curriculum Framework of 2005. Over the last couple of years, we have been trying to create an informal workspace in the Design and Technology (D&T) laboratory at the Homi Bhabha Centre for Science Education (HBCSE). The space has been designed with the objective of interacting with children over continuous periods of time, which could possibly assist and improve the methods that we currently employ to design activities for children. The idea is to make the laboratory an attractive and inclusive space, where students can access a wide range of material and resources. The laboratory has several displays of colourful posters, models, activities. Also available are, building kits, basic tools, lego® blocks, science kits etc.

Visiting students can work with any of the materials available in the lab and are encouraged to ask for things they specifically need. Our plan is that these children work towards either creating a product that interests them, or solve design problems that are posed to them by us.

A couple of 8th and 9th graders (girls and boys) visit the laboratory

occasionally as part of an informal after-school programme. But one of them Jatin*, a teenage middle school (Grade 8) boy, has been frequenting the D&T laboratory, more often than his peers. His parents and school have been supportive of his activities and projects here, and encourage him to spend time in the various laboratories at the centre. He is usually accompanied by 2-3 friends who are either his batch mates or seniors. Sometimes they come to the laboratory with a problem and seek our help, at other times, we provide them an activity to do. On other occasions, they just come to the lab and read books, browse for science videos online, dabble with the virtual drawing board or collect information for their project work from the internet.

In order to better understand Jatin's motivations to visit the laboratory, understand his thoughts on school, school science, I on several occasions, struck long conversations with him. I was hoping that the insights we gain from these interactions could enhance our understanding of how to design activities for children.

Some background information about Jatin: He is 13 years old, in grade 8, studies in a private aided school in Mumbai, which follows the Maharashtra State Board curriculum. He has been in the same school since nursery. In the lab, he is seen- working with clay to make models to use in stop-motion animation projects; using 3-D pen to make cubes and cuboids, using Lego® blocks to build models of houses and cars, or dabbling with ready made science kits. He also spends time in making drawings on the digital board (LCD tablet), and at times, searches for youtube® videos on space-technology, big bang theory and astronomy. On several occasions, he used the internet to get information for his school projects.

Following are some excerpts from our multiple conversations. Overall, I have maintained text verbatim while reporting what Jatin spoke, and sought clarifications from him when I was unsure of what he meant. However, there are a few instances where language and grammar has been corrected.

Hi, so you have been coming here often and I know that you have also been working on your school projects here... I was just curious to know more about your school, what you like and dislike in school and about your favourite subjects. Would you be willing to share your thoughts with us?

Sure. I do not mind.

What subjects do you study in school?

In school, I have Hindi, English, Maths, Science, Social Studies, Marathi, Drawing, PT, Computer class and Science lab.

What is your favourite subject? Why do you like it?

I like Science and Hindi. Hindi, my teacher, she teaches so well, so I like it .. the same for Science.

What is the most fun thing about school?

Mauka milta hai sabit karne ke liye.. [you get opportunity to prove]. I also enjoy the science practicals, especially if its something to do with chemicals. I also like the cultural events, sports day and annual day. But there is nothing nice on an every day basis.

What is the most boring thing about school?

Marathi period.... and I don't like the teacher also...

So, what are your least favourite subjects?

Marathi and Civics

Do you like all sciences, or some sciences?

I like biology most... actually I like all.. I like doing experiments.. I like to do research... I like chemistry experiments... I have medium liking for physics... So I like biology first, then chemistry, then EVS [environmental studies] and then physics.

Do you think Geography is also part of science? And what about history?

Hmm.. It is also like science... I mean... yes, it is a science .. *science nahi hota toh geography nahi hota*, like satellites and all [If science was not there, geography wouldn't be there] History... it is not like science ... it just tells us about past .. In science they tell us about what was the past research and all... but history... not sure.

Do you think it is important to learn science? Why/why not?

Yes.. its important, it should be compulsory in school.. so that they can know about science, what happens in science. We have EVS, so we know environment *hamare haat mein hai.. hum log kya kar sakte hai.. agar environment safe hai toh hum log safe hai* [we know that environment is in our hands...we know what all we can do... if environment is safe, then we are safe]. We get to know about air and water pollution... we get to know about Alzheimer's *disease... So I celebrated* Diwali little bit only ... and in chemistry, you can touch chemicals... we learn about good and bad chemicals... we get to know what happens when you mix two chemicals... we learn what to touch and not to touch...

Can you give an example of how learning science was useful for you outside of school?

In EVS, we study about pollution... now every time I come here from station (railway)... we have to close our nose...because it is so dirty because of pollution... now I am noticing more... because we read, we notice more...

Do you think science is useful in any other area of your life or in your family's life?

No

Do you use internet for any of your school work?

Yes, in school, we have a computer lab and internet... I use it for my projects, not for homework or exam preparations.

Do you like working online?

Yes, because you are open to world wide... you can talk to anyone.. you can get education related information for work...

In your projects and school work, do you like to work alone or in groups?

Usually teachers give us group work ... but I prefer working alone... because then I can peacefully work on it, can concentrate more.... In group, you can get confused with others. But then in groups, *meri baat sahi uski galat; ya uski baat sahi hai, mera galat* [my point is right, his/her point is wrong; or his/her point is right, I am wrong]... that we can find out.

Have you visited the Museum and science centre in Mumbai? Do you learn science there?

I have visited and I liked both ... the science centre was ok, but planetarium was fun. I learnt about how the universe works.

Can you think of a famous scientist?

Homi Bhabha but I don't know much about him.... some people here also....

Can you think of any famous women scientists?

Hai kya? [are there any?]... *Zyada females...science mein nahi jate* [many women don't go into science]... oh I take that back, I have seen many women

here at your office.. I don't think there are any in my text book though …

Have you heard of Madam Curie?

No… oh.. wait, I know Sunita Williams and Kalpana Chawla!

When you grow up, what kind of job do you want to do?

I want to become a biology scientist… because I am interested in biology.. I like to know about biology… about what is the importance of organisms in daily life… what organisms dirty our water?

Have you always wanted to be a Biology Scientist?

No… I mean first I wanted to be a singer in 5th standard… then in 7th standard, I liked science.. so it changed. If I don't do well in science, I may consider singing… I go for classes, Carnatic music classes.

Suppose I said, complete the sentence, "I would like to be a scientist because…" how would you continue?

To know how organisms help us.. it is process of questioning. [And on another occasion]. I want to be scientist as there are many benefits… one gets good money, one can travel outside the country to attend talks and conferences, everything is near by and lot of perks are there.

We all get sick from time to time. Let's imagine you had a bad stomach-ache, what would you do?

I would go to doctor.. *ghar me ilaj hua toh theek hai* [if I am cured by home remedies, then its fine] …mom knows quite a bit… we used to live in a village, we know about Ayurveda …

Let's consider a quite different question. Suppose you had a friend who said that their religious holy book explained the beginning of the earth and of human life very differently from what scientists said, and so your friend thought the scientists were wrong? What would you say to your friend?

I would say science is correct … I will say that because science says things for a reason …. I will prefer science.

If you had the power to change 5 things in your school today to make it more enjoyable, what would you do?

I would increase playing time… it keeps us healthy also.. so there will be PT period everyday. Teaching should be good… some teachers only do easy questions in class and give the tough questions for homework… that should not happen. Library should be open for all and all the time… and some books like encyclopedia are not allowed for us – its only allowed for 10th standard… so all books should be allowed for all…. Even *Mahabharata* is not allowed now for us to read…. I think this 'no failing' till 8th standard rule.. that pass till 8th standard should discontinue. Because in class, the less interested people disturb good performing students… and there should be separate division… in 10th standard, we have separate special teachers who can concentrate on the weaker students more….. There should be different kinds of food available in the recess- *roz khichadi rehta hai* [Everyday, there is *Khichadi* – a rice lentil dish]

You visit the design and technology laboratory often. Why is it so? What makes you come back here?

It's because of creativity

What do you mean by creativity?

Different different things…

Ok, but I am still confused, how does that make you want to come to the laboratory?

The things we see here… so many of the things I have seen here for the first time… and we get a lot of help for our

projects here, if we have doubt and all. We like coming here…

But many times you don't complete the projects we give you. Why is that?

Time was less, you can give us now – we will do it and finish it. We had work from the other lab also. That is why we did not finish it.

But you had time later, right? Then too, you did not finish it. You can tell us if its boring. It helps us to plan our activities better.

Actually, when we are doing one activity, and we see another one, we move to that because you feel that one is more interesting. So that keeps happening. But it will help if you give us short projects, means that gets over in one hour or so… we can then quickly complete it and go…

Is that fun for you? If you already know the answer to something and you solve it and go, then….

(Jatin completes my sentence): We don't actually learn anything new…

***

Reflections from the conversation/s

Outdoor engagement

It is not surprising to see that Jatin as well as a few others (not mentioned in this interview), express their need for extended outdoor (Physical Training/ PT) sessions, when asked what is the one thing they would like to change in school. Children today are spending less time outdoors and studies have suggested ways in which outdoor component can be integrated with subjects like environmental studies (Bhide & Chunawala, 2017). Converting PT periods (which are usually 1 or 2 in a week) to a subject period in an attempt to "complete syllabus" is not uncommon. And children often are left with even lesser time outdoors. As Muñoz (2009) suggests, outdoor educational contexts can stimulate development of a wide range of communication, social, and learning skills including creativity.

Relevance of science and image of science

Many students, like Jatin find that science has restricted relevance in their daily lives, yet have a liking for it owing to good teachers or their interest in specific topics. Jatin seems to view science as a mere giver of information and facts. He, as well as a few others I spoke to, have a very positive attitude towards science, thinks that science can solve many of society's problems, they like "doing" experiments, and they frequently are on the side of science without questioning it further. His positive impression of science can be attributed to the general prestige of science in Indian society, that one can get 'good' jobs in science or it could just be that he felt that was the 'appropriate' thing to say in a science centre. Interestingly, Jatin had forwarded a whatsapp® message to a group which made a fallacious claim about an astronomical event, apparently backed by NASA. When I asked him how he believed this message was true, he mentioned that because NASA is trustworthy and a renowned name in the scientific world. An inability to critically evaluate information is observed in such instances. Such trends have been observed in other parts of the world as well. Recently a Standford University study that surveyed around 7800 students reported that over 80% of middle-schoolers couldn't distinguish between an ad labeled "sponsored content" and a real news story on a website (Wineburg et al., 2016). Research has indicated that incorporating elements of nature of science, methods of science and

socio-scientific issues in the science curriculum could perhaps be one way for students to get a more holistic understanding of science (Ledermen, 1992).

Technology in hand

Using technology was the "in-thing" for Jatin and his friends. They find the idea of working with computers and internet fascinating, the thought of having information at your finger tips seems to empower them. However, I worry about the repercussions of indiscriminate internet use. For example, for his projects, I have seen Jatin copy information 'word for word' (whether relevant or not) from the internet on a particular topic in Geography. I tried asking him what is the information he needed and his replies were often *"my teacher told me to get all information about this 'topic' and stick pictures*". In the context of using technology, NCF 2005 says that "*technological use that turns teachers and children into mere consumers and technology operators needs to be reviewed and discouraged*" (p.121). The projects that Jatin and his friends get assigned in school are restricted to "collecting information" about a person, place or concept. Such projects have little scope for inquiry, let alone allowing for student's curiosity, creativity and imagination.

Collaboration and group work

Research has over the years provided ample evidence of the benefits of working in collaboration (Baker et al., 1999; Haller et al., 2000; Mehrotra, 2008). On the contrary, Jatin personally does not seem to consider collaboration to have much value, in fact he thinks it hinders his work. My observations of his group work aligns with what he says, that is, whenever he is given a task to do with his peers, he tends to wander off after 10 minutes. Either he prefers working alone, or the activity could not provide for effective constructive collaboration or he did not feel challenged enough by his peers. It is possible that his attitude towards collaboration are also linked with his ideas of inclusion, which are discussed in the subsequent section.

Views on inclusion

On two occasions, Jatin expressed his disinterest in sharing space with peers who are unlike him: "*...in class, the less interested people disturb good performing students... and there should be separate division... in 10th standard"* and *"Usually teachers give us group work ... but I prefer working alone... because then I can peacefully work on it, can concentrate more.... In group, you can get confused with others".* Though in the latter statement, he did further mention that there is value in differing opinions, his stance to distance himself from those who are different from him is a concern for us as educators, especially when the education system is in transition from exclusion to integration to inclusion (Sharma, Chari & Chunawala, 2017). Instilling values of empathy, tolerance and peace amongst the younger generation is an important educational and life goal, which forms the bedrock of a humanistic society. However, an interesting juncture to explore is how and why students develop this idea of "separating" self from peers who are unlike them. Jatin also mentions that school is fun because "*Mauka milta hai sabit karne ke liye* [you get an opportunity to prove]". Whether this kind of competition is healthy or not, we cannot say at this point, but a strong sense to win or prove oneself may be linked to wanting to work with people who will increase your chances of winning or proving one self.

Gender and science

Lack of exposure to works of women scientists leads Jatin to feel there

are no women scientists around. But he was fast to change his stance when he reminded himself about the women scientists he met at the centre during his visits. I later showed him the booklet "*Gender and Science*" (Chunawala, 2003), which showcases work by women scientists from across the globe. Jatin was completely in awe and went around showing the booklet to his friends later saying- *did you know about them*? Lack of women scientists in Indian science textbooks has been documented (Chunawala, Vinisha & Patel, 2009) and these can not only affect girl's choices in science careers but also boy's perceptions of women in science. Ensuring that activities are designed in ways that are sensitive to gender issues is a way to sensitize and bring about awareness among students on issues related to gender and science (SAS Project, 1994, p.71; SED Project 2010-13).

Involvement in unguided tasks

When given a D&T task [for example, exploring an unfamiliar artefact, an initial surge in curiosity made Jatin and his friends deeply engage with the task; they discussed with each other, made hypothesis, handled artefacts and raised questions (Ara, 2009). But within say, ten minutes, they would lose interest and move on to other tasks. It seems the initial excitement to solve the problem is short-lived and does not sustain for them to continue with the task. Though they mention limited time, and the other laboratory responsibilities as reasons for this short-lived motivation, I am inclined to think the real reason for their short-lived motivation lies in Jatin's last response, "*...but it will help if you give us short projects, meaning that get over in one hour or so... we can then complete it and go*". Perhaps, Jatin feels that completing or solving the problem successfully was more important, and to some extent, that influenced the amount of time they spent on the problem. But this needs further probing.

Take aways

Our interactions with Jatin and his classmates have given us some interesting insights. They are curious, eager to learn new things, they like science and enjoy the freedom to dabble with new artefacts without restrictions. However, their interests are often short-lived and they tend to move from one activity to the other hurriedly. They don't 'complete' any one project on their own (unguided) unless and until we intervene and push them to achieve their final goal. Why they lose interest is not clear to us, but this is something we need to examine in depth. Developing activities that engage children in a sustained fashion with scope for tapping students' creativity and imagination is our aim. Initial student motivation fueled by guided collaboration and explicit instructions for the D&T tasks may help in this regard (See Khunyakari, 2008; Mehrotra, 2008; Ara, 2013). Further, our interactions also indicate the need to emphasis the fostering of values of empathy, social justice and cooperation. Activities that explicitly touch upon issues of gender, inclusion, nature of science would be a step towards introducing students to a more holistic and humanistic understanding of the world around them. Hopefully, our continued interactions with these children will both, provide more insights and help us design appropriate and interesting activities.

*(*Name changed to maintain confidentiality)*

Acknowledgments: Several of these questions were adapted from "*Science Education for Diversity*" Project questionnaire. Thanks are due to

Sachin Datt, who set up a variety of making and doing tasks at the Design and Technology Laboratory at HBCSE, from which the children could choose from. Thanks to Ritesh Khunyakari, Swati Mehrotra and Farhat Ara, whose works I have referred to time and again. Discussions with Sugra Chunawala, Sachin Datt, Shubhangi Bhide, Saurav Shome, Amit Dhakulkar, Disha Gupta, Ashwini Dhanvijay, Rupali Shinde and Arundhati Dolas led to the diverse threads of thought that have been penned down here, I am grateful for their inputs and feedback. Last but not the least, thanks to Jatin and his friends.

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Deepa Kiran
over2deepakiran@gmail.com

Storytelling in the Learning Environment
The Primary Teacher

Abstract

This article is based on the oral storytelling and it briefly explores the art form from its origin to its current role. A brief exploration of how and why oral storytelling works, what is the space it occupies, and what possibilities does it hold in the multi-media inundated scenario today.

In the last two decades, I have worked with over 1500 teachers and 1 lakh children across India and the world. Performing, conducting workshops, writing articles and doing independent research. Each experience has offered a different dimension of understanding. The impact of storytelling I realized is not only academic but also non-academic . Exchanges with other educationalists, professional storytellers and researchers guided my journey. With a 15 year old and 13 year old at home, I have also recorded some anecdotal journal entries as a parent .Being a performance storyteller, inspired by Indian oral traditions I understood and honed my craft over the years. This article attempts to share essence of the learning. And hopefully generate engagement with oral storytelling and its pedagogical possibilities.

What this article comprises in brief
Its genesis
Brief history of the oral tradition

"There have been great societies that did not use the wheel, but there have been no societies that did not tell stories." ***—Ursula K. LeGuin***

Storytelling is an ancient art form that has existed ever since man learnt to speak. Stories are how we experience life and how we store the experiences. Yesterday is a story. Tomorrow is a story. Stories are how we connect with ourselves, with the world and with life itself and make sense of it all. As humans we are constantly seeking to frame our lives in narratives. And we always have done the same in the past. Thus there lies an intrinsic appeal in making and sharing stories.

Storytelling invites us to journey through time and space using the simple strength of the speech and words. It urges us to creatively visualize and craft almost-real experiences. Each one of us has allowed ourselves to 'day dream' sometime. And day dreaming is rather enjoyable. Storytelling is an invitation to the listener to 'day dream' except that it is 'permissible' not punishable and it is 'channelized' not random. Here lies the charm of listening to stories.

It is such a fascinating and magical trip that it becomes infectiously engaging.Stories are filled with symbols and metaphors for life's larger meanings. And they reflect the innate philosophy that the purpose of life is not about seeking or finding but about

introspection. Storytelling thus takes us effortlessly on the journey of life within and without.

"You have to understand, my dears, that the shortest distance between truth and a human being is a story." ***—Anthony de Mello***

Oral tradition in India

India has a rich oral storytelling tradition. Our forefathers had always been aware of this and so they packed all the wisdom of life and knowledge of living into stories. We would agree that most religious teachings of the world are through stories. In our country we have Mahabharata, Ramayana and more recently the Panchatantra, Katha SaritSagar, KasiMajilikathalu, anda plethora of folk lore. Origin stories have always been a wonderful way of sharing knowledge or perceptions about nature and its origins. The story of Panchatantra goes that three good for nothing princes were transformed into efficient and wise capable royals in six months just by listening to the stories of the Panchatantra from the author and their guru Vishnu Sarma.

World over traditional storytellers through their storytelling are meant to keep alive the heritage and customs of generations gone by and share the learned wisdom. India too has a very rich story telling tradition that is infused with the richness of music, dance and poetry. They have many different forms and names in different places such as: Harikatha in Karnataka, Burrakathain Andhra Pradesh, Kathakalekshepa in Tamil Nadu, Pandavaniin Madhya Pradesh, and OttanThullal Kerala and so on.Traditional storytellers are still performing in the towns and villagesPatronage, audience interest, financial viability and the number of performershave allsadly dwindled over the years thanks to television, mobiles and other screens.While the other ironic and positive side of the story is that social media is also slowly in some ways bringing to light, the work of oral storytellers.

Learning versus instruction

The beauty and power of storytelling is the strength of 'realization through revelation'. Through the stories the teller 'reveals' and the listener 'unravels' his/her truths. Given a choice everyone prefers to 'figure out things' for themselves rather than be 'told what is right and what is to be done'. And so the listener is taken through a trip where she/he gets to discover new insights by herself/himself from the story.

" 'Thou shalt not' is soon forgotten, but 'Once upon a time' lasts forever."

- Philip Pullman

Storytelling in the learning environment

In the current scenario of unlimited access to digital support in education, the teacher often wonders what is the role of oral telling in the classroom? In the age of the multi-media inundation the simple art of 'human conversation-storytelling' becomes all the more valuable.

In this multi-media inundated age that we live in, most of the people do not seem to appreciate or value the significance of oral narration. However, a small group has sustained engagement with storytelling both as an art form and as a pedagogical tool. This small set of people are slowly making an impact and one can say we are at the threshold of the revival of storytelling in India and the world. .

The art and its heart

Storytelling is a social art of connecting with one's audience….no machine can replace that joy of being acknowledged by the teacher**.**When we tell stories, we are telling our children that we value

spending time with them. We are saying that we value speaking with them. We are saying we shall travel together to distant lands and return as friends. Whenever and wherever I have told stories, I find people open up and often speak to me with much trust. They feel a bond has been built. You must have encountered this as a parent or as an educator. Therefore, through storytelling we are opening a part of ourselves and inviting the listeners to also do the same.

The story goes that in a small African village an experiment was done. A man from the city left a television set and said, "Now you don't need your storyteller. This box knows more stories than any storyteller". He went back after a month to the village and was surprised to find that the whole village had deserted the TV box and had gone to listening to their storyteller! When he asked the villagers why they were not watching television they simply said,..

"The television knows many stories but the storyteller knows us"

– African Saying

A claim can safely be made that the digital explosion is no threat to traditional oral telling. Wecan always find simple, innovative ways of inviting the children back to this familiar, simple, culturally-rooted, inexpensive, warm and gentle space of listening to stories. Many teachers are using stories in the classroomalready; however we could do the same more purposefully and gainfully.

Children and storytelling: Do we easily encounter children who dislike listening to a story? Children are naturally inclined to listen to and enjoy stories. Bruno Bettelheim in his book '*The Uses of Enchantment*' states that stories appeal to the 'I'. They offer a chance to vicariously experience what we may not ever be able to otherwise. We can use stories very effectively for language learning, if we approach in a structured manner. Story telling is an interesting way of getting the child to both listen and try imitating language patterns and structures that she has unconsciously absorbed. My experience with over 15000 teachers across the country and the world has continually reinforced the belief in these possibilities. The impact is much more than we imagine.

Story telling in the broad sense of the term refers not only to fairy tales or other contemporary ones but also to stories constructed around mathematical/scientific facts or anything else for that matter. The child learns to both interpret and create texts of her own.

Stories, imagination and learning

Let us look at storytelling as extensive literature that the child is exposed to and which she willingly joins in pursuing. Her imagination is fired as she travels in time and space. Thus in a non-competitive and cooperative environment language acquisition is fostered using a conducive social platform.

"If you want your children to be smart tell them stories,
if you want them to be smarter tell them more stories
and if you want them to be even smarter tell them even more stories!"

– Albert Einstein

Whole language acquisition through storytelling

Learning English language through storytelling is much like learning the mother tongue. Did we learn grammar from Mother, pronunciation from Father or intonation from grandmother? It is a holistic acquisition of the mother tongue. Same is the case with learning

through storytelling. There is ease, lack-of-fear, and natural ways in the process of language acquisition.

Not only in the learning context, the young learner can benefit much with respect to her confidence building, social interactions, cooperative learning, memory skills development, fluency in speech, overcoming fear of reading, motivation for writing and more.

For the classroom

My work with 'Art of storytelling and its pedagogical possibilities' has often taken me to the classrooms. In a private school in a small town near the city ofVizag, the teachers had trained with me in storytelling and would start the day with 15 minutes of storytelling in their classroom. This was for class pre KG to class 2. Hardly 3 weeks had passed, that the teachers began to observe the children were voluntarily sharing the stories(in English), especially dialogues that they had heard with each other in their free time, complete with actions and intonation. "Snake, Snake, did you take my biscuit?" " No, but I think you should go and ask someone else". Quite a long sentence for children who do had never spoken English in the classroom before. Don't you agree? Well the bigger surprise was after about one and a half months they were beginning to replace this with, "Seema, did you take my pencil?" And Seema replied, "No, but I think you should ask someone else".

How had this happened? The children enjoyed the narrative so much that it stayed in their heart and they felt the need to share it. They had listened to the story and were developing their listening skills of knowing how to interpret speech and simultaneously they had a reference model for speech. The context and the 'performance with drama' offered ways to 'arrive at meaning'. So their vocabulary grew as well as the ability to figure ways to comprehend a word. The sentences in the story being grammatically correct, the children learnt to construct correct grammar in their speech, without as yet 'knowing' the rules of grammar. This they did by using similar constructions in a different context. In fact the learning they had naturally acquired and employed it in a context relevant to their day-to-day communication.

For a school run by a charitable trust, after the English language work was progressing with much popularity, I was requested to work with the school science chapters. So I read the class 5 chapter on deforestation and created a story which brought out the concept and the concerns it raises. It was agreed after discussions with the teachers, that the story would be shared, discussed and then become the entry point for the text book lesson on deforestation. It worked way beyond our expectations. The children not only enjoyed the story, they also chose to make a skit and perform the same at a science fair. What is important to mention here is that, the language of the narrative resonated with the students and was easier to comprehend and retain than the language of the text book.

Apart from the telling of the story, what is equally important is, the manner of telling, the reassuring co-operative learning environment that is built in the process, the age-appropriateness of the story, the contextual relevance of the story, and inclusion of various post-storytelling activities oriented towards specific learning-related goals. Activities such as art-response, role-play, drama, song, game, dance, group-discussion and more will go a long in helping to reinforce the learning generated by the storytelling. The ideas are only touched on briefly here as this paper serves as an introduction. However in the process of training

teachers and working with them in their context one evolves effective reference models to work with in the classroom.

These are a few examples, a mere suggestion of the exhaustive range of possibilities that lie within the art of the oral narrative and the related arts, the Story Arts.

Including diverse cultures and artsthrough storytelling

India is a nation with multiple cultures and multiple narratives. Bringing in different narratives, languages, music and movement, much like our rich oral traditions across the country, is an effective way of enriching the storytelling experience and also acknowledging the diversity in the classroom. Different children and their background gets a representation through storytelling which is inclusive of different languages, their rhymes, songs and other cultural aspects.

Over the last 18 years, I have traveled and worked with children from all across the country and the world. Austria, Scotland, South Africa and others. I have worked with over 600 English language adult learners from over a 100 countries. These story exchanges offer not only academic benefit but also a strong 'bridge', a 'connect' to the world of 'the other'. Thus stories and their oral sharing continue to remind us of the multiplicity of worlds and multiplicity of world-views. A valuable reminder indeed.

Conclusion

And returning to the role of storytelling as pedagogical tool for learning language:apart from listening, speaking, vocabulary and grammar, various post-storytelling activities can effectively contribute to development of reading and writing skills as well. The benefit is not for the student alone but as much for the teacher.

Not only student but teacher development too

In India, Africa and other Asian and Latin American countries, the English language teacher struggles with language and language teaching issues herself. Storytelling offers scope for teacher development too, with respect to her zone of operation such as:Developing her communicative effectiveness and improving communication patterns and/or language proficiency. The teacher becomes more confident and/or interested in accessing and engaging with the language resources available. A self-sustaining interest in language teaching is often generated. Storytelling employed regularly offers scaffolding particularly with respect to spontaneous classroom communication of the teacher.

The significance of the narrative framework and the oral tradition can deeply impact the learning environment. Thus it would be benefit us all, to relook at storytelling in the learning environment and employ it in a slightly more structured manner. The simple low-cost, zero technology tools can be meaningfully employed for far-reaching results. And the finest part of it all is that we can use it anytime and anywhere, bringing smiles and opening new worlds of learning and development for both the teacher and the taught.

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Payal Yadav
payal.sbalaji.yadav9@gmail.com

पुस्तक समीक्षा
डेविएंस इन क्लासरूम्स
डी.एच. हरग्रेअवेस, एस. के. हेस्टर एंड एफ.जे. मेल्लोर
रूटलेज एंड केगन पॉल लिमिटेड, लन्दन

थ्योरी व शिक्षण के दोहरे उद्देश्यों को ध्यान में रखते हुए 1975 में प्रकाशित यह पुस्तक, एक शोध प्रोजेक्ट के आधार पर लिखी गई है। यह पुस्तक पहला ऐसा प्रयास है जिसमे लेबलिंग थ्योरी को कक्षायी विसामान्यताओं के आलोक में समझने का प्रयास किया गया है। लेबलिंग थ्योरी मानती है कि किसी व्यक्ति की क्रिया को 'विसामान्य' होने का लेबल देना, उस व्यक्ति विशेष को विसामान्य व्यवहार में संलग्न होने के लिए प्रेरित करता है। कक्षायी विसामान्यताओं को समझाने के साथसाथ यह पुस्तक, यह भी विवेचना करती है कि अपनी स्वयं की शोध प्रक्रिया पर दृष्टि डालना और क्षेत्र से थ्योरी का निर्माण करना कितना प्रासंगिक है। पुस्तक का प्रस्थान बिंदु लेबलिंग थ्योरी है जो कक्षा में विद्यार्थियों के व्यवहार एवं अस्मिता को, उनके लिए प्रयुक्त लेबल्स के सापेक्ष देखती है। शिक्षकों द्वारा कक्षायी संदर्भो को सामान्य मान लेने की प्रवर्ती को चुनौती देते हुए यह पुस्तक व्यष्टिगत स्तर पर कक्षायी प्रक्रियाओं का विश्लेषण करने का प्रयास करती है।

प्रस्तुत पुस्तक दो प्रकार के पाठकों को ध्यान में रखते हुए लिखी गई है। पहला सामाजिक-वैज्ञानिक और दूसरा शिक्षक| पहले पाठकों को ध्यान में रखते हुए एक उपयुक्त संकल्पनात्मक रुपरेखा विकसित करने का प्रयास किया गया है| वही दूसरे पाठकों की सहायता के लिए स्कूली जीवन की रोजमर्रा की समस्याओं पर प्रकाश डालने की कोशिश की गई है| अल्फ्रेड स्चुत्ज़, हेरोल्ड गर्फिन्केलव आरोन सिकॉउरेल आदि के महत्वपूर्ण संदर्भो के आधार पर यह पुस्तक नृजातीय-कार्यप्रणाली और घटनाविज्ञान परम्पराओं के अंतर्गत लिखी गई है।

१९७२ में इंग्लैंड के दो स्कूलों में किए गए केस अध्ययन के द्वारा लेखक, स्कूल में नियमों की प्रकृति, अध्यापकों द्वारा विसामान्यताओं का आरोपण, कैसे कुछ विशिष्ट क्रियाओं, व्यवहारों को विसामान्यताओं की श्रेणी में लाया जाता है? आदि पक्षों का अध्ययन करते है। डाटा एकत्रीकरण के लिए सहभागी अवलोकन, मुक्त साक्षात्कार का प्रयोग किया गया है। दोनों स्कूलों के अध्यापकों, विद्यार्थियों के केस अध्ययन एवं उनकी प्रतिक्रियाओं से प्राप्त आंकड़ों का, विश्लेषण किया गया है।

पहला अध्याय बताता है कि कैसे १९६० का दशक सामाजिक विज्ञान में विभिन्न रुपावलियों (पैराडाइमों) के बीच विवाद का दौर रहा। यह विवाद दो विचारधाराओं में विभाजित था- पहली प्रत्यक्षवाद की विचारधारा, जो मानती है कि सामाजिक विज्ञान, प्राकृतिक विज्ञान के मॉडल पर आधारित है। वही दूसरी विचारधारा नृजातीय कार्यप्रणाली व घटनाविज्ञान की है, जो प्राकृतिक विज्ञान की वस्तुनिष्ठता से अलग सामाजिक विज्ञान को आत्मनिष्ठ और व्यक्तिगत अनुभवों के अलोक में समझने का प्रयास करती है। इस पुस्तक में दूसरी विचारधारा का समर्थन किया गया है। साथ ही लेबलिंग विचारकों व सिंबॉलिक इंटरएक्शनिस्म दोनों ही पक्षों की आलोचना की गई है।

दूसरा अध्याय विवेचना करता है किलेबलिंग थ्योरी को स्कूली विसामान्यताओं से जोड़कर देखने के सन्दर्भ में कोई महत्वपूर्ण आनुभाविक अध्ययन नहीं हुआ है|

विसामान्यताओं को लेकर मुख्य दृष्टिकोण मनोवैज्ञानिक, क्लिनिकल और मनोमितीय रहा है। अध्याय की शुरुआत में कुछ लेखों/संदर्भो का जिक्र है जिनसे लेखकों के विचार प्रभावित हुए जैसे – सिकॉउरेल (१९६८), किटुसे (१९६२), कार्ल वेर्थ्मन (१९६३) आदि।इसके बाद विस्तारपूर्वक यह विवेचना की गई है कि कैसे और किन सन्दर्भों में इस शोध प्रोजेक्ट की शुरुआत हुई थी। साथ ही साथ शोध प्रोजेक्ट के प्रश्नों, शोध उद्देश्यों, शोध की आवश्यकता आदि का विस्तारपूर्वक वर्णन किया गया है। लेखक यह स्पष्ट करते है कि विधिगत विसामान्यताओं और स्कूली व कक्षायी विसामान्यताओं में मौलिक तौर पर अंतर है। जैसे विधिगत प्रणाली में उत्पन्न विसामान्यताओं के लिए नियम औपचारिक, पूर्णतः स्पष्ट एवं परिभाषित होते है। न्यायविचार की पूरी प्रक्रिया लम्बी और जटिल होती है। वही दूसरी और स्कूली सन्दर्भ में विसामान्यताओं के लिए निर्धारित नियम पूर्णतः परिभाषित नहीं होते है। साथ ही ये नियम लोचशील और तुलनात्मक रूप से कम जटिल भी होते है।

लेबलिंग थ्योरी के अंतर्गत दो मुख्य संकल्पनाएं है- नियम और लेबल। तीसरे अध्याय में स्कूल में नियमों की क्या प्रकृति है? इस पहलू पर चर्चा की गई है। आपराधिक मॉडल से अलग स्कूल के नियम पूरी तरह लिखे हुए या कोडीफाइड नहीं होते है। इनकी प्रकृति लिखित या मौखिक दोनों प्रकार की हो सकती है। स्कूल के सन्दर्भ में तीन प्रकार के नियमों की चर्चा की गई है – संस्थागत, स्थितिजन्य और व्यक्तिगत नियम| प्राप्त आंकड़ों के आधार पर कक्षायी नियमों को पांच थीमें के तहत समझने का प्रयास किया गया है- बातचीत, गतिशीलता, शिक्षक-विद्यार्थी सम्बन्ध, विद्यार्थी-विद्यार्थी सम्बन्ध और समय। अध्याय का निष्कर्ष यह निकलता है कि नियमों को सन्दर्भ में ही समझा जा सकता है| स्कूली अनुभवों को हमें ज्यों का त्यों नहीं लेना चाहिए बल्कि हमें विभिन्न पहलुओं को समस्यात्मक मानना होगा और विवेचना करनी होगी।

अगला अध्याय पिछले अध्याय के सापेक्ष स्कूल विशिष्ट के सन्दर्भों में कक्षा की विभिन्न प्रक्रियाओं को समझाने का प्रयास करता है। शिक्षण की प्रक्रिया में कौन-कौन सी अवस्थाएं होती है ? शिक्षार्थियों-विद्यार्थियों के सम्बन्ध, विद्यार्थियों-विद्यार्थियों के संबंधों की प्रकृति क्या है? आदि प्रक्रियाओं का उदाहरण व अवलोकन के बिन्दुओं से विस्तृत वर्णन किया गया है। एक महत्वपूर्ण बिंदु जो इस अध्याय में उठाया गया है वह है कि कैसे कोई क्रिया शुद्धतः विसामान्यताओं की श्रेणी में रख दी जाती है ?

पांचवे अध्याय में यह चर्चा की गई है कि कैसे पहचानें की कोई क्रिया विसामान्य है ? अध्यापकों के द्वारा किए गए विश्लेषणों के आधार पर यह बताया गया है कि कैसे वे विसामान्यताओं का आरोपण करते है ? इस क्रिया में अध्यापक अपने सामान्य ज्ञान का प्रयोग यह सम्बन्ध बनाने में करते हैं कि अमुक विद्यार्थी एक विशिष्ट प्रकार का विद्यार्थी है। उदाहरण के तौर पर यदि कक्षा में एक विद्यार्थी खिड़की की तरफ देख रहा है, अपने सहपाठी की ओर देख रहा है या नीचे देख रहा है तो इसका मतलब है कि उसका ध्यान पढ़ाई में और अध्यापक की बातों की तरफ़ नहीं है। यहाँ अध्यापक अपने सामान्य ज्ञान से यह मान लेता है कि क्योंकि विद्यार्थी एक समय में दो चीजों पर ध्यान नहीं दे सकता, इसलिए अगर उसका ध्यान कहीं और है तो उसका ध्यान कक्षा में नहीं है।

अगले अध्याय में बताया गया है कि कैसे अध्यापक, विद्यार्थियों को विभिन्न कोटियों में बांटते है। कैसे कोई कर्ता विसामान्य व्यक्ति बनता है? विसामान्य क्रिया और विसामान्य व्यक्ति के मध्य क्या सम्बन्ध है ? लेबलिंग थ्योरी के अनुसार किसी विशिष्ट तरीके से लेबल करना या नाम रखना, विद्यार्थियों के लिए विशिष्ट परिणाम उत्पन्न करता है। प्ररूप निर्धारण (टाइपिंग) थ्योरी के तहत विद्यार्थियों को तीन अवस्थाओं के माध्यम से श्रेणीकृत किया जाता है। पहली अवस्थापरिकल्पना की है, जो उस समय शुरू होती है जब शिक्षक विद्यार्थी से पहली बार मिलता है। दूसरीअवस्था विस्तारण की है, जो बीच कि अवस्था है और इसमें शिक्षक विद्यार्थी के व्यवहार को समझने की प्रक्रिया में होता है। तीसरी अवस्था स्थिरीकरण की है, जिसमे अध्यापक के पास विद्यार्थियों की अस्मिता को लेकर एक स्पष्ट व स्थिर समझ विकसित हो जाती है।

पिछले अध्याय के अलोक में अगले अध्याय में श्रेणीकरण की प्रक्रिया का विस्तारपूर्वक वर्णन किया गया है। दोनों स्कूलों में किए गए केस-अध्ययनों के माध्यम से बताया गया है कि कैसे अध्यापक के दृष्टिकोण में विसामान्य विद्यार्थियों की एक स्थिर अस्मिता बनती है। केस अध्ययनों के द्वारा यह निकलकर आता है कि स्थिरीकरण की प्रक्रिया अपने आप में बहुत ही जटिल है। प्रत्येक श्रेणीकरण और हर एक विसामान्य विद्यार्थी के अपने कुछ विशिष्ट लक्षण होते है।

आठवें अध्याय में यह चर्चा कि गई है कि विसामान्य विद्यार्थियों की पहचान के पश्चात् उनके प्रति किस तरह की प्रतिक्रियाएं अध्यापकों की होती है ? एक बहुत ही सामान्य सी प्रतिक्रियां उपचार के तौर पर होती है जो विसामान्य विद्यार्थी और उपचार के तरीकों के बीच में एक यांत्रिक सा सम्बन्ध बैठा देती है। लेखक इस प्रतिक्रियां की आलोचना करते है और मानते है कि वही नियम मान्य होने चाहिए जो सन्दर्भ के अनुरूप सहायक हों।

अंतिम अध्याय सामाजिक-वैज्ञानिकों और शिक्षाविदों के लिए कुछ निहितार्थ प्रस्तुत करता है| इस पुस्तक में प्रस्तुत शोध विसामान्य अध्ययन के क्षेत्र में एक योगदान है, विशेषकर कक्षायी सन्दर्भ में मनोवैज्ञानिक और समाजशास्त्रीय साहित्यों में विसामान्यताओं को लेकर जो चर्चा होती है वह बताती है कि क्यों कुछ विद्यार्थी विसामान्य होते है? लेकिन ऐसे साहित्य शिक्षकों को कोई व्यवहारिक सहायता प्रदान नहीं कर पाते है| ठीक इसके विपरीत इस पुस्तक की विषय सामग्री विसामान्यताओं को लेकर कोई रामबाण उपलब्ध नहीं कराती है बल्कि मानती है कि विसामान्यता स्कूल के सामाजिक जीवन का एक स्वाभाविक सा हिस्सा है। इस प्रकार यह पुस्तक विसामान्यताओं को लेकर बने पूर्वाग्रहों का खंडन करती है।

साथ ही साथ पुस्तक में जो विश्लेषण प्रस्तुत किया गया है वह विसामान्यताओं को कम करने के कुछ तरीके विकसित करने में सहायक हो सकता है। इस तरह के तरीके सामाजिकवैज्ञानिकों(वर्णन के स्तर पर) और शिक्षाविदों (सुझाव, कुछ हल देने के स्तर पर), दोनों के लिए ही उपयोगी है। इंग्लैंड के सन्दर्भों में लिखी गई यह पुस्तक भारतीय शिक्षाविदों एवं विद्यार्थियों के लिए भी विशेष महत्व रखती है। उदाहरण के तौर पर वर्तमान समय में विद्यार्थियों में बढ़ती अनुशासनहीनता न केवल शिक्षकों के लिए बल्कि सम्पूर्ण शैक्षणिक परिदृश्य में एक पेचिदा मसला बन चुकी है। ऐसे में यह समझना आवश्यक हो जाता है कि किन प्रक्रियाओं से होते हुए अनुशासनहीनता का यह मुद्दा उभर रहा है ? इस पुस्तक की शोध प्राविधि की तर्ज पर व्यष्टिगत शोध के माध्यम से स्कूली जीवन की इन बारीकियों को बेहतर ढंग से समझा जा सकता है।

भारतीय स्कूली शिक्षा के सन्दर्भ में यह पुस्तक गहरे सवाल खड़े करती है। जैसे कक्षायी और स्कूली सन्दर्भों में विसामान्यता की परिभाषा एवं अर्थों को किस तरह गढ़ा जाता है? शिक्षकों और स्कूली समुदाय की प्रतिक्रियाओं का विसामान्यता की पूरी संकल्पना पर क्या प्रभाव पड़ता है ? साथ ही साथ इस पुस्तक की विषय सामग्री के आधार पर, विसामान्यता के सरोकारों को न केवल कक्षायी सन्दर्भ में बल्कि वृहत स्कूली अलोक में समझना भी आवश्यक हो जाता है।

राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्
NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING