State Curriculum Framework-2011

Executive Summaries
(All Position Papers)

School Education Department
Telangana, Hyderabad.

State Council of Educational Research & Training
Telangana, Hyderabad.

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Members:

1. Dr. N. Upender Reddy, Head, Dept. of Curriculum and Text Books, SCERT, Hyderabad.
2. Dr. Paripally Shanker, Lect. DIET, Warangal.
3. Mr. Survarna Vinayak, LFL HM & SRG, GPS, Manthani, Karimnagar.
4. Mr.KhandeRao Ramesh Rao,S.A & SRG,GHS, Hyzurabad, Karimnagar.
5. Dr. TVS. Ramesh, S.A & , UPS, Potlapudi,TP Gudur, Nellore.
6. Mr . K . Rajender Reddy, SA & SRG, UPS, Thimmapur, Nalganda.

Development and Coordination Committee:

1. Smt. B. Sheshu Kumari, Director, SCERT, Hyderabad.
2. Dr. N. Upender Reddy, Head, Dept. of Curriculum and Text Books, SCERT, Hyderabad.

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1. State Curriculum1 Frame Work -2011, Executive summary

Schooling in this country was once a privilege of the few but today it is a fundamental right through Right to Free and Compulsory Education Act, 2009. Providing education to all is an important goal upheld by the Indian Constitution. India took up concerted efforts to establish a system of mass education more than 60 years ago. Constitution of India made it obligatory for the state to provide basic education to all in the age group of 6 to 14. This was a huge task. India is a nation of diversities with varied cultural and linguistic pluralities. It is also a nation committed to democratic values and social justice. Andhra Pradesh is no exception to this. The AP SCF is in agreement with the principle stated in NCF 2005 that the child should be at the basis of the education system. However, in addition, AP SCF takes the stand that learning should be interaction based, and that interactions between different components of the system should be given equal importance. This principle will guide our perspectives and actions in the realm of education.

As NCF 2005 states, what we include in 'knowledge' reflects our opinion of what we think the aims of education are. Since our aims of education are to enable the child to think critically, to observe, to analyze, rationalize and draw patterns, and to be sensitive to the diversity or human life, 'knowledge' should not only include pieces of information, but ways of thinking and feeling. We often think of knowledge as information that a child should simply acquire by repeatedly reciting or memorizing, but knowledge includes many more things other than knowing trivia about the world. The aim of education, therefore, is not to feed the child with pieces of information, but to hone her thinking skills. In order to achieve this, children will need sensitive scaffolding at appropriate moments and will have to play an active part in creating that knowledge for themselves and to analyse it.

In ensuring that this happens, the role of the teacher is very important. In spite of all the technological breakthroughs and the arrival of the virtual classroom, the importance of the classroom teacher has not reduced. In the Indian culture, the teacher has been given great

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position and respect. Although times have changed since, most Indians still look at the teachers with the same respect and awe. However, a shift in the traditional role of the teacher is recommended here. Teacher should act as facilitators of knowledge rather than givers of knowledge. They should regard their students as constructors of knowledge rather than mere recipients thereof; and should have positive attitudes towards the learner as well as the learning process.

Along with the interactions between the child, teachers, parents and the community, interactions must also take place between the child and the learning resources. AP SCF believes that there is a set of underlying cognitive abilities such as analytical skills, logical reasoning and inference building which in different forms underlie all system of knowledge. After completion of school education children should develop a scientific temper, specific attitudes, physical skills, language abilities and abstract thinking. In addition to that children should be able to appreciate diversities in the society with a humanitarian perspective, and to think critically and creatively. They should become responsible citizens and rational human beings. The knowledge that is generated from the school must be based on child background and their experiences. Crafts, arts, play, work, health are also key areas in school curriculum along with subject specific areas. Assessment is also an integral part of the learning process and of ensuring quality education.

Quality education also implies providing children with an environment conducive to learning in schools. This goes beyond the teaching process and the curriculum to the physical environment and resources available to the child. Unfortunately, even today, in many cases remote isolated habitations, girls, minorities and children with disability do not have access to school. Even those who do have access, the quality of educational environment is often poor. This often acts as a deterrent to the educational process. This environment needs to be examined and reformed wherever required.

Along with the learning environment, there is also a need for systemic reforms. There are several problems in making the different components involved in the education of children work together in harmony but unless that happens, the project of quality education for all may remain a dream. We need to make changes towards a resolution of various problems which characterise the system. These need to be related to changes in the curriculum, in attitudes and preparation of teachers, in the support structures for teachers and others engaged in educational efforts, as well

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as in the nature of relationship between the community and the educational institutions. It is only through enhancing the quality of interactions between various agencies and stakeholders that education can be made interactive and meaningful.

2. Aims of Education

Executive Summary

Society and education are interdependent. Both are dynamic in nature. As per the societal needs the education will be changed. Education brings changes in the society. In the modern context the school system has become inflexible and is forbiddingly instrumental in nature. The whole focus of education seems to be on getting a good grade which would enable the student to get a secure job. We also note that children are getting increasingly bored with the classroom processes and textbooks. We have failed to produce rational and responsible citizens. Examination system breeds levels of fear and anxiety that push children to the borders of severe depression and suicide. Would the aim of education be to make engineers , doctors, scientists OR to use it as an instrument to make a just , egalitarian and empathic human beings and societies ?
Why should a child come to school?" Why should the parent send the child to school and ensure that she comes regularly and for a sufficiently long period of time?" Why should the Government run the schools and what should be ensured in these schools? What the school can do and what is its possible role in the society? What is the purpose of education? All these questions are addressed by the aims of education. Aims of education can give a direction for the education system by considering the aspirations of the child, parents, community and the policy makers. In this context this position paper discussed about the aims, understanding the aims of education, frame for defining .aims of education, aims of education and the role of the teacher, implications of aims of education, teaching learning process , pedagogy and assessment.

It also discussed about how knowledge is not a unitary concept and how are the different kinds of knowledge as well as different kinds of knowing. The idea that objectivity, which is a necessary constituent of knowledge, can be achieved only if knowledge is free from emotions must be abandoned. This position paper suggests that the education that the child gets must be of value to her and make

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her cable of intervening constructively in life around. The community should be able to use and recognise her knowledge and she should feel comfortable and confidently in her community.

No aims of education that the community does not value and find meaningful can be sustained in a society. We have pledged to build an equitable, just; secular and rational society and the aims of education must be informed by that. They must also be informed by the intrinsic understanding of humaneness, kindness, love, peace and understanding of the other as well of the self. This indicates that the aims need to balance between the development of cognitive and rational and of the physical development and the affective development namely empathy, compassion, pluralism, patience, contentment and self-reflection. We are in a changing time and the aims must reflect the possibility of retaining what is appropriate and humane in tradition and adapt what needs to be brought in to transform to the changing understanding, situations and the challenges

Curriculum And Text Books

Executive Summary

This position paper attempts to clarify the meaning of words like 'curriculum', 'curriculum framework' and 'syllabus'. It then puts forth the conceptualisation of the Andhra Pradesh Curricular Framework.

“Curriculum is, perhaps, best thought of as that set of planned activities which are designed to implement a particular educational aim – set of such aims – in terms of the content of what is to be taught and the knowledge, skills and attitudes which are to be deliberately fostered” (Winch)

'Syllabus' is that part of the curriculum which includes the content of what is to be taught and the knowledge, skills, and attitudes that are to be fostered in schools.

The justifications/principles for deciding aims, setting stage-wise objectives, content selection, criteria for good methods, material and evaluation are based on a number of assumptions, which we will refer to as 'foundational assumptions'. You may find that the bulk of the foundational assumptions can be put in slightly overlapping groups:

- Assumptions concerning human being and society

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- Assumptions about knowledge
- Assumptions about learning
- Assumptions about understanding of the child and his/her context

Curriculum Framework is *'that set of planned activities which are designed to implement a particular educational aim – set of such aims – in terms of the content of what is to be taught and the knowledge, skills and attitudes which are to be deliberately fostered' (Winch) together with statements of criteria for selection of content, and choices in methods, materials and evaluation. (Stenhouse)*

In the present context the need for Need for Andhra Pradesh Curriculum Framework is felt because of the deteriorating quality of schooling, increasing privatisation of education, the social context of schooling and the need for curriculum development is felt in the context of NCF,2005 and RTE,2009.

The Andhra Pradesh Focus Group on Curriculum, Syllabus and Textbooks recommends a curriculum that-

- Builds an equal and just society
- Emphasises learning with understanding for children
- Emphasises space for expression and thinking for children
- Emphasises the holistic development of children i.e. development of their cognitive, social, affective and psyco-motar competencies.
- Facilitates schools and teachers to make decisions about choice of content, pedagogy, teaching-learning material, evaluation etc. at the school level; in other words, a national curriculum framework for increased autonomy of the school.

Keeping in mind the above critique and in view of then recommendations of the Andhra Pradesh Curriculum Framework, National Curriculum Framework- 2005 and RTE 2009 it is necessary to rethink the existing textbooks of Andhra Pradesh. Some questions that need to be asked in this process are-

- To what extent is the textbook promoting constitutional values of equity, justice, respect for the other etc.
- To what extent is the textbook supporting children coming from diversified backgrounds.

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- How far is the textbook children and teachers to search for additional sources of learning beyond textbooks i.e. environment, peers, additional learning materials like resource books etc.
- Whether our textbooks providing information or facilitating for construction of knowledge.
- What idea do the textbooks convey about knowledge. Whether knowledge is treated as information or an understanding gained through or observation, exploration, research, experimentations and thinking.
- Whether textbooks look at children as receivers of information or develop children to think and question.
- To what extent is the content matter in the textbook according to the maturity levels of the children.

Language and Language Teaching –executive summary

Language plays a vital role in school education as a subject and as a medium. Language is a unique characteristic of human beings. It is the vehicle of thought. Many linguists may think of language only as a combination of words and phrases and sentences based on a set of grammatical rules. But for a speaker and a community language is much more than that. It is not only a medium for thought but also a resource through which all knowledge is constructed. It is also a marker of a community's identity.

Children's Language

All children except those who may suffer from a mental deficit are born with an innate capacity to acquire languages. All normal children are in a sense linguistic adults by the age of 4 i.e. they know the basic vocabulary and the overall grammatical structures of the languages they are exposed to subconsciously. Children acquire extremely complex and rich systems of rules that govern language at the level of sounds, words, sentences and discourse structures. It is quite natural for children to learn more than one language at a time when there is rich exposure and caring and loving environment which is meaningful. Children are also highly innovative in their use of language and acquire linguistic systems on their own terms. They don't imitate and rote-learn. Actually, it'd be so boring if they did. We will never hear novel sentences ever.

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Multilingualism

Multilingualism is constitutive of human identity. Even the so called "monolingual" in a remote village possesses a verbal repertoire that equips her to function adequately over a large number of communicative encounters.

It is natural that our classrooms are multilingual since all societies employ a highly diversified repertoire to negotiate a multiplicity of situations. Therefore rather than treating classroom multilingualism as an obstacle, we should treat it as a resource and try to use it as a teaching strategy. It can be used to enable the child to sharpen her cognitive skills and also to acquire the target language. So the survival and maintenance of multilingualism should be at the centre of our language planning. We must find ways of respecting and using the multiplicity of voices represented in our classrooms. A child whose voice is not heard will definitely feel alienated and is likely to drop out of the school. Instead of teaching mechanical and boring grammar, we can make use of the multiplicity of languages available in the classroom as a basis for reflecting on language structure. Once again SCF suggests that it is interaction among linguistic groups that's at the heart of classroom processes.

Second Language Learning

Human beings are born with a language faculty and this enables them to acquire any number of languages at any point of time in their lives. It is true, however, that children acquire new languages much faster, in particular their sound systems. Adults are often better at acquiring words and sentence structure. If children fail to learn new languages such as say Hindi and English in Andhra Pradesh, the problem is not with children; the problem is with materials, methods and teachers and the overall infrastructure provided in the school. A second language will get easily learnt if we can ensure rich and challenging exposure and a caring and sympathetic environment. Rich exposure would include engaging with discourses of a wide variety including poems, stories, plays, jokes, hoardings, songs etc; and this engagement should ensure reflection and analysis. It is in the process of creating such an environment that languages and cultural practices children bring to school with them begin to get respected and used creatively in the teaching process. In general, the process of teaching a second language should approximate as closely as possible to a situation in which that language is acquired as a first language. This indeed is a difficult task but approximation is always possible.

Learning Outcomes

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Traditionally, learning outcomes have been seen only in terms of LSRW i.e. Listening, Speaking, Reading and Writing as discrete skills. We need to have a more holistic perspective on language outcomes just as we suggest a more holistic approach to the processes of language teaching. At all times, we would like to assess children in terms of the discourses they produce. In these discourses, not only listening, speaking, reading and writing will be involved but also situation appropriate use of language and the use of various visual media such as drawing and painting. The focus of language outcomes should be on reading and writing with understanding; it should help children to listen to others with patience and speak effortlessly with confidence. **We must insist that the language teaching programme should FIRST focus on enhancing proficiency levels in the mother tongues of children.** Once that is ensured, it will go a long way in helping children acquire higher levels of proficiency in other languages and subjects.

***Language learning outcomes**:*

- Listening, Understanding and Responding
- Speaking Appropriately
- Reading with Understanding
- Writing
- Vocabulary
- Creative Expression
- Aesthetic Sensibility and Social Responsibility
- Metalinguistic Awareness

As children move from the Primary to the Upper Primary and Secondary levels, they should be able to use language in increasingly abstract situations. They come to school with Basic Interpersonal Communicative Skills (BICS) in the languages of their neighbourhood; our first task is to ensure that they acquire CALP (Cognitively Advanced Language Proficiency) in the languages they already know. Once that's done, it would be much easier to acquire both BICS and CALP in other languages using multilinguality as a resource.

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5. Mathematics

EXECUTIVE SUMMARY

Mathematics is the result of the human mind's ability to abstract from life. It consists of ideas and concepts like numbers which though created for counting have no relationship to the individual characteristics of the objects being counted. Mathematics uses both deductive and inductive reasoning to build itself. What are

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these? When statements or propositions are based on a set of observations and experiences, drawing on patterns observed and generalizing from them, it is called inductive reasoning. On the other hand when truth is established through the process of deductive reasoningit is based on a previously established statement and logic. Such previously established statements are statements which are self-evident truths i.e statements we assume to be true as they seem intuitively correct (axioms and postulates) or statements that are assumed as the basis of the mathematics objects constructed or are ones which have been proven true based on the self evident truths(i.e theorems).

For some the value of Mathematics lies in its practical utility i.e. in its application in day-to-day life and work. Others appreciate it as a tool for improving thinking and for some others it is simply pursued because they enjoy it. All three of them are valid reasons for engaging with the discipline and have implications for teaching mathematics in school. By including mathematics in the school subjects we want children to develop skill and understanding in the various curricular areas related to number and space and logical thinking. They should develop problem solving abilities- understand/formulate problems, develop a variety of strategies to solve them, verify and interpret results, generalize to new situations.

Children have many innate abilities for Mathematics such as those of classification, matching, estimation, analysis, mapping and generalization. The conceptions of number and space- more-less, far-near, big-small, in-out, tall-short, heavy-light etc. should be utilized in introducing them to formal Mathematics.

Children seek to make sense of school Mathematics in their lives. Thus, any attempt to develop teaching learning material for children or engage with them in the classroom must respect their everyday life experiences. In many poor urban households, children participate in economic activities. Almost no school curriculum gives any place to such everyday ‘street Mathematics’. Beginning from these concrete experiences children can be helped to move to more abstract mathematics.

Mathematics suffers from the syndrome of one correct answer. Children need to be encouraged to come up with and use more than one way/method of doing things and solving problems.

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The Mathematics syllabus for the elementary classes has to revolve around understanding and using numbers and the system of numbers, understanding shapes and spatial relations, measurement, handling data etc. In this the identification of patterns is central as it helps children make the transition from arithmetic to algebra. But as they move to secondary classes the logical structure of mathematics should become more evident to them. Geometry and trigonometry, number Theory; e.g., tests of divisibility; properties of the sequence of positive integers, algebra are some areas wherein students can learn to appreciate this structure best.

Managing a Mathematics classroom requires a teacher to engage all children in the classroom. This is possible when a teacher understands that all children can learn Mathematics. Various prevelant social discriminations of caste and gender also work in the context of Mathematics education. Children with special needs especially those with mental and physical disabilities, have to be given equal importance as other children, with due care towards their disability. They need to be respected as human beings.

Like other disciplines, Mathematics education also needs preparation with regard to understanding the nature of the subject, its content and pedagogic techniques of Mathematics. Mastery of the subject is an absolute essential for effective teaching; the level of teacher knowledge and understanding should be much higher than that he is expected to impart. A teacher's personal characteristics are also important. These include general appearance, health, energy, enthusiasm, co-operation, sense of humor, sense of justice and willingness to speak the facts. Each teacher should make definite provisions for his own professional growth and development. Institutional support is important in this context — support from the State educational institutions, and also from the authorities in the school to which the teacher belongs. This includes membership of professional bodies, and taking part in teacher development programmes which they conduct from time to time. Every teacher must develop a network of co-teachers and teachers of higher level class teachers for clarification of doubts. Teachers should give students ample space in the classroom so that they can discuss, debate, voice their opinion and critique.

Teacher must consciously undertake continuous evaluation of the student for better teaching and comprehensive assessment of the student. It is important that

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assessment should be based on more than just computational ability and committing to memory many formulas and solved problems; an assessment system must also test for conceptual understanding.

6.Science

EXECUTIVE SUMMARY

Today in 2011, with dreams of making India a developed country, it is acknowledged that we must become knowledge creating / generating society not just knowledge using Society. The teaching of Science in schools should prepare the young minds to face challenges, analyse and try to solve them. On the one hand inventions and discoveries made in the field of science improve the way of living and quality of life of its citizens and on the other hand it helps us understand the world rationally and helps us check and correct our prejudices and biases. Thus it is correct to say education in science fosters the spirit of inquiry that helps all of us to find solutions to problems and to rise above narrow minded, dogmatic and superstitious behavior.

For the above said to happen it is important that science teaching aims towards developing critical scientific thinking abilities, nurturing scientific attitudes and promoting scientific temper. It also needs to involve creating an understanding of the process by which scientific knowledge grows.

Currently teachers attempt to pass on maximum information to the students. Students are generally only listening passively and the classroom process emphasis is on memorization of definitions and scientific facts. The content is limited to textbooks and is considered as the final word. The whole emphasis from parents, students and teachers is on good marks. The other problems are:

- Non-availability of relevant materials as kit for doing experiments.
- Non-availability of adequate and capable teachers leading to inadequate discussion and support to children.

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- No time for the teacher to self reflect and analyse the way students are thinking and presenting and to use that in the plan.
- Teachers' have insufficient preparation to teach Science and there are no support mechanisms to help them in the school.
- The lack of clarity on objectives of Science teaching leads to an over emphasis on rote memory and information recall in assessment.

What is Science? It is a process of constructing knowledge. This process depends both on making careful observations of phenomena and on inventing theories for making sense out of those observations. Change in knowledge is inevitable because new observations may challenge prevailing theories. It demands evidence and is both a blend of logical reasoning and imagination to form a theory or explanation.

The essential feature of science is the spirit of enquiry and discovery and so it becomes the basis for science teaching. The activities and experiments must be designed to nurture and channel curiosity, ask questions, make observations and lead to an open argumentation that leads to evolve the acceptable, accurate solution/conclusion in a democratic way.

Objectives of Science teaching

The main objectives of Science teaching at primary stage are to maintain the curiosity about the world and have the child engage in exploratory and hands on activities that would lead to the development of basic cognitive and psychomotor skills. The criteria for identifying the content at the primary stage are relevance, meaningfulness and interest to the child.

Science education at elementary level should provide a gradual transition from an exposure to ideas of Science through environmental studies of the primary stage to elements of science including its concepts, processes and methods.

At the Secondary Stage concepts principles and skills of science would now appear appropriately but stress should be on use of concepts, on the ability to investigate and on comprehension and not on mere formal definitions.

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We must point out science education today does not have enough examples from practical life. As a result, we are not able to use concepts in our daily life. The practical implications for life are totally distinct from the textbooks. It is not surprising that the students who are good at using ideas with the help of the textbook get puzzled by similar issues in daily life.

Teaching learning of Science

A variety of teaching learning methods need to be adopted by the teacher to develop process skills among children. These methods include relevant and interesting projects for involve data collection, analysis, reporting, reasoning and inference.

The teacher's role, largely, is not to give answers but to guide children so that they arrive at the answer through processes of exploration and discussion.

Assessment

There are two specific major deficiencies in the current examination system of science. The science papers do not attempt to assess understanding of the subject. They contain formal questions, which can be handled by rote learning. There are no occasions for thinking, for discussions, no challenging problems are posed and no experiment based questions. Secondly, the board examinations are held on a fixed date for the whole year of learning. This feature coupled with the exaggerated importance attached to the external examination leads to a lot of stress in the run up to and the post examination scenario.

There is a need to overcome the notion of textbook-based evaluation. Assessment needs to include elements that the textbooks do not contain. The scope of evaluation should be widened by adding non-formal and co-curricular elements.

In sciences, it is necessary that every test item should make the learners think and/or experiment. The tasks for assessment should be challenging. There must be open ended questions in the exam.

7. Social Sciences

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4.5 Social Studies

Our children are growing up under rapidly changing conditions consequent upon the process of globalisation and deeper penetration of market in the lives of people. These processes simultaneously open possibilities for personal advancement and social mobility while also posing serious challenges to the livelihoods of people.

Social Sciences have been undergoing major paradigm shifts from the earlier positivist moorings to development of critical methods accommodating multiple perspectives. It is a matter of satisfaction that many academic institutions based in Andhra Pradesh and intellectuals from Andhra Pradesh have made significant contributions to this transformation of Social Sciences. It is time to harness this positive resource to transform our school education. Social science pedagogy requires that the curriculum be designed keeping in mind the context of the learners. the challenge before the Social Science curriculum designers is to address regional variations while at the same time conforming to more universal curricular objectives. Attempts should be made to help children understand their own world and the larger world through constant comparison and reflection over the similarities and differences. This requires both sensitivity to major regional social issues in the text books and also space for the teacher to take up issues of local and topical importance while teaching in the class. As a part of Social Science Teaching we need to develop special skills relating to the deciphering information and perspectives encoded in different media – narratives, visuals, tables, maps, graphs and pie charts. Equally important is to enable children to critically question the information so provided and assess its value and limitations.

Nature of Social Sciences

A number of disciplines (like history, geography, economics, political science, etc) each with their own distinct methodologies and perspectives constitute Social Sciences. While respecting the distinctiveness of each, it is also necessary to develop inter-disciplinary perspectives to arrive at a holistic understanding of social issues. Social Sciences study different aspects of human life to understand social phenomena and also to help us determining normative priorities and policies.

They study society by using rigorous methods which are both quantitative and qualitative. In quantitative approach social phenomena are studied through quantifiable evidence where in statistical

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procedures are adopted to create valid and reliable findings generalisations are made after studying many cases. In qualitative approach social phenomena are studied through direct observations, direct and indirect interaction with participants, analysis of texts and documents etc.

Another important feature of social sciences is that they always advocate multiple perspectives approach as human phenomena cannot and should not be understood from only one point of view. Multiple perspectives approach is more holistic and comprehensive as identification and utilization of various sources / points of view will help in development of analytic and critical thinking

Social Sciences and Integrated Approach

While teaching history a healthy balance between local, regional, sub continental and global histories needs to be maintained. There is great potential in local history, which has not been tapped in our history teaching for fear of local chauvinism. However it is time we abandoned this fear and come forward to study the history of the immediate social world of the students using critical methods. This will also enable us to broaden the issues discussed in history to include communities, settlements, technologies, cultures and folklore besides the conventional political and socio-economic themes.

Geography seeks to understand spatial patterns in social phenomenon in general and to explain spatial variation. An important component of this investigation is the relation between the natural environment and society. Investigation of the dynamic relation between natural environment and human societies, relations within a society, and the relation between societies inhabiting different regions opens up immense possibilities of moving back and forth from the immediate environment of the child to the global world.

Spatial variation is typically depicted on a map and the skill of interpreting and making maps of varied kinds is essential part of the training that geography education provides. However, maps need to be seen more than a mere skill of depicting information. Cartography is deeply embedded in the history of Geography and its social contexts. The major drive behind mapping the entire earth comes from the colonial need to access resources of the entire earth and gain control over all the peoples of the world.

This is a relatively a new theme in school curriculum which seeks to provide inputs to the budding citizens to understand the socio-economic and political world in which they live in. It thus draws from a number of Social Science disciplines like sociology, economics, political science etc. It also takes up the major challenge of addressing normative issues like plurality, equity and justice. It thus combines in itself

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a dual objective of developing basic tools of social, political and developmental analysis and fostering the humanist values enshrined in the Constitution of India.

The general tendency to preach normative values in simplistic discourses is highly inadequate and can only foster cynicism in children. Any discussion of the norm needs to be accompanied by a discussion of actual social realities and problems in realising the norms. Such a critical engagement with the norms along with positive examples is essential for fostering a realistic and hopeful attitude among the students. Economics, Political Science and Sociology: These disciplines are introduced as separate subjects at the Higher Secondary stage for those who opt to study them.

It is suggested that while the existing disciplinary orientation may be retained, there is a need to make the boundaries between disciplines more pours. Wherever there is overlapping of the disciplines integrated approach must be adopted as there is a need for interlinking and cross referencing of different areas. As pointed out above in the section on feedback from teachers, there is an urgent need to address the issue of integration of the subjects at the Elementary School level. An alternative approach is to take up themes like family or agriculture and treat them in a multi-disciplinary manner – going into their histories, geographic underpinnings or variations, institutional processes etc. However, multi-disciplinary approach needs a prior training and background in the different disciplines.

The themes for the Elementary School Level can be as follows: Diversity on the Earth – Landforms and Climates, Production, Exchange and Livelihood, Governance, Social Organisation, Inequities, Deprivation and Social Movements, Religion & Society, Culture & Communication, Skills to Study Social Sciences. It is suggested that such an eclectic integrated framework may be followed for the Middle School classes (ie class six to eight), and we may adopt a more discipline based framework for the secondary classes (class nine and ten onwards).

Broad Objectives of Social Science Teaching

Objectives of Social Science Teaching are Develop skills of reasoning and exploring causation in social context. Relate the immediate social developments to broader global trends and the vice versa. Understand variety of human experiences across time and space. Understand multiple perspectives of looking at social world. Understand the differential impact of social phenomenon on different sections of people. Develop the ability of critically evaluating received information, hypotheses and images.

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Develop abilities to handle text, data, illustration i.e. different modes of representing/ interpreting/ visualizing information and knowledge . Critically engage with social and constitutional values.

Learning outcomes in Social Sciences

Keeping in view of broader outcomes of social sciences the following learning outcomes are indentified.

- **Conceptual understanding:** similarities, differences**,** giving examples, explanation, classification, application in new situations etc.
- **Reading comprehension and interpreting the text:** reading, comprehending, reflection, interpretation, critical analysis, dialectical analysis, developing flow charts, information sheets, taking notes and writing summaries. etc
- **Information skills:** gathering information recording, tabulation, represents the data through graphs, picture, information of tables, maps, analyzing the information charts and tables, drawing inferences, occlusions, making predictions etc.
- **Explaining causation and open reasoning:** ask questions, questioning the text , identify relations , relationships, interdependence, cause and effective relationships, response to the open ended questions and dialectical reasoning, analysis the contemporary issues.
- **Mapping skills/ picture reading skills:** map reading, map drawing, map pointing, preparation of thematically maps, picture reading, compare the picture with the text. Interpreting the text etc.
- **Appreciation and sensitivity:** respect others opinions, others language, equality, diversity, traditions, heritage etc.

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8. Art Education

Executive Summary

This position paper primarily aims at exploring the role of arts in the school curriculum. And also the process to give proper space to Arts in the education and its importance in the cognition and creative development is discussed in deatail. The Arts in school curriculum have often been relegated to the position of hobbies' or activities for pleasure and diversion if time and resources permit. Often, children are encouraged to make charts or prepare a song, dance or skit to embellish an occasion in the school. It is crucial that the position of the arts be deemed significant beyond these sporadic, meaningless activities. The Arts need to be included in the curriculum not only to ensure that the cultural heritage of the community is communicated to another generation, but also because the skills involved in their production are essential in the overall affective and cognitive development of the child. Because of many reasons like over emphasis of core subject, and lack trained teachers.

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The arts curriculum needs to entail both **'Learning *in* the arts'**, i.e. learning the arts as disciplinary subjects, in their unique technique, skill and vocabulary, and **'Learning *through* the arts'**, i.e. using the arts as a medium of expression and communication of ideas in other subjects. The aim of this curriculum will be to enable an integrated cognitive development of the child through experimentation in the arts through disciplinary learning, and through their integration in other disciplines.

The development of artistic interest and abilities is a regular part of learning and cognition, not limited to the highly gifted. The production of art involves the processing of knowledge using certain cognitive abilities such as spatial visualization, forming mental images, perception, memory and problem-solving, abilities that are used in several other domains of knowledge building and acquisition, such as language or mathematics.

Arts like visual arts, music, dance, and theatre arts are the power full mediums for the cognition. One may identify three steps in **visual cognition**: one, analysis of the basic shape, form, contour, colour of the object; two, organizing this basic information into something intelligible, i.e. interpreting what the basic form means mostly without the use of prior knowledge; three, assigning meaning to the intelligible form through associating with previous knowledge one has in one's memory. Music, like language, is a system that is innate to all human beings and is not something that is limited to an individual's unique traits or acquired by imitation. The production of music by humans is as natural as the production of language. 'Music is a form of thought and that it develops over the life span much as other forms of thought develop, principally those such as language, mathematical reasoning, and ideas about the physical world. Dance is an aesthetic culmination of movement, music, expression, literature, mythology, philosophy,

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rhythm and fractions, yoga and *sadhna*, it can, if taught properly lead to quantum jumps in the physical and cognitive growth of children. Nothing is more versatile than drama for working together and for developing the sense of the other. There is nothing more challenging, engaging and entertaining for children than to actually stage a play that has been prescribed for them as a text; the essence of drama is after all in performance. At the elementary stage, drama may remain mostly at the role-play and improvisation stage. More formal dramatisation may be taken up at the secondary stage.

The objectives in Art education should not be to merely give training to learners in a particular art form in which they can become proficient. It should be aimed at cultivating certain skills in the learners that are evoked while engaging with other areas of learning, and to provide them space for the expression of ideas via other (artistic) media. skills or habits to contribute to the overall learning potential child, such as observing accurately, innovating through self exploration, envisioning (forming internal mental images) and reflective self evaluation, skills which are difficult to quantify through standardized tests. Sensitivity to cultural context of others' sense of aesthetic is an important life skill which is crucial to not only an art education, but also to social science education. In this way, art classes can help cultivate in the learners ways of thinking that will be of value to learning in other disciplines. Art class urge the learner to step beyond the learned technical skill in the art form to express her/his ideas, emotions and unique personal vision non-verbally, i.e. through media other than language.

It is essential that the learner be familiar with the diverse artistic heritage of her/his local region and country. Forming a bond with one's cultural heritage is inextricably linked with building one's identity as a member of that cultural community and to deepen one's relationship with the community.

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'Learning in the arts' would focus on the learner exploring and expanding her/his artistic potential to hone those skills that would enable the learner to become a competent, proficient and accomplished artist who has acquired technical skills of a particular medium. The arts as media of communication can, therefore, be used in everyday classroom transaction across disciplines. As stated in the NCERT NFG Position Paper on 'Art, Music, Dance and Theatre,' 'Learning through the arts should take place throughout school education (2+10+2) stage wise. ... In the pre-primary stage or early childhood, learning should take place only through drawing, painting, role-play, mime, dance, movement, gestures, story telling, singing, etc., where both the teacher and the taught take part in the activities. This should continue to the next stage up to class III. In the late primary stage (Classes IV – V), schools may have separate classes for arts and crafts, music, dance and drama. At the upper primary or the middle school stage, art education should be a separate subject and this should continue up to the secondary stage or Class X.' (p.8) Therefore, though the NCF states the need for the formalization of the Arts as discipline, it also emphasises the need to use the Arts as medium of expression in other subject areas. The learning curve of a child in any art form can be evaluated in several ways.

9. Work And Education

Executive Summary

Work at home and in their parent's fields, shops and various other spaces is a natural part of a child's daily routine in Indian society. It would indeed be a rare situation, if you were to go into a rural household and the child at home was not helping in some domestic chores, or farming activities especially during peak seasons, or making pots, baskets etc with her parents. This work, as distinguished from wage and other forms of exploitative labour, is a source of multi-dimensional

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learning for the child- cognitive, social, affective and physical and an invaluable resource for the teaching-learning process.

Most schooling experience however not only ignores this source of experiential learning but also denigrates it as being inferior and thus alienates a child from it. A parent lamenting that his son refuses to work in the field after finishing school or another one not even expecting that his educated son would do such a thing, are common occurrences in the rural countryside.

Rooted in the Brahmanical organisation of society where those who work with their hands and produce wealth are denied access to formal education while those who have access to formal education not only denigrate productive manual work but also lack the necessary skills for the same (Position paper, NCF, 2005) schools today continue to accentuate the divide between work and knowledge. Schools also carry a similar legacy of colonial education where the disjuncture between the 'valid' textbook knowledge provided at school and the learning inherent in productive work and its social ethos are accentuated. In turn, the forces of globalization continue to privilege the position of the white-collared, urban, middle classes and elite. Thus, over a period of time and through systematic practice, such a notion of education has come to be rooted in the school system, representing the dominant classes / castes / cultures / languages with gender playing a hegemonic role in each of these categories. The education system has tended to 'certify' this form of knowledge as being the only 'valid' form. In the process, the knowledge inherent among the vast productive forces in the country along with its related values and skills has been excluded from the school curriculum.

Why should work be made a part of the curriculum?

1. Work gives space to the social and economic realities of most Indian children in school. it helps children in connecting their school learning to their contexts making it meaningful.
2. Children are curious by nature and also enjoy working with their hands. They want to understand the processes that underpin the various products they use.
3. Making work a part of the curriculum helps in bridging the gap between the 'productive' and the 'schooled' groups of society.
4. Work situations have immense potential for acquiring various competencies- cognitive, social and affective. The learning in such environments is both, *hands-on* and *minds-on.*

The role for work in the school curriculum

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The school timetable for classes 3 to 10 needs to make space for exposing children to various types of work and for realizing its pedagogic potential. This position paper describes the pedagogic potential of work in terms of the following competencies-

Cognitive competencies- The word cognition is defined as both 'the mental processes of knowing which include perception, reasoning and intuition as well as 'that what comes to be known or knowledge'. The set of competencies include-

- Planning for work
- Being organised and orderly in activities
- Prioritizing activities
- Use of appropriate tools and materials
- Workmanship and skill in the performance of work
- Planning for new products/ innovating/ creativity

Social competencies- As the word 'social' suggests these competencies include those which facilitate communication and interaction with others.

- Cooperation- to be able to work constructively in a group, sharing and helping others and in turn asking for help where required.
- Listening
- Following directions
- Taking turns
- Being open to different points of view
- Clearly communicating with others
- Respecting other co-workers

Affective competencies- The word affective is defined as 'influenced or resulting from emotions'. Affective competencies thus refers to a set of competencies which determine her strength of character and are influenced by her ability manage her emotions.

- Persistence and self-discipline – the ability to carry on in difficult situations
- Patience
- Open to new experiences/ curious

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- Positive attitude
- Empathy – respecting and giving space to differences in others' world views
- Neatness and cleanliness in work; care of tools and leaving them in proper place after work
- Appreciating diversity – valuing differences both in nature and society
- Valuing nature – seeking to understand and harmonize one's actions with nature
- Valuing manual labour and those who earn their living through it

Guidelines for making work a part of school curriculum

1. Work refers to any productive manual work which reflects the local trades and traditions like agriculture, fishing, food processing, carpentry, tailoring, pottery etc. It does not need to be technology driven; the important thing being that it must be a part of the socio-economic relations that the child is either involved in or witnesses.
2. The choice of work will be depend upon the age of children. Children in upper primary classes can be given work which requires higher motor dexterity in comparison to children from primary classes.
3. The choice of work will depend upon the material resources that the teacher can garner from within the school , as well as the community.
4. The choice of work need not depend upon whether it is connected to a topic of a curricular area. For e.g. the choice of using food processing for a work based classroom is not dependent on a science topic like preservation of food products, or the choice of tailoring or carpentry need not be dependent on a topic of measurement in Mathematics or a gardening activity on a poem about a garden.
5. The choice of work has no relationship with a vocation that child would choose in his secondary or higher secondary classes or any job that he would take up in her future life.
6. The choice of work is not dependent on whether it is technology driven manual work or not.
7. All children irrespective of their caste, class and gender should take part in the work based class.
8. The teacher should also be involved in the production process and her role should not merely be that of a supervisor or someone who is teaching the work

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9. Whenever need be the teacher should ask members of the local community to come into the classroom and teach the trade.
10. Peer education should be encouraged. As far as possible children should be asked to work in groups.
11. The teacher should be clear about the competencies she wants to build in children while conducting the work based class. These competencies would in turn serve as parameters for assessment for the teacher.

10. Physical And Health Education

Executive Summary

This position paper mainly focuses on health and physical education. It also analysis the present status of implementation of health and physical education and evolves strategies for effective implementation. This discuss about health- health education , *physical education including yoga,* games and sports and its place in the school curriculum and practices. Children's health is an important concern for all societies since it contributes to their overall development. *Health, nutrition and education* are important for the overall development of the child and these three inputs need to be addressed in a comprehensive manner. Health is important for the physical development of any individual. The practice of Physical education activities in school leads sound health among the children. Health is not merely the absence of disease but is influenced and shaped by the access to basic needs like food; safe water supply, housing, sanitation and health services. Health is a multidimensional concept because it is shaped by biological, social, economic and cultural factors. *Health education is the sum of all experiences which favorably influence habits, attitudes and knowledge relating to individual, community and social health. Health education in school includes healthful school living and health instruction, and health service.*

The school years are a formative period in the lifespan of a human being. It provides an ideal setting for improving the knowledge, self esteem, life skills and behavior. In addition, schools can also provide an opportunity for introducing health related information to the children. School health has been recognized as a significant public health tool for several decades.

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Physical Education is the cultivation of the powers and capabilities of the student as it will enable him to maintain his bodily condition in the best working order, while providing at the same time for the greater efficiency of his intellectual and spiritual life.

Physical education including Yoga, games and sports aims at developing an all round personality of the child. It contributes not only to the physical development of the child but have positive impact on psycho- social and mental development as well. ***sports are not only essential but also indispensable for an all-round development of the youngsters.*** Physical education plays a critical role in educating the whole student.

The benefits of physical education can affect both academic learning and physical activity patterns of students. The healthy, physically active student is more likely to be academically motivated, alert, and successful. In the preschool and primary years, active play may be positively related to motor abilities and cognitive development.

We should not forget children with disability while thinking of physical education; they need physical exercise and sports as much as others. Every possible effort should be made to organize events in all possible formats. There would be events in which they would participate with other children while there will also be events exclusively organized for children with disability. The point is that cultural and sports dimensions are as important for them as for other children. Physical activity has a positive impact on cognitive ability, tobacco use, insomnia, depression and anxiety.

In order to transact the curriculum effectively it is essential to ensure that the minimum essential physical space and material equipments are available in every school, and that the doctors and medical personnel visit the school regularly. Teacher preparation for this area needs well-planned and concerted efforts. This subject area, consisting of health education, physical education including yoga must be suitably integrated with the elementary and secondary pre-service teacher education courses. Therefore it is recommended that this area must be a compulsory subject up to the tenth class and be treated on par with the core subjects so that students wishing to opt for it can do so in lieu of one of the five subjects for the board exams at the end of Class X.

Physical education including yoga and games and sports should be given appropriate place in the school timetable. It should become an integral part of school processes. Health Education of children is a combined responsibility of home, community and the school. Health Education in the school should form a

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part of the mainstream progarmmes of the school contributing to the development of a right attitude among children towards health and inculcation of good health habits in them.

Teacher preparation at different levels is mandatory and refresher courses must be made available for in service teachers at least once in five years for their professional growth with appropriate incentives. Resource material should be made available to the pre-service and in-service teachers to enhance their knowledge of the subject. As already pointed out, specially trained tutors practicing Yoga would be required for the yoga classes. The evaluation for this area has been divided into theory and practical's with 70 percent for the former and 30 percent for the latter. The Committee reviewed this and was of the opinion that this needs to be changed. , the health aspect needs continuous and qualitative assessments. This area must be a compulsory subject up to the tenth class and be treated on par with the core subjects so that students wishing to opt for it can do so in lieu of one of the five subjects for the board exams at the end of Class X. At the plus two level, it may be offered as an elective subject. The nomenclature for the subject shall be "Health and Physical Education" across the different levels of schooling.

11. Ethics, Values, And Human Rights

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Humans are social beings and because of that they have build a fairly complex society. The functioning of this system and the earlier situation of surviving together requires an understanding and a sense of trust. It also requires a feeling of togetherness and inter-dependence. Human societies therefore need principles of behaviour that are known acceptable. We cannot act as we want and yet expect the society to survive. Each society has its own ethical code based on its circumstances. The plurality of these ethical codes also has some underlying common principles that are accepted.

Ethics are the principles that guide our behaviour and therefore it is appropriate that children also get to absorb them. It is important to recognise that ethical development is not like following a set of rules or behaving in accordance with set pattern laid out by someone else. It means the ability to find reason for what is appropriate at each point and act accordingly. The development of ethical consciousness implies the ability to feel comfortable with the choice to be made and be at peace with oneself in making that choice. This is in contrast to the feeling of having to do because 'that is how it is told to me.' The essence of ethical

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development is therefore to be at peace with oneself. The person acts in a way that she chooses to and the way that is reasonable rather than because she has to do it otherwise she would be punished or reprimanded or disgraced in some way. It means that she has an internalised set of ethical principles that guides her each time and enables her to make her choice which may aligned or be at variance with what who are in immediate closeness to her would suggest to her.

At present, in all societies, unrest exists in every walk of life. We can clearly observe and recognise the deterioration in ethics and the increasing stress in the lives of all peoples. A partial reason for this is the lack of development of conscious ethics among all people the society. These changes did not take place in a day or a year. They are a result of the gradual erosion of moderation and balance in our lives. That has been replaced by consumerism, greed and exploitation. And the net result of that has been insecurity and mis-trust in the society. The mass media, disintegrated family system, market trying to sell its products and commercialized education system accentuates it.

The state of affairs in Andhra Pradesh are not different from those defined above. They are also the same in other parts of our country. Apart from the local level differences and inequalities, we have regional and economical inequalities, increasing unhealthy competition and commercialization of every aspect of life. This leads to situations like those of atrocities on women, female feticide and human rights violation. The root cause of all this is the deteriorating values and human relations in people and the spread of unrest in the society.

This underlines the need for ethical development to be a part of school in order to have a dialogue with the children on the need for certain values and opportunities to engage with the implications of these on their lives. This dialogue would be through the analyses of the practice of ethics and values, their own lives and the options. It is important to be conscious of the strategies that can be used with children and the programs that can be taken up to help children confront the edge between individual and the collective; between consumerism and temperance, between violence and peaceful struggle, between heated argument and patient negotiation, between parochialism to plurality and liberal ideas. In the context of ethical development the schools need to continuously ask the question: what can be done in the school social environment and in the class-room? What values should be developed in children? How do we sensitise children to respecting the rights of other human beings and be tolerant yet firm?

Each family in its interaction with the child instills some habits in children. These are instilled in various ways. Besides they are not the same for all children and may not be in conformity with what is expected by the constitution of India. Ethical principles that each community holds may not necessarily respect all communities and children may not come with a sense and belief of equity and similarity in all human-beings. Yet in order for a society to exist and for a nation to grow it needs a set of ethical principles and values that are commonly acceptable. **T**he society also needs people to act according to these principles and values. And act on them, as has been said preferably of their own volition.

This is the role of the school. To bring together children coming from different beck-grounds with various sets of ethical principles and values to a shared plural understanding of reasonable choices. The possession of values and conducting oneself with wisdom and sagacity are integral parts of holistic development of children. The key principles and values stressed in the constitution include justice, equality and fraternity. These in action imply pluralism, respect for others, self-respect and self-confidence, social responsibility, Love, care and compassion, Critical and creative thinking values, and Aesthetic values. It is important to recognise that sense of equality, compassion and critical thinking are crucial for making a person an ethical and autonomous responsible citizen of a society or a nation. It is these together that make her capable of making reasonable choices in action.

The role of school is clear when we consider school education with this perspective. This emphasises that education is for knowledge, values, and human rights. Therefore there is a need to integrate development and use of ethical principles, values and respect for human rights including those of others in the syllabus, changes in teacher education and programs at school level. These have to be included not as edicts and rhetoric but as occasions to develop a sense of these and confidence to practice them. Education for ethics and values in this form has to be a strong component of any educational review or reform of policy.

12. Assessment For Learning

Executive Summary

Our current systems of assessment focus on rote learning and reproduction of answers from memory; their primary purpose is to give marks, grades etc. to

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children and to rank them in such a way that the whole project of acquisition of knowledge looks like a competition and ends up causing high levels of anxiety and fear among children and parents. Such an assessment procedure must be abandoned. Acquisition of knowledge is essentially a collaborative exercise.

Assessment must become an integral part of the teaching-learning process and should be as important for the teachers, parents and the community as for the child. It should first of all work as a feedback mechanism for the teacher and for the curriculum, syllabus and textbook makers. Teachers should begin to look at 'errors' as essential landmarks in the process of learning and restructure their teaching methods and materials accordingly. Curriculum and syllabi planners must ensure a more proactive role to classroom teachers. The community needs to participate actively in assessment processes and make the whole school system more accountable for its working. The focus of assessment should not be just academic skills but also creativity, imagination, social sensitivity, participation in co-curricular activities and sports. We must also appreciate that there are significant differences in the nature and structure and methods of different subjects and therefore they may need different assessment procedures and tools.

According to the NCF 2005 and RTE 2009, we need to ensure the implementation of Continuous Comprehensive Evaluation (CCE). The paper setting needs drastic reforms- the focus should shift from 'question setting' to 'paper setting'. Questions should be categorized according to level of difficulty, topic area competency being evaluated and usage being recorded. In the long run the system must gradually move towards taking exams when the candidate is ready rather than the convenience of the system. To reduce the stress and anxiety and adoption of more comprehensive credible system of internal assessment is needed. We may need to adopt a long term move toward open book exams. We need to eliminate the term "FAIL"; the word 'fail' should not appear on marks sheets. This should be replaced with the phrase such as unsatisfactory, better, need more work to attain defined standards.

In our assessment, we need to look for conceptual understanding, what the child knows, engaging children in meaning group or individual tasks, tasks in which they can engage and contribute something, tasks that are interesting and evoke creativity and imagination etc. The tools for assessment also will need to be varied

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and would include among others observations, recording, tabulation, experiments, hypothesis building and testing, field visits, portfolios, anecdotes (Record of specific details of pupil), participation in different discourses and extra-curricular activities, language, maths and science games, report preparation and presentation and performance reviews and book review etc. among others.

13. Early Childhood Care And Education (ECCE)

Executive Summary

We have neglected Pre-primary education i.e. Early Childhood Care and Education (ECCE) for a long time at an enormous cost to ourselves and the world. Early years, namely, 0 to 6 are without any doubt the most formative period of a child's life. The social, psychological, physical and emotional aspects of a person's life take shape during these years. Only about 20 % children in this age group in India have some access to ECCE. There is an urgent need therefore to rectify this situation. Lack of access to ECCE also implies a lower enrolment and retention in the Primary school and later education.

The influence of early childhood is immense on language development, creativity, knowledge development, and individual, social and moral development. Hence, this stage of all-round development should be enriched with special programmes. It is time that the government and the people in general recognize this need and invest on it liberally, both financially and academically. Even though its significance was recognized as early as the latter half of the nineteenth century with the interventions Gijubhai Badekha and Tarabai Modak, we do not have a full-blown programme in place for ECCE.

The early childhood care needs were recognized in India in 1974 with the Integrated Child Development Services (ICDS) and several Early Childhood Education Centres for 3 to 5 years old children were set up in Andhra Pradesh also.

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In these centres, children are taught songs, stories, speaking, and creative activities in the morning. They are also supplied with nutritious food. The 86th Amendment (2001) of the Constitution of India says that the government should take measures for the care/nurture and education of 0 – 6 age children.

Health, Nutrition and Education are the three key elements that should constitute the backbone of any ECCE programme. Unfortunately, even in some of the most advanced ECCE centres, it is the educational component that does not receive its due. It is important to formulate and critically examine a curriculum for these years which would focus among others on the psycho-motor, emotional, cognitive, affective, linguistic, aesthetic and moral domains.

It will be imperative for an innovative curriculum to focus on how children learn and examine how carefully planned activities involving reflection and analysis (and not just play) can help children learn more. It will also need to explore in some detail the nature of the ECCE environment, its flexibility and the way the ECCE centres will collaborate with the local community to take the cause of early childhood care forward.

14. Education Technology

Executive Summary

Several of the current challenges related to Educational Technology stem from an incorrect or inadequate understanding of the term. It is generally assumed that ET refers to the use of sophisticated technology such as computers and electronic gadgets in education. While this can be an aspect of ET in favourable situations, the essence of ET is far more inclusive than this. In simple terms, ET refers to the idea and practice of facilitating learning through the use of appropriate objects and devices which are particularly suited for the purpose of understanding. Hence, these devices can be anything, ranging from objects found in the environment to high-tech gadgets. They can be made available through policy

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intervention, as well as prepared locally by teachers to suit their particular needs and to be relevant for their context.

The use of ET can be advantageous for the teaching-learning process. If appropriate material is used with understanding, it can deepen and clarify children's understanding of various topics. It can elicit active participation of children in the learning process and thus engage them in construction of knowledge, which is not always possible through lecture type instruction. The concrete models, examples and devices can help children attain a clearer understanding of the abstract concepts. Moreover, it is possible to incorporate such material in the teaching of almost any topic under any subject. The specific requirements of the subject need to be taken into account while doing so. Also, the materials and devices can be used individually as well as collectively. They can be a catalyst to improve group interaction and promote exchange of ideas.

For the development of teachers as well, ET can be very useful. Apart from helping them to elicit the engagement of student in the classroom, ICT can improve access to information and exchange of ideas through facilitating networking with others of their profession. This helps them to address specific problems as well as to develop professionally. At the same time it must be remembered that ET is intended for aiding the teacher and not for replacing him/ her. Also, while ET can in the long run turn out to be economically beneficial, cost cutting cannot be the aim of ET. It always has to be considered from the perspective of the teacher and the child.

ET has several aspects and can take many forms. ET includes use of Teaching Learning Material, which is used by children in an interactive manner in order to engage in knowledge construction. TLM can include material available in the surroundings as well as that specifically designed for the purpose of teaching and learning. Specific subjects have specific requirements, and the TLM must be selected accordingly. Another aspect of ET is the use of technical gadgets which can help both teachers and children to gain new information as well as to introduce new issues and perspectives. However, both TLM and gadgets must be used with a clear understanding of the purpose they are intended to serve. There is always the danger of the gadgets and materials shifting the focus away from the learning. In order to avoid this, the methods and strategies of use must be appropriately designed. The forms in which ET can be effectively employed by teachers include

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use during explaining, group work, providing audio-visual input, and for exploration and experimentation.

However, for the effective use of technology, certain things must be taken into account. The technology should serve the purpose for which it was intended. The material should be accessible for the use of each and every child. Teachers should be proficient in the use of the relevant technology. The specific devices used should not be far removed from the daily experience of the child in order to be effective. Teachers should have the right attitude towards the use of this material. They should use it to supplement their efforts in the classroom and not to replace them; and should not lose sight of the larger picture of learning. Collaborative learning should be encouraged.

Several initiatives have already been taken in the State of Andhra Pradesh in to provide an impetus to the use of ET in classrooms. These include the efforts of Operation Black Board, Andhra Pradesh Primary Education Programme, District Primary Education Programme, Sarva Shiksha Abhiyan, etc. Other initiatives include making the use of radio, television, etc. to broadcast material of educational import for students as well as teachers with help of agencies like APAPSIET and APSCERT. However, the inroads made by such efforts have been limited due to reasons such as lack of internalisation of material into the curriculum and the learning process, lack of relevance of the technology to the immediate context of the child, inadequate teacher preparation, etc. These reasons and challenges need to be kept in mind for further development if we are to make use of ET in its true spirit. These problems are related to

1. Availability – Materials and resources are often not available in adequate quantity to enable all children to interact with them
2. Accessibility – Sometimes the nature of the material is such that children are intentionally kept from interacting with them physically. This is especially true in case of fragile or expensive equipment. Also, making materials uniformly accessible to all children is difficult.
3. Lack of clarity – Sometimes the teachers themselves are unsure about the purpose of the use of some devices and are incompetent to deal with them
4. Stock use fears – It has been seen in the past that the materials intended for use by children were stored because of fear of damage or inadequate understanding.

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5. Relevance problems – Material provided is often irrelevant to the context of the child. This is because much of it devised at the State level, and not at the local level where it can be more relevant.
6. Nature of devices – some devices are such that they require resources like electricity, which are not adequately available everywhere, and expertise. In addition to this, alternate resources are often not used by teachers. In some cases, use of gadgets leads to additional technical hassles, which detracts from the process of learning. This makes the process of learning time consuming, since students must first learn to deal effectively with the devices.
7. Curriculum structure – Because of constraints of the curriculum, material cannot be used to an adequate extent.
8. Teacher preparation – Because of lack of training, teachers have neither the capability nor the inclination to use the materials constructively in classes.
9. Teacher –centred system – Because the system is not child centred, the devices are not as useful as they can be in promoting learning among children.
10. Lack of monitoring of the use of ET – This makes it difficult to identify areas in which change is required.

In view of these issues, certain recommendations are made in the present paper to ensure more effective use of ET in the State in the future. Broadly, these involve

1. Revitalisation and reorientation of available resources, such as institutions and ICT. Improvement in the networking of institutions and pooling of resources will help techers to incorporate ET in classrooms better. Teacher training should be undertaken to inculcate the right attitudes in teachers and to make them competent.
2. Systemic reforms, which include decentralisation, promoting equitable distribution, developing openness in curriculum, promotion of autonomous generation of material, and developing ICT in institutions.
3. Teacher preparation and support, including enhancing competence in dealing with technology of various types, promotion of networking,

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promoting access to knowledge, encouraging creation of knowledge and creativity, etc.

4. School level changes, including promotion of individual learning styles, providing space to teachers in the curriculum, and promoting student initiatives
5. Research, including collection of information regarding the use of ET in the state, information required for the upkeep of the gadgets and material, availability of experts in case of problems, information about the possible effects of use of technology, etc.

15. Habitat Learning

Executive Summery

The curriculum renewal exercise in the state of Andhra Pradesh is an opportunity to focus on the issue of Environmental Education which though often advised in the past decades has rarely been effectively implemented. The position paper entitled “Habitat and Learning” has been written in the context of teaching of Environmental Education in school. What is our environment, what constitutes EE and can awareness for the need for sensitivity for our habitat be generated in school? The term Habitat has been used interchangeably with environment and as stated in the NFG position paper it can be used to describe the conditions that permit any species to thrive.

How do we generate the awareness that we effect the environment coupled with the awareness that it affects us? What can be the process of helping the learner get in touch with her habitat? For too long, EE has centred on passing on do’s and don’ts which are memorized but not internalized by the learner. It is necessary therefore to first clarify our objectives before attempting any strategy. One chapter in the position paper is devoted to this.

We are increasingly becoming aware of the degradation of the environment. But how does the teacher contextualize this in her classroom and make the children realize that this phenomenon is not just a global issue but is real for them as well? The various aspects of EE have been enumerated specifically

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with respect to a diverse and multilingual classroom. The shift from learning about the habitat to learning through it and having the power to influence it are the result of an ever evolving understanding regarding the teaching of EE.

The teachers require support is at multiple levels to be equipped to teach EE. They need to become aware of the importance of EE and hence convinced that it should be a part of the school curriculum. Preparation to use the learner's background, the local community, help in design of material and activities and assessment exercises is required. In the higher classes, integration of EE with science and social science can be thought of.

The last section of the position paper focuses on assessment procedures that can be employed by the teachers. These have moved away from rote learning to processes that expect the learner to think, analyse and act and the teacher to think of alternative activities, and open ended questions.

Ultimately, the onus of introducing children to EE to children without making them feel they have been burdened lies on the teacher. It is her understanding of EE that will influence how children perceive it and whether it is transacted in the spirit meant in the position paper. It is strongly recommended that any process towards introducing EE in schools in a formal fashion should be preceded by a syllabus drafting and teacher preparation exercise.

16. Diversities

Executive Summary

Diversity gets manifested in society in a variety of ways. We have unfortunately created a world around us that is built in the name of normative sameness. It is built in the image of an 'ideal person' who actually does not exist. The underprivileged and deprived sections of society including such groups as SCs, STs, OBCs, girls, minorities and children with disability and special needs. We are collectively responsible for them and we need to create a world where all of them can live with a sense of respect and dignity.

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Even though the enrolment rates of these groups have shown dramatic growth, we have not been able to retain them in the education system with the result that their social deprivation has not changed at all. We need to create a system which ensures free quality education to all. The condition of girls and children with disability is perhaps the worst hit at the moment.

All schools must become barrier free in the widest sense of the term and they must ensure free and compulsory quality education to ALL children in an inclusive way. The security of girls, minorities and children with disability at home, on the street, in the buses and schools must be ensured. There is an urgent need for higher levels of positive discrimination and higher levels of financial investments into education. There is need for flexibility in school structures and cultures. School timings, calendars and holidays must keep in mind local contexts. Curricular goals must emphasize critical thinking and critical evaluation and appreciation of Indian society and culture. Equal opportunity for intellectual growth, cognitive, social and emotional development of underprivileged children including minorities, girls, SC, ST and others must be sought. Curriculum must aim at promotion of creative talents, productive skills, dignity of labour, underlined by values of equality, democracy, secularism, social and gender justice. An approach rooted in critical theory and critical multiculturalism is essential to critique the unjust social order, to indigenize and incorporate diverse cultures and prevent loss of valuable cultural heritage. We must make a commitment to the preservation of all languages as a matter of communities' cultural rights as well as of national pride.

There is also a need to appreciate that diversity can be used as a resource and it will help not only in cognitive growth but will also create a climate in which children from marginalized groups will be able to study with a sense of dignity.

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This perhaps is also the only way to make a start towards changing the attitudes of teachers and the community towards these minority groups.

17. Teacher Education

Executive Summary

For close to a decade now, since the introduction of NCF 2005, efforts are on to bring about changes as per the idea of quality school education. The biggest learning in all these processes is that these efforts cannot be independent of teacher education and professional development and any reform at the school level needs to be mirrored in teachers' preparation and training. While syllabus reform and textbook development have, too a certain extent, kept pace with the curricular reforms, changes in teacher education curriculum have not been forthcoming. As a result, the quality of our teachers is proving to be a major bottleneck in improving the classroom processes.

While acknowledging that the quality of the teachers needs improvement, the onus of this exercise should not be left to them and the State has to play a leading role. Teacher education and development includes the interlinked strands of pre-service and in-service teacher preparation, and teacher professional development. But for too long programmes for these have been conceptualized in isolation. Teacher education policies need to be formulated as a whole. The curriculum, structures, programmes and institutions involved need to be re-looked at and opportunities developed for linkages between them.

Teachers require a space where they can meet their peers and teacher educators on an equal footing to critically examine their view point, alter their view of education, children and realign their understandings of what a good classroom must be. The idea of an ideal classroom and a good teacher undergoes modifications from time to time. The teacher preparation and development programmes should enable teachers to examine these ideas and if they appear sound, to willingly change themselves accordingly. Many teachers have seen a shift in their lifetime from the point where they were the sole source and deliverer of knowledge to now where they have to facilitate the construction of knowledge by the child. Teachers need help in what to them may appear as making a leap of

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faith. This requires breaking the isolation of the teacher providing opportunities to learn beyond standard trainings.

The position paper serves to highlight the various concerns associated with the status of teacher education in Andhra Pradesh and also suggests some recommendations for the future. It seeks to answer the question of sustaining the teachers' and teacher educators' motivation, issues of accountability of the teacher, linking the current educational thinking to practice in the schools, addressing the challenges posed by RTE 2009. Specifically, it emphasizes the following:

In Pre- service teacher education

- Restructuring of teacher education curriculum towards orienting teachers for implementation of SCF-2011. Flexibility in the curriculum to ensure that it can be modified according to the context while following certain broad guidelines.
- Nature of guidelines:
    - The curriculum should redefine its theoretical component to inculcate in the student-teachers the habit of analysis, argumentation and synthesis of their experiences. P**ractice of theory and field based understanding** should be given top priority.
    - The curriculum should address the mind sets, assumption and beliefs of the student-teachers regarding the nature of the child and her potential, about learning, subjects, and the teaching learning process.
    - The nature of school experience progarmme (SEP) and regular teacher learning process at teacher education institutions should be revised.
- A 4 year duration degree course i.e Bachelor **of Elementary Education** can be started similar to the Delhi University initiative. Similarly, at psot-graduate level, MA(Elementray Education) may be introduced.
- A diploma course for ECCE may be started in the state in all DIETS.

In-service teacher education

- Curriculum for the in-service teacher education should address the needs of the teachers based on whether they have had any pre-service preparation or not. The existing academic status and performance of the schools should also be incorporated.
- To meet the demands raised by the implementation of RTE 2009, it is fairly obvious that trainings will have to be decentralized. Further, they cannot be limited to face to face mode and alternatives such as teleconferences, group

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discussions, distance mode and field interactions should be developed to provide an experience that is at par with in class training.

- The mechanical mode of conducting trainings on the same content on the same days for all the teachers at same time should be discarded. Training content should be announced well in advance and freedom should be given to the teachers to select and attend the training as per their needs.
- To overcome the shortage of good trainers, trainer's identification and development programme should be taken up. At state and District levels subject wise trainers should be developed.
- To promote work culture and professionalism in the teachers, self appraisal mechanisms may be developed.
- Trainings should serve as grounds for teachers to refresh their knowledge and motivate them to take up diploma courses offered by institutes such as IGNOU.
- Efforts should be made to impart some form of training to private school teachers who have so far not been included in any initiative.

While these recommendations have been listed separately for in-serivce and pre-service programmes, it should be understood that the two processes are not mutually exclsive.

Some recommendations at the structural level include:

- Strengthening of teacher education institutions in terms of physical, financial and human recourses.
- Addressing the problem of vacancies in the teacher education institutions by either utilizing experienced, in-service teachers or by out-sourcing.
- Development of lab schools to be run solely by teacher educators and no additional teacher to be appointed. To empower the teacher educators with a perspective building of their profession through regular classroom transaction in their lab School or attached school.
- Change in the recruitment policy of the teacher educators. Less emphasis on M.Ed and providing multiple entry points into the system. For example, primary teachers or those who are having five years of primary school experience may be promoted to the DIETs, and the Upper primary/Secondary school experience teachers to CTEs and B. Ed colleges. Those who are appointed as direct recruits must undergo at least six months school experience programme.
- In all teacher education institutions, Educational **Resource Center** can be established for the development of textbooks, materials, work books, self

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learning material for the teachers and the children, for conducting researches and external evaluation programmes, developing children literature, and magazines etc.

- **Capacity building** exercise of teacher educators every year should be mandatory. Study leave and sabbaticals may be granted as part of professional development programmes.
- The teacher educators should be encouraged to conduct and publish a minimum of 2 action researches in an academic year.

18. Systemic Reforms

Executive Summary

This paper reviews the current state of the educational system in Andhra Pradesh, including the demographic data, the institutions and initiatives already in place for the spread of education, and what needs to be done if these are to function more effectively in order to ultimately realise the goal of providing quality education to all. Some anomalies in the current system which pose impediments in desirable progress are identified and suitable measures are suggested.

In order to adequately assess the need for reforms, it is necessary to take into account the demographic characteristics of the State. Andhra Pradesh is the fifth largest state in India with respect to both area and population. The number of children falling in the 6 to 14 years age group is also correspondingly large. While a large number of these now have access to schools on account of the efforts taken by the State and the Centre, a sizeable proportion (58866 boys and 56944 girls) are still out of school. The dropout rate is 13.22% for the 6 – 11 years age group and 11.29% for the 11 – 14 years age group. Other indicators also show that the needs of the population are not being met adequately. These include a moderate number of unfilled teaching posts, the lack of drinking water and toilet facilities in schools and other infrastructural adequacies. Other concerns include the inability of the current system to encourage students and teachers to participate in knowledge construction, to provide education to each child as per his/ her need and to bring about the overall development of the children. The Constitutional aims of providing each child quality education with equity and justice are not being met. Knowledge which the children gain in school is seldom connected to their own lives and is based on a method of memorising from the textbook. Also missing is

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the dialogue with teachers and others around them which can help them in making sense of their learning in the context of the world they observe around them.

In order to improve the educational standards, some initiatives have already been introduced. These initiatives have been functioning over two decades in the State with the help and support of agencies such as the Government of India and international organisations such as the UNICEF, with multiple aims of improving the quality of infrastructure, providing support structures and enhancing the availability of good teachers. These initiatives include APPEP (Andhra Pradesh Primary Education Project), the DPEP (District Primary Education Programme), Sarva Shiksha Abhiyan and the State Resource Groups. Certain specific aims are also being pursued by different Government initiatives. These aims include, among others, the promotion of pre-primary education, encouraging creativity and liberty in children, making educational provisions for children in remote areas who have problems related to access, and promoting availability of resources such as libraries.

In spite of all these attempts, due to structural rigidity in the system, certain problems are encountered at all levels. These are the concerns which need to be addressed through reforms. These problems include the declining rate of enrolment in Government schools, indicating a loss of trust on the part of major stakeholders such as parents and the community. Also, the use of same curricula and textbooks for all children results in some children being favoured over others. Children from marginalised backgrounds have different needs, which are not addressed through the curriculum. There is a wide gap between the contents of the curriculum and the local context of the lives of the pupils. These issues related to equity need to be addressed. Added to these are issues of health and malnutrition, which pose impediments in the educational process. Teachers' ideas of teaching, which are often restricted to the transferring of knowledge from the textbooks to the children, also need to be changed. Teachers' and children's absenteeism is another issue. Teachers' perspectives are related to inadequacies in the teacher training institutions. Lack of community participation in the education process leads to low accountability of schools towards the community and other major stakeholders. Lack of trust in Government schools prompt parent to send their children to private schools, which are associated with better results in terms of academic performance measured in marks. Since these schools face pressure from the parents regarding

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the performance of the students, only some subjects in demand get highlighted and the overall development of the children is neglected. Lack of regulation of this trend is also another major concern, since it tends to make education stressful and less meaningful and enjoyable for the children.

In view of these limitations and challenges, the following broad reforms have been suggested:

- Decentralisation, implying greater involvement of local authorities at district and mandal levels in the educational process
- Focus on differential guidance and support for children from different social backgrounds
- Reforms in teacher education. These would involve developing a professional commitment and professional attitude towards children among teachers; changing their perspectives towards students as well as towards learning; developing clarity of goals; improving and diversifying career advancement opportunities for teachers; adequately fulfilling the teacher training requirements; strengthening teacher support structures by addressing the needs of the institutions; developing a meaningful and sophisticated system of teacher assessment to increase accountability; and addressing their conceptualisation of the role they are supposed to play.
- Recommendations and initiatives to be implemented at the school level, as they best make sense in the immediate context of the school. The school Heads and other teachers to have more decision making power.
- The infrastructural needs of each school to be addressed along with the general ambience, so that the school is a comfortable and inspiring place for children
- Careful assessment of the needs of various positions in the educational sectors. Personnel to be selected on the basis of how they can best suit those needs.

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- Building a system of evaluation of reforms which would guide further actions to be taken.
- Building networks in all institutions established by different agencies so that they work together and not in parallel, thus increasing the efficiency.
- Officers involved in education management to be oriented to the real concerns of the schools
- Changes to be made in the content of the curriculum so that it is more closely related to the life of the children
- Making schools accountable to the community and to the stakeholders
- Reforming the system of assessment so that it indicates the extent to which the child has understood the key concepts rather than his/ her memorisation ability. An attitude of regarding assessments as guides for further development should be inculcated.

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Vision of the State

The vision of AP is that ALL children should receive high quality education and become responsible citizens with an acute sense of the other. They should be aware of their environment and think about it critically. They should listen carefully and speak fearlessly. They should be able to understand what they hear and read; but they should also be able to questions it. Teachers should promote these skills, provide meaningful teaching learning processes in natural and friendly environment that enable children to express themselves freely and ask questions. Teachers are collaborative learners and reflective practitioners. Parents and community should have a sense of ownership and participate in the life of the school. In a world which is becoming increasingly instrumental, materialistic and competitive, school should become a space for reflection, cooperation and promotion of human and ethical values.

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Constitution of India preamble

WE, THE PEOPLE OF INDIA, ***having solemnly resolved to constitute India into a***

SOVEREIGN, SOCIALIST, SECULAR, DEMOCRATIC, REPUBLIC ***and to secure to all its citizens***

JUSTICE, *social economic and political*

LIBERTY *of thought, expression, belief, faith and worship*

EQUALITY *of status and opportunity and to promote among them all*

FRATERNITY *assuring the dignity of the individual and the unity and integrity of the nation.*

IN OUR CONSTITUENT ASSEMBLY this twenty –**sixth day of November, 1949**, do HEREBY **ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION.**

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