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Associate Editors for the Issue:

Kirti Kapur
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Contributors

1. R. Ramanujam, Institute of Mathematical Science, Chennai
2. Hriday Kant Dewan, Azim Premji University, Bangalore
3. Kinnari Pandya, Azim Premji University, Bengaluru, Karnataka
4. Anamika, Department of Education, University of Delhi
5. Aerum Khan, Central Institute of Educational Technology, NCERT, New Delhi
6. Haneet Gandhi and Alprata Ahuja, Central Institute of Education (Faculty of Education), University of Delhi
7. Khan Waqaruzzaman, Lecturer Senior Secondary School, Chattisgarh
8. Tanya Saxena, Freelance Educator, Hyderabad, Telangana
9. Vinay K. Kantha, Ex Prof. Patna University
10. N. Upender Reddy, Consultant, Commissioner office Telangana, Hyderabad
11. Namita, Lecturer , Dr. B.R. Ambedkar University, Agra
12. Bhupender Singh (JPF) and Patanjali Mishra (Assitant Prof.), Vardhaman Mahavir Open university Kota
13. Pooja Singal, Department of Elementary Education, Lady Shri Ram College for Women, University of Delhi
14. Rajni Dwivedi, Freelance Educator, Tejpur, Guwahati
15. Anuradha Jain, Resource Person, Azimpremji foundation, Jaipur
16. Dhananjay Kumar, Resource Person, Azimpremji foundation, Dhantari, Uttrakhand
17. Jay Shankar Chaubey, Resource Person Azimpremji foundation, Udham Nagar
18. Beena Anil, Assitant Prof. SDNB, Varshnav College for women Chennai

Editorial

This is the second issue of VOICES on curriculum. It continues the exposition and the analysis from the first issue. As we had seen from the variety of papers in the previous issue as well, the curriculum has off and on been on center stage for the last four decades and indeed the whole of last century. The contours, scope and dimensions have also waxed and waned in this period. The domains of curriculum and the onus of constructing it, implementing and maintaining it involve many players. As we all realise curriculum can not be easily defined or bounded. Often it is considered to be all encompassing including even the teacher development and the systemic concerns but sometimes it may just get limited to being identified as the syllabus or just the content list. Whichever way we may consider it a curriculum can be considered to be at the “heart” of a learning institution or a teaching-learning system. Clearly no school or university can exist without a curriculum and some in fact argue that even a teacher can not function without a curriculum in her mind. The lack of awareness of the curricular ideas that drive her/his decisions often makes the teacher follow the laid down curricular principles in patches or often even follow practices that are in conflict with them. The prevalent teaching-learning process thus becomes a curious mixture of stated principles and what may be euphemistically called ‘folk’ curricular and pedagogical understandings.

Considered in a broad manner a curriculum incorporates the planned interaction of pupils with instructional content, materials, resources, and processes for evaluating the attainment of educational objectives. Some curricular documents including the Indian National Curriculum Frameworks include even the preparation of teachers, their capacities, role and their governance as well as principles outlining the structure and nature of the system to transact education. The driving force of any curriculum document are the goals and expectations innate to it and explicit in it. In another words, the specified expectations and the ones that are expected in addition or sometime even in contradiction. All those who are a part of the education process and those that interact with it in some degree bring not only their own expectations but also their own interpretations of the expectations generally agreed to.

This continuously interactive nature implies an ever evolving, churning and transmuting kaleidoscopic set of expectations. Examining the earlier conversations on this makes obvious that curricular choices have always remained areas of deliberation and reflection and they would remain so in future too. Given all this the consequence is that any useful curricular document needs not only to be clear and aligned to the aspects that are relevant to us from all perspectives but also help those using it to be clear about the expectations from them, while recognising that the expectations would be influenced by a variety of factors and interest groups resulting in a continuous discourse on and around parts of them. The most difficult in this process is to keep the main ideas and purposes in focus as we build the rest of the edifice. The challenge being to have a consistent set and then to maintain the set as the rest of the structure and the super-structure gets built. It is around this that major parts of the curricular debates are concentrated.

These conversations have gone back and forth and on occasions have widened the scope of education and its purpose and sometimes narrowed it perhaps in an attempt to track the achievable outcomes. In the context of India we talk about

curriculum in the context of an effort at making education universal and in the context of a democratic country with a vision enshrined in the constitutional preamble. The factors that influence discussion on the purpose of education and the nature of participation in it on the one hand would flow from that and on the other from the economic and the global phenomena affecting lives including of economy and vocational opportunities. The discussion around objectives and purposes will always be contentious and convictions around the agreed objectives would determine the nature of its outreach and its quality. The deliberations around purposes and their conversion strategies have continued ever since the idea of education was conceived and so also in the context of India. What the NCF 2005 (National Curriculum Framework 2005 published by the NCERT), underlined was that purposes are central to any analysis or attempt to formulate pedagogy or technology.

NCF 2005 and the subsequent discourse also brought out that a proper formulation of educational processes towards access or quality can not be embedded in any method or in the developed materials. These essentially reside in the people engaged. Education being a human interactional process the most critical resources in education are the people and the way they are treated and the manner of building dialogues between them. A meaningful use of the curriculum would involve clarifying purposes, principles to be followed, strategy, materials creation and localisation, orientation of teachers, trial of the ideas and building of systems. These systems need to be such that they are systems of participation, have assessment processes that enable empathy laden feed back and encouragement process and made a continuous effort to build the self image of the teacher and have the society and the administration respect and value her as she is the central person carrying the responsibility of transacting. This apart from other things also requires the system to engage with the documents and the entire machinery to consciously and constructively interact with the educational process. This to have continuous conversations that are rooted and embedded in the document but with an open mind.

The requirement from the systems is that they must be simple, clear and easy to use, yet that can ensure the principles. Systems that would hold the program, mechanisms that would continue to build excitement and newness of learning and doing to enable teachers to renew themselves for each new student set. The articles in the previous as well as this issue combined have managed to touch only a few of the aspects but they have brought out some important questions and thoughts for deliberation. The curriculum also has structured in to it some parts of the expectation of the processes and the players. What it needs to however certainly do as the first step is to make a clear statement about the purpose.

It is important to also recognise that education is like nutrition and its need can not be met by palliatives or symptomatic treatments of short term injections of analgesics or supplements. It requires sustained effort to build the cognitive and reflective ambience required to nurture it. It requires from the system expressed through the teacher temperance and fortitude. It is the daily classroom that must show this in building exciting engagement. The article by Prof Ramanujam points to this in the context of technology and how it needs to be understood differently. It has to include all children and make them and the teacher feel at ease. It is important to have the idea (call it technology or innovation if you must) remain exciting for the teacher and each following set of students day after day.

The paper by Prof Ramanujam further presents the wide notion of Technology and its place in education. The paper argues that in the current scenario there is a techno-mania prevailing. This views ICT as the most critical tool and conflates in to ICT all aspects of Technology in our lives and in classrooms. It limits this role to merely of making classrooms fun and/or functioning such as to make teacher redundant. The role and importance thus given suggests that ICT can or should even replace teachers or any need for them to be capable requiring continuous capacity building and empowerment. He further points out that those who criticise ICT also discredit the entire gambit of technology with it. The paper suggests that all these ideas need to be applied with care and understanding. Ramanujam further addresses the meaning of Technology. He brings out the many different notions of how we need to interact with it and that there are alternative ways possible.

Ramanujam brings up the Nai Talim as a reference point to argue that technology is not merely equipment, or techniques or the benefits that accrue from it. He points out that as was argued by Nai Talim, students need to bridge the gap between head and hand. He emphasises the need for an alternative view to technology and its place in education. Together with the articles by Rajaram Sharma and Sreeranjini with Gurumurthy in the previous issue of VOICES we get a whole view of how the ICT and technology can be useful in classrooms and the pitfalls in the path.

The purpose of education and what we want to do in a democratic society is important to consider. Do we want to track memory and facts or skill to use algorithms and follow manual driven procedures and processes or we want to focus on developing belief and practice of equality, freedom and fraternity. Included in it is in the sense of feeling and allowing this to the other. This has lead to the development of rights of people as essential human rights. These are essential elements to be transacted in the schools. The paper by Anamika highlights the importance of having human rights and their being included in education. She presents conversations with some social science teachers and their views how to deal with human rights in the classrooms is an attempt to lay down both the need and manner of making this possible. She argues that the principles of Human Rights are human dignity, equality, non-discrimination, universality, interdependency, indivisibility, inalienability, and responsibilities. These can be universally considered as imperative for education and the features of the pedagogy for them would include belief in the efficacy of Human Rights and a critical perspective on social disparities, inequalities, and discrepancies. This spirit must be applied both inside and outside the classroom. It may be useful to extend the analysis to other subjects even though Anamika's paper suggests that Social sciences are the ideal ground for it.

Vinay Kanth and Upender Reddy write about the development of the State Curricular Frameworks for their respective states. They have emphasised the participation of people from different experience bases. The teachers, the educators from the DIET and SCERT, faculty members from Universities, Institutes of National repute working in this field. Both bring out the specific points that the state teams included in the curricular documents to keep in mind the context of the state. Kanth points out that the key point of the Bihar document is the recognition of the importance of the rural children and their education. The BCF has a special chapter on it. He also points out that while

the BCF does not have the 21 position papers like the NCF 2005 has, yet is closely aligned to it. The departures are small and conscious. Reddy points out that the development of the State curricular framework was a direct development from the transformational effort that the then undivided State of Andhra Pradesh was attempting. The state efforts even prior to the NCF 2005 were aligned to the understanding behind it and the NCF led to the natural development of the state framework. The effort was followed by text book development and assessment processes that were aligned to the framework. He points out the specific points that emerged on the components included in this development effort and lays out the recommendations that he considers important for this process to be meaningful and the challenges that may lay dormant but are very much there.

The essence of these papers is that transformation is a long term process including many participants and views. All those included or indirectly associated with such efforts would like to be and must be involved in the dialogue around the process. It thus implies that any educative process and each process of intervening in big or small way in it has to be seen as a new one and should include new way of and new kind of action. The process would be a new experience. So innovation is not model to be transported like technology but an action experience to be lived through, an experience that renews and changes you as much as it changes others.

In the same vein the papers following on specific curricular ideas and experiences of constructing materials suggest that while, materials, ideas, technologies are useful sharable things but the heart of the matter is in the people using them. By now many materials and technologies are available and are being developed. The task is to have the purposes, principles and mechanisms that are aligned to the Constitutional commitment and to each other spelt out. The strategy can evolve and transform but the alignment to the above is critical for us to be transformative.

The papers on curriculum and text book development conceptualisation and their processes focus on many important aspects. The papers in this stream cover Science, Mathematics as also early childhood education and language. There are two papers on science curriculum, one by Hriday Kant Dewan and the other by Aerum Khan. These may be read in conjunction with the article by Amitabha Mukherjee in the previous issue on VOICES on curriculum. In his paper Dewan argues for not just an alternative process but an alternative notion of science education. He points out that the notion of a good science classroom is confused with doing some activity including experiments. This experiment of course can be just a demonstration or the task putting some equipment together and attempting to match the previously known observations. The idea of experiment as an exploration and attempt to discover something new is missed. He points out that while in the larger discourse methods and folk ideas take precedence there have been rigorous attempts to conceptualise and implement an alternative process of science-teaching.

For Dewan the essential features of the alternative attempt to formulate science education include the insistence that the child must learn the importance of conducting experiments, record as well as systematise observations, analyse them and compare different sets of observations so as to be able to generalise and articulate principles. Classrooms of science must build in her confidence for learning science imbued with the foundational structure of science rather than

to swamp them by temporary information. Dewan also presents an anecdotal account of a group of teachers exposed to doing science. He points out that the task is not easy as the teachers themselves feel under-equipped as they never had such experiences. The existence of efforts that have stayed for long however, suggests that it is possible through sustained rigorous effort.

The paper by Aerum Khan traces the evolution of the place of science in the curricular documents. She argues that the term scientific literacy has always been considered important and suggests that this is essential for a democratic polity as it promotes reason and reliance on reality. Khan recounts the evolution of the term scientific temper from Scientific literacy. She mentions the declaration on scientific temper as a land mark document. For her, scientific temper is an attitude that involves agnostically viewing and examining everything. No acceptance without testing or trial but have the mind to change beliefs in the face of evidence. Aerum points out that elements of fairness, equality and democracy are built into it as also is the hard discipline of the mind. This is not only necessary for applying science but for life itself. She suggests that the notion of science as included in the NCF 2005 and then subsequently in the NCFTE 2009 is deeply imbued with a sense of scientific temper. She gives examples of the way the position paper on teaching of Science presents science and the strategies to teach real science that builds a scientific temper. We recognise that this paper takes a very specific modernist position on the nature and definition of science and there are opinions on the other side and also some that are more moderate. It would be nice to have some of those views in the next issues.

The paper by Kinnari Pandya examines the National Early Childhood Care and Education Curriculum Framework 2014 on parameters outlined in the NCF 2005. She points out that the framework has comprehensively spelt out the features of human development in the initial years and laid out the framework to scaffold the development and maximise the learning. While so far early childhood care and education has been seen as an intuitive endeavour between the child and her mother or care-taker for very young children, and for 3 year plus children, it has been seen as a preparation for schooling. The framework brings out essential features of the suitable engagement that would provide the child with an appropriate opportunity and context. She suggests that the document may also help align the several prevalent models based on particular philosophies and the programmes that follow eclectic approaches for pre-schooling. Pandya further details the expectations from a curriculum framework document that have been specifically fulfilled by this document, alongside highlighting the key aspects of the ECCE framework.

She further argues that occasionally, the document goes beyond the brief of a curriculum framework and gives more than the guiding principles. This includes specifics of what to, and details how to implement the objectives stated in the curriculum core. She suggests that while this is beyond the ambit of a framework document, given the dearth of comprehensive literature on early childhood education curricula, the details seem worthwhile. She points out that the guidelines provide theoretically guided balanced mechanisms to deal with issues such as home language, multilingual classrooms, inclusion, school readiness, material/resource rich environment, etc. In a sense the what of early years curricula is brought to focus with concerns like whether 3 Rs or emphasis on holistic development fore-grounded, activity and play in early learning,

assessment, balance in routine for young children, and so on.

At the end she points out that while it is three years since the NCF ECCE was outlined it is yet unknown in the sector. She adds due to the diversity of the nature of preschools and ECCE centres, the vision and the principles laid in the NCF ECCE are far in the horizon. She suggests that systematic efforts to bring awareness among the private sector and the non-government organisations to adopt and/or align with this national framework would be required. She further highlights the need for specific measures to orient parents and caregivers of children under 3 years of age, inclusion of the principles outlined in the framework getting incorporated in pre-service curricula and in-service professional development of Anganwadi workers, preschool teachers, as well as teachers of elementary schools along with other stakeholders of the system.

The second set of articles on mathematics focuses on the development of mathematics text books. They are a follow up from the issues of VOICES on mathematics and then the article in the previous issue by Disha Nawani on the notion of text book and its role in the classrooms. The papers in this category are mathematics textbook-centric. The first paper focuses on laying down an edifice for the analysis of the mathematics text books. We know that popularly, and commonly textbooks are bequeathed with the sole responsibility of preserving and transmitting the content matter. Dewan, Gandhi and Ahuja, through their article “Searching for didactical negotiations in mathematics textbooks” entreat that besides this prima facie task, textbooks also harbour information required for edifying discipline-specific thinking. The authors offer analysing mathematics textbooks for their didactical dispositions as route for knowing the disciplinary perspectives, processes and structures delivered through the textbooks. Their didactical framework being based on the recommendations of the Position Paper on Teaching of Mathematics, 2006 deliberates on searching the vigour with which mathematics textbooks amalgamate the content with its pedagogical aspects. The framework is categorised in two sections offering guidelines for assessing the pedagogical inputs and approaches adopted in bringing a disciplinary understanding, and analysing how textbooks position mathematics in learners’ socio-cognitive milieu. The article concludes by recognising the inherent lack of personification in textbooks and urges on the role of teachers in filling this gap.

Waquar and Tanya speak about their experience of development of a mathematics text book set for the secondary classes and the challenges that lay in the path. The article by Waquar presents his individual journey of learning and the change he saw in himself in the process of thinking about the text book. Tanya’s paper on the other hand is about the collective journey and the steps that are necessary for a collective process of text book writing. The paper investigates how the principles and framework of the textbook evolved and how their alignment to the NCF was attempted. Beginning with the development of common guidelines the process of developing chapters as a collective endeavour meant more than just making a list. They had to be shared and internalised as the words used did not have the same implications for all members. The paper points out that the next step was to examine and transform these guidelines to secondary math learning objectives and how they would be presented in the book. The implication of the principles is highlighted in the nature of the chapters added, the nature and types of problems, and in various other ways including the formatting, presentation and layout of the book. Tanya points out that the

group benefitted a lot from discussing the NCERT position paper on mathematics as well as text books of NCERT and other states. She highlights some of the guiding principles, namely that the purpose of the mathematics text book to be read and understood by children, the fact that children formulating problems is as important as their solving a variety of problems, illustrations are needed to make book friendly. These include depicting the expected mathematics classroom with children consulting each other and learning cooperatively and including examples that relate to life and expecting learners and teachers to add more examples etc. Besides these important pedagogic principles she points out that the focus of the content also came in for scrutiny. There was added emphasis on proofs, visualisation, data handling, ratio proportion as integrated, etc. The nature of mathematical knowledge and its functioning principles were kept in mind to the extent it was possible at that level. As an illustration she points out the integration of multiple ratio proportion examples under one category so that they can be seen as emanating from the same logical structures.

The issue has three papers that focus on the curricular concerns around education. These are of distinct genre but have messages that are common. The paper by Rajni Dwivedi is on the manner the curricular concerns on the learning of Language have been focussed in the national framework documents. Through the example of an effort of curricular intervention of interveners from outside the system in collaboration with the system designated authority for it, she illustrates how churning in educational thinking has multiple strands. She suggests that while language has always been central to human learning but has in recent years become a core focus in the policy documents. Dwivedi further points out that while there is an increase in the understanding of this issue but many important aspects have not yet become a part of the discourse. The paper brings out the importance and nuances of developing the emphasis on Language and its teaching-learning and elaborates the implications. Her paper underlines the importance of continued dialogue on this and sharing amongst different perspectives on it leading to greater appreciation of the shared principles and their implications giving greater flexibility to the practitioners.

The second paper in this category is the Role of a language teacher in Primary classes by Anuradha Jain. Anuradha extracts some benefits for teachers in working and observing children. She suggests that this helps teacher understand how children think while helping the teacher do self assessment and reflection. She argues and shows through illustrations that children look forward to conversations in the school and actually want freedom and choice for their path of learning. In the context of language teaching-learning Jain suggests that beginning classes should not be started with formal teaching but with semi-informal conversations with and among children. The nature, structure and themes of conversations need to promote simple conversations in the language familiar to the children. The conversations where-ever possible should necessarily should also located in themes that children are knowledgeable in and find interesting. In this many ways to provide new themes can also be introduced through the use of the library. She emphasises that conversations among children are important as they also are a part of socialisation.

The third paper is entitled Multilingualism by Pooja Singhal explores the role of language in teaching learning situation. She has highlighted the fact that language learning should be embedded in the socio-cultural environment of the

child and multilingualism should be used as a resource to bridge the gap between home language and the school language. She has also highlighted the fact that literacy originates from the oral language of the child and in the absence of the child's voice it is not possible. She presents arguments to emphasise the Socio-cultural uniqueness of each language, meaning making, impossibility of exact translation and the implication for the language of the children in classrooms. This has many critical implications. For one it implies the need for an important role being given to the 'role' of language of the child. She argues that in the formative years of a child language is very crucial as it is 'constitutive' of a child's socio-cultural reality. Singhal is worried by the observation that a country which abounds in languages, the language of teaching acts to 'dissociate' rather than connect the knowledge of the outside world from the local milieu of the child.

There are some articles that deal with specific aspects of language as a curricular concern. Namita emphasises the role of literature in education. She argues using the example of Vishnu Sharma's Panchatantra and Narayan Pandit's Hitopdesha, that literature can be used to both build a cultural connect with the heritage for the children and also promote their cognitive ability. This can be done by using the stories in a manner that is somewhat discursive. This allows for children to use and build on their abilities and paths of thinking to interrogate before accepting principles. This enables the intrinsic interests in stories being harnessed for building conversations.

The paper by Dhananjaya is focussed on the challenges in the third language namely Sanskrit. He points out that the three language formula although sound in conception has not been implementable. The challenge with the third language being taught is that the children have no link or experience of it. They have neither interest in it nor do they have faith in their ability to learn it. The paper is focussed on a study that was attempting to understand the interest and attitude status of each of the individual; teacher or student in this exercise. Dhananjaya points out that the classrooms of Sanskrit are also disinteresting because of the materials and the Conventional classroom processes. Dhananjaya speaks about his effort wherein they brought in small stories in Sanskrit to the classroom and also got them to express and write whatever they themselves could from their life experience. They found in this process that children enjoyed and opened up to enjoy Sanskrit. The concern was however to ensure the participation of the children who are hesitant and shy and manage those who are smart and respond quickly so that they do not usurp the entire space for conversation and dialogue. He finds that allowing children to construct or borrow lexical items from other languages that they knew help them learn the structure and manner of constructing sentences in Sanskrit. The paper resonates generally with the ideas on language teaching-learning expressed in other papers earlier but flags in addition the concern about the treatment to the idea of the third language and the reason for its existence.

In her paper 'Teacher tasks as change makers in an ESL classroom', Beena Anil points out that change can come about from teachers and their understanding. She points out the importance of activities that students can engage with autonomously to learn. She elaborates with sources what her meaning of such an activity as a task is and presents the features that make some engagement a 'task'. In this purpose and the nature of the learner engagement are critical parameters and they can be estimated by the check-list she provides. She

presents the learning and implications of a quantitative study imbued with some qualitative elements that she has conducted on the relationship between learning and manner of performing the tasks.

Many of the other articles reflect on the experiences of working with children and point out that strategies to build academic democratic interaction systems are possible. Democracy does not mean anarchy and 'I do what I please' but a constant process of review and analysis that does not fear hierarchy of any kind. The issue has many papers that present this in different ways stressing the importance of space for the experience, expression and voice of the children.

One such paper by Bhupender Singh and Patanjali Misra entitled 'Swaal poochne ka swaal' focuses on the way classroom processes and attitude of teachers and parents should include the voice and thoughts of children. They argue that child is composed by and interacts with the whole environment. That has social and cultural components as well. And this is often missed. From this interaction with what goes on around child comes up with her formulations, questions and ideas. And these must have space in the classrooms. They point out that neither teachers nor parents encourage it and gradually the child feels inhibited to the extent of being voiceless about her own thoughts. She is also looking for what is the expected thing that has to be said. They also point out there is also a disapproval of the children intermingling and learning from each other particularly enforced in the classrooms. They also point out that even speaking or laughing loudly is prohibited in the classroom and even socially as it is considered to be rowdy and uncouth. They cite sources to reinforce their argument about need for dialogue between teacher and students. There maybe a quibble with their use of the 'satisfy the curiosity' or with 'answer all their questions' and it perhaps does not go well with the rest of the ideas they have expressed. The paper focusses on the critical question that it is also the socially and culturally accepted norms that ensure that children become conformists and silent in the classrooms. Their strongly expressed valid plea is to make a change in this.

The paper by Jai Shankar Choubey explores the role of conversation with children in school. He argues that conversations in classrooms are extremely important as they widen understanding, imagination, thinking etc. They also build self confidence and prepares learners for reading and writing as well. Choubey points out that conversations provide an occasion for bringing the experiences of children and engage with the ideas embedded in them. He feels that conversations particularly with children are not given the kind of attention they should and there is an attitude of disdain for it. They are seen as trite and common and hence not learning occasions unlike the tasks of reading and writing. Choubey suggests that while informal conversations are important in the classrooms, the real role for classrooms is of formally structured conversations. A Structure not to direct who would speak or an expectation that everyone would say 'correct' things but structured to have focus and consciously going deeper in a question. He adds that conversations help teachers and learners understand each other better when views are expressed freely.

The other pieces in the issue are two reports. One, a report of a workshop on inclusive education held at the Central institute of Education and the second a report on the conference jointly organised by three different academies of sciences on education.

The workshop organised by the Central Institute IASE was a dialogical interaction among school teachers and scholars to consider the policy to praxis linkage. The discussions brought out nuances of inclusions and the possible ways of enabling the linkage. Among the important points made were the insight that reading stories in the classroom could be a simple way to include many and story telling could be made an inclusive process. There were discussions in depth on some aspects of differentiated abilities. The point is that in each of these there are many levels and multiple aspects. These abilities lend features that enable learners to be more capable in some ways but not so in others. Those with impaired visibility have lower mobility and limited exposure but extremely developed tactile sense. Similarly, children who have ADHD need to be recognised and identified but not so to label them but to try to figure out their strengths and their challenges. What was emphasised was that inclusion is about creating effective classrooms where diversity could be addressed with inclusion. Different ability children have often less opportunity to gain experience which leads to less friends and poor socio-economic cognitive development. This further limits contact and mobility, thus making a vicious cycle. To involve students in learning a concept, range of experiences need to be wide and thus to ensure children do not lose interest due lack of stimulus, we need to ensure an enriched environment specific to the abilities of the learner. An important message was that inclusion means inclusion in all spheres of life and not just in to academics.

The report of the conference is important as the various National Academies of Sciences came together to think about elementary education in the country. They brought in selected teachers from all over the country to express their analysis and make suggestions. The teachers presented papers and contributed to the recommendation. The emphasis in the conference was on building commitment and strategies for the vision and purpose of education as envisioned during the independence movement. The report emphasised inclusion, sensitivity to the the children and a greater awareness and empathy for the challenges faced by the teachers in ensuring the vision. It suggested creating opportunity and attitudes for greater and more inclusive community ownership with decentralised processes under a broad framework of principles and strategies. The report is the essence of this churning. What is presented here is the summary of the report.

We have two announcements, one is a National Conference on Branding of Government Schools and the second is about a seminar on science and science education with the presentations and discussions in Hindi and Punjabi. The announcements seek wider participation and further details are on the link provided.

The next issue of the Voices of teachers and teacher educators is on Teacher education: Perspectives and Practices. It is expected that this may also have a second issue or even more due to the importance of the theme and also because of the large churning in ideas around this.