

## 1. Details of Module and its structure

Module Detail	
<b>Subject Name</b>	<b>Education</b>
<b>Paper Name</b>	<b>Perspectives, Issues and Research in Teacher Education</b>
<b>Module Name/Title</b>	<b>Teacher Education and School Education Symbiosis</b>
<b>Module Id</b>	<b>e-PG EDN 10.19</b>
<b>Pre-requisites</b>	<b>Basic understanding of Teacher Education and School Education</b>
<b>Objectives</b>	<ul style="list-style-type: none"> <li>• To know about teacher education in India.</li> <li>• To learn about the research and innovation in education.</li> <li>• To understand about the prevailing symbiosis in education.</li> <li>• To understand the meaning of wholistic approach of teaching and learning</li> <li>• To know the need for taxonomy of educational skills</li> </ul>
<b>Keywords</b>	<b>Teacher Education, School Education, Symbiosis</b>

## 2. Development Team

Role	Name	Affiliation
<b>Principal Investigator</b>	<b>Prof. (Dr.) P.K. Sahoo</b>	<b>Department of Education, University of Allahabad, U.P.</b>
<b>Paper Coordinator</b>	<b>Prof. (Dr.) Rajaram S. Sharma</b>	<b>Central Institute of Educational Technology, NCERT, New Delhi</b>
<b>Content Writer/Author (CW)</b>	<b>Prof. Chhaya Goel Prof. Devraj Goel</b>	<b>CASE, M.S. University, Vadodara</b>
<b>Content Reviewer (CR)</b>	<b>Dr. Anil P. Sharma</b>	<b>Director, Ideal Institute of Management and Technology &amp; School of Law, GGSIP University, Delhi</b>
<b>Language Editor (LE)</b>	<b>Dr. Aerum Khan Dr. Astha Saxena</b>	<b>Central Institute of Educational Technology, NCERT, New Delhi</b>

## **Introduction**

*With the advent of 2015 A.D. the latest NCTE Gazetted Norms of November 28, 2014 present a sea change. We welcome Two Year D. El. Ed., Two Year B.Ed., Two Year M.Ed. We welcome half the size (50) B.Ed. Unit, Enhanced Size (50) M.Ed. Unit, Corresponding Increase in the Teacher Education Staff Size. We are yet to formulate compatible curricula with the enhanced time duration of the Teacher Education Programs. We have excellent Philosophers & Philosophies, we have excellent Sociologists & Sociology, We have excellent Psychologists & Psychology, We have excellent Historians & History, but, how many of these find expression at the functional level. There are wide gaps between expectation & expression. Then what has made the NCTE cut down the Pedagogic Qualifications of the prospective Teacher Educators? How long will the Philosophers, Sociologists, Psychologists & Historians reside in Papers only? When will they be liberated? The Teacher Education is lost in the rut & routines of Micro-Teaching mainly, while, the present century has already flagged many challenges. When will we integrate even basic skills to realize Skill Integrated Education? The latest NCFTE (2009) envisaged to have Humane & Professional Teachers. Do we really have, two, in one? Most of the Teacher Education Institutions do not have laboratories. It is very good, because, Education cannot afford to reside in laboratories only. What use are research & innovation if these do not find expression at the field level. There are wide gaps between the Teaching Competencies expected & practiced. We have more of descriptive & evaluative research than suggestive. We have more of quantitative research than qualitative. Ideas & Ideals are Excellent. The emerging question is how to convert idealism into realism.*

Let us reflect upon our Education Policies and Frameworks. There is rare expression at operational level. Our Education Policy & Curriculum Frameworks reside more in volumes than at functional levels. The emerging questions are whether the RTE assures and ensures Education. Why Rights of Children have not been realized in India? Why creativity thinking & critical thinking of children is not optimally developed in our classrooms? How much is the correspondence amongst Educational Objectives, Curricula, Modes of Transaction and Evaluation? What is the status of Multiple Intelligence, Life Skills and Continuous Comprehensive Evaluation in our schools? Have we sincerely tried to sustain and strengthen the knowledge base in various disciplines & domains? Are we respecting the beauties of childhood, booming energy of adolescence, paths of the youth and Sparks of the Teachers?

Have we realized Total Quality Management of our Educational Institutions? When Bhutan could sustain its cultural heritage & ethos then how is it that we have not? How many schools observe YOGA & YAGYA? Which schools nurture the childhood of children? Psychological, Sociological, Historical, Environmental, Physical & Meta-Physical Foundations are going weak day by day. There is perceptible degeneration of values & institutions. Are we really skilled & competent teachers & administrators? How many of us are post-conventional, autonomous, innovative, creative, revolting Educational administrators and teachers? How many of us are dedicated learners & teachers?

### **Identity of Education in India**

Some of the Universities in India, both, old and new, such as, University of Mumbai, Maharashtra, University of Guwhati, Assam and Ravenshaw University in Odisha are conferring Doctoral Degrees in Education under the Faculty of Arts. Education is not even considered by them an entity and faculty. So, there is a question of identity. Education which is unconditional greatest Service in Society has not been recognized by the Service Sector in India. UPSC in India has failed to include Education as a discipline. *There is a false notion that Education has only a little core, but, more of periphery. Education suffers from the missing elements of unique discipline which are non-replicable in other disciplines.* It seems that such thinking has failed to appreciate that Education is the core of every discipline. Education is interdisciplinary. All the disciplines emerge from Education and merge into Education. Education does have a unique body of knowledge, a repertoire of unique skills and attitudes and a code of conduct. As the code of conduct of a doctors is –“We will keep serving the humanity without considering our comfort or discomfort.” Similarly, the code of conduct of an Educationist is –“We will strive for Integral Humanism & Universal Being. Can we estimate the energy, purity and strength of the Soul of Education? Warriors may conquer at times physically, geographically, materially, it is only Education which through knowledge can bewitch the minds and liberate the souls. We always feel proud of the teachers who taught us and who are teaching us. Their text is its own testimony. They do not require testimonials. The globe strives to emulate Indian Teachers & Learners. The following poem tries to depict Indian Teachers.

### ***Teacher Education: Ethos***

*We were never interested in B.Ed.*

*It is B.Ed. which interested us  
We opted for wandering wild  
But Education captured us;*

*Far from structure of Phenol  
Far from synthesis of Cholesterol  
Far from super- het Receivers  
Far from gold medal achievers;*

*Far from differential & integral Calculus  
Far from Geometry & Quadratic Equation  
Far from Equity & Logical Operators  
Far from Mega Projects & Micro Processors;*

*It is Education which eternally accomplished  
The DNA structure, core & ethos of Life  
More than Knowledge & Epistemology  
Transcended us of Mind, Space & Time;*

*Education facilitates our transition  
From atom to nucleus, from dot to globe  
One with the universe, the latest version  
From self to Self, the blissful immersion!*

Since ages the universe has been concern of Education. All were having access to Education for sharing their states. Teachers and Educationists were universally respected. Now the scenario is changing. Education is losing its identity. Legislative, Executive, Judiciary, Education, all together, have largely failed in realizing identity of Education. Rather than others seeking guidance from Education, Education is being invited to receive dictations. Arbitrary Policies & Judicial Over-activism are likely to damage Education. There is evident identity crisis of Education. It is high time for Education to realize its Identity. Now the question is why the identity crisis?

There is crisis of character. Soul of Education is being killed through ruthless expansion and privatization leading to marketization of Education. Market is being perceived as the arbiter of the morality. Blind ultra-modernization has resulted into the corrosion of Eastern Values. We have lost our sensitivity to the basic values & SANSKARAS. The soul provides energy, whereas, the SANSKARAS provide modus operandi, but, the unbridled marketization of Education has reduced Education to a commodity to be brought & sold mechanistically in the market. Expression without essence and laughter without resonance are worthless. Convocation without invocation is useless. Graduates & Post-Graduates, degrees of a degree are of little value. Degrees do not guarantee achievement. Achievement is a function of variety of factors in which Knowledge, not merely Degree, is one of the elements. What use is the humanity degree which does not develop decency, decorum and discipline and fails to process us as human beings? What use is the Science degree which does not reconstruct in us open minded scientific outlook? What use are the law degrees if there is lawlessness. What use are the Political Science Degrees if we fail to develop Statesmen? What use is that Art which fails to manifest thematic creative expression? Mathematical formulas are empty & mechanistic if these fail to represent the reality. Social Science degrees which fail to produce Social & Civic Personalities and Citizens are gross wastage. What use is a Doctor of Philosophy Degree if we fail to philosophize the field?

#### **NCFTE (2009) & NCF (2005): Journey So Far**

1. Attempts have been made to enrich the curriculum to provide for overall development of children through CCE. With all ifs and buts, with all Haves and Have Not, the CCE has its own Strength & Power. Continuous Comprehensive Evaluation is a Powerful Regulator. The voices of the Children in this context are- *“Play Way Activities We Play, The Science We Experiment, The Mathematics We Speculate, Stories We Narrate, Games We Play, Musical Notes We Generate, Keep Us Healthy & Gay. The continuous flow of the CCE has made our Studies full of life. The CCE has infused energy in all of us, the Teachers, Learners, Parents and the Society. We may be tired after days work, but, we don't feel tired. CCE is not a burden. It is a band of Rhythm, Rhyme & Resonance. Along with the learners the innovativeness, creativity and efficiency of the teachers also increase significantly. The whole of School System including Watchmen, Support Staff, Sweepers, Gardeners, Mess Staff, Office Staff, Teachers, Learners, Parents, Society, CBSE, the Primary Section Coordinator, School Management and the Principal Madam*

*function synergetically. The entire School System is fully lively & fruitfully functional due to CCE.” ( New Era Senior Secondary School, Vadodara, Gujarat, India)*

2. There is added focus on Multiple Intelligence & Life Skills.
3. Critical Pedagogy has been promoted in various dimensions of the School through Cooperative Learning, Participatory Approach & Action Research.
4. Attempts to motivate children from marginalized sections of society for expression of their knowledge & skills related to work and to have cumulative human experience along with children from other sections are there, but, rare.
5. Rare attempts have been made to develop Citizenship Skills. There is evident rejection of the old and acceptance of the new.
6. There are segregated schools on the bases of Public & Private, Medium of Instruction, Religion, Region, and School Boards. All this segregation has resulted into the fragmentation of the Society. There are marked differences between Municipal Corporation Schools & Private Schools, Native Schools & International Baccalaureates.
7. The private school students may have higher academic achievement, but, they may have ethos related limitations.
8. Very often a non-native language for instruction is barrier in constructing knowledge.
9. Even now the children are deprived of the learning opportunities that occur in classroom with children from diverse Socio-Economic & Cultural Backgrounds.
10. A large number of Public Schools still suffer from shortage of facility of infrastructure. It affects adversely not only academic learning but also overall health of the children.
11. There are rare teachers who have both teaching competencies & teaching attitude. Humane & Professional Teachers, both, in one are rarely found.
12. There is a need to redesign Teacher Education Curricula and modes of transaction, as well as, approaches to inculcate universal values, namely, truthfulness, compassion & forbearance and cope up with the present day challenges.
13. Our School Education has to be strong enough to appreciate the preamble of Constitution of India which demands determination & action to constitute, sustain and strengthen India into a Sovereign, Socialistic, Secular, Democratic, Republic State.

14. The sharp disparities between different Social & Economic Groups are everywhere in the perceptible range in India. Even now the children of the disadvantaged groups are educationally most vulnerable.
15. Though we have large number of multi-grade schools based on mechanical principle of Teacher-Pupil Ratio, within 1Kilo Metre of each habitation, yet, we have not been in a position to provide compatible Pedagogy.
16. Child Centered Education is still in infancy.
17. Constructivist Learning Approach has been talked a lot, but, rarely implemented in the Schools.
18. Many a Schools have initiated into Activity Based Approach, but, it needs to be strengthened.
19. Rarely teachers are competent to deal with Inclusive Classes.
20. Diagnosis & Remediation are done rarely.
21. School Stereotypes exist even now, such as, notion of uneducable children, marginalized groups, Gender Type Stereotypes, Children with disabilities, first generation learners.
22. Problems of bridging the home language and school language.
23. A vast array of human vocations, such as, weaving, carpentry, farming and occupations, such as, shop keeping constitute a valuable form of knowledge. These forms of knowledge are of practical nature, tacit, but, often only partially articulated.
24. Neither the curricular nor the co-curricular activities are up to the mark.
  - Many a child in English Medium Schools are not at ease with English.
  - Mathematics Teaching-Learning is dull & dry.
  - History & Civics are gone.
  - No sensitivity to cultural heritage & religious heritage & eastern values.
  - Social Sciences seize to have normative responsibility.
  - Science is losing Scientific Outlook & In-look.
  - Wholism is a figment of imagination.
25. Health Education, Human Rights Education, Environmental Education, Art Education, Physical Education, Education for Peace & Harmony have become empty slogans.



## Challenges & Reality

- Manpower Planning is improper in Teacher Education. There is remarkable increase in the number of Teacher Education Institutions.
- There are mismatches between the Teaching Degrees & Levels Taught.
- Some of the States filled new vacancies with Para-Teachers, while trained teachers remained unemployed. Honorarium per month of the Para-teachers appointed in different States ranges from Rs. 1000/= pm (Andhra Pradesh) to Rs. 4500/= pm (MP).
- In some of the States, such as, MP, Gujarat future teachers in the formal system will be “SHIKSHA KARMIS/SHIKSHA SHAYAK” on performance contract.
- Indian Teachers have been teaching in the Schools in West Asia, particularly, the United Arab Emirates. Mathematics, Science & English Teachers are in maximum demand. Thousands of Secondary School Teachers are already employed in foreign schools.
- There are problems of Education right from pre-natal stage to old age.
- Children are losing their beauties of childhood.
- The eastern ethos & sensitivity to the basic values are fading.
- Children are interested in fast & junk food than homemade food.
- Children are going far away from nature, because, we have failed in sustaining the beauties of nature.
- The entire School Education- History, Civics, Language, Mathematics, Science are losing their essence.
- The creativity of the children is killed by the schools.
- There are problems of cell phones & face books.
- Only God knows what the children Twit, Skype & Watts App.
- Adolescents are bewildered. It seems the Sociologists, Psychologists and Counselors have largely gone defunct.
- Educational Institutions have started disowning their own Product. What are the SET, NET, TEL, TAT representatives of? Why should the quality of product of Educational Institutions be questioned?
- There is little convergence amongst State, Society, Education & Judiciary.
- More than Solutions, there are Problems of all sorts of Education-School Education, Teacher Education, Medical Education, Engineering Education, Law Education, Art Education, Science Education.



- Education, Research & Development are the least priority as is evident through the investment by the State.
- Apex Institutions, such as, NCERT, NCTE, NUEPA, ICSSR, CIIL, UGC & NAAC have lot of potential but for expression.
- Health Education & Environmental Education are the most neglected areas.
- Public at large is indifferent towards Education.
- Corporate Social responsibility finds rare expression.
- Rather than wholistic, what we have is fragmented Education.
- There is nowhere dedicated Teacher education in India.
- The identity of Education as highest interdisciplinary is rarely recognized & respected.
- Content-Pedagogy-Technology Integrated Education is a big challenge.
- Skill Training is lacking. Education is failing to appreciate innovative courses, such as, Taxonomy of Educational Skills.
- Teacher Education on Life Skills, such as, lateral & critical thinking, innovativeness, problem solving needs to be strengthened.
- We need thorough preparation for Teacher Education at all levels, from Pre-Primary through Higher.

### **Teacher Education: Quality Concerns**

- **Manpower Planning in Teacher Education**

Total Number of Teacher Education Institutions in India as on 31.03.2013 was 16170, whereas, the approved intake was 1197271. Surveys be conducted by all the States in India to ascertain the Teachers required at various levels. There should be one to one correspondence between School education & Teacher Education. Man Power Planning in Education & Teacher Education ought to be done scientifically.

- **Multi-Mode Teacher Education**

It is highly desirable that the first Professional Degrees/Diploma in Teacher Education be offered only in Face to Face (F2F) mode. But, F2F mode of Teacher Education is not that credible as it used to be. Even in the F2F mode, it is publicly evident that there are Teacher Education Degrees, such as, D.El.Ed., B.Ed., particularly, in the

Private Sector with & without attendance. A large number of Teacher Education Institutions are under staffed. Infrastructural facilities are inadequate. There are innumerable problems.

Further, Open & Distance Learning (ODL) mode can also provide very good platform. Many a web 2.0 Tools, Social Networking Sites, like, Edublogs, Blackboard, Twitter, Groups in Facebook, Skype, Whatsapp are very good, where, teachers can interact in synchronous as well as asynchronous mode. It can be blended with F2F mode. Web Portals are required where many a teachers come together. There are many Open Education Resources for Teacher Educators, Teachers & Learners, namely, GeoGebra , Google Earth, Hot Potato, C-map , R-campus, Mahara, Moodle and Wikispaces, Classroom 2.0, Visual Field Trip, In-Service Training Program, Academic Association, Collaboration & Forum, Journals & other Resources, Statistical Tools, and Web Conferencing. There are many a mass media, such as, Educational radio, ETV, along with Satellites.

*No mode of Teacher Education, however modern or classical, stand alone, is self-contained. There ought to be mutual support. Teacher Education in India ought to be multi-mode. There should be sharing of strengths amongst various modes, namely, F2F, ODL, Electronic, Correspondence.*

- **Dedicated Teacher Education Programs**

Dedicated Teacher Education Programs ought to be tried at the laboratory level, such as, B.A./B.Sc./B.Tech./B.Com. B.Ed. (10+2+4), M.A./M.Sc./M.Tech./M.Com. M.Ed. (10+2+7), M.A./M.Sc./M.Tech./M.Com. Ph.D. (10+2+7+3). These Programs be offered as Innovative Programs. The duration of Teacher education Programs (B.Ed. & M.Ed.) has been increased. Will increase in Time Duration of Teacher Education Programs assure and Ensure Quality Teacher Education? There ought to be added focus on In-Service Professional Development of the Teachers. Rather than issuing life Long Teaching Licenses, these could be renewed periodically.

- **B.Ed. integrated or B.Ed. Sequential**

The nation has decided to offer B.A. Ed. in all the Central Universities of India. Though it is an arbitrary National policy decision, but, it does not mean that B.A. Ed. Integrated has supremacy over B.A. B.Ed. Sequential. Both have their due place in the

realm of Teacher Education. The face validity of both the programs reveals that both these ought to have separate norms.

- **Innovative Teacher education**

Innovative Teacher Education, such as, Personalized Teacher Education, Wholistic Teacher Education, Technology Integrated Teacher education, Bachelor of Computer in Education (B.C.Ed.), Master of Computer in Education (M.C.Ed.), Integrated Teacher Education, e-Teacher Education ought to be promoted.

- **Specialized Teacher Education**

Teacher Education ought to specialize in many areas, such as, Art Education, Health Education, CSR & Education, ICT in Education, Yoga Education, Value Education, Inclusive education, Social Networking, Taxonomy of Educational Skills, Taxonomy of Educational Research. There is a need to offer programs, such as, B. El. Ed., M. El. Ed., B.C.Ed., M.C.Ed., Bachelor of Management Education (B. M. Ed.), M. M. Ed.

- **Capacity Building Courses in Teacher Education**

Courses, such as, follows could be offered by the SCERTs, ASCs , RCCs, IASEs, and CTEs:

ICT in Education, Social Networking, Info-Savvy Skills, Techno-Pedagogic Skills, Teacher in the Digital age, Open Education Resources, Taxonomy of Educational Skills, Taxonomy of Educational Research, Educational Research Thrust in India, Collective Wisdom of India, Researching Pioneer Competency , Teacher Competency: Mapping & Management, Researcher Competency: Mapping & Management, Health Education in India, Corporate Social Responsibility & Education, Vocational & Occupational Skills, Management Skills, Life Skills & Attitude, Management Skills, Adjustment Skills, Special Education Skills, Human Development Skills, Accountability & Adaptability, Communication Skills, Self-Direction Skills, Social responsibility Skills, Human Relations Skills, Emotional Skills, Spiritual Intelligence Skills, Innovation, Creation & Construction Skills, Wholistic Education Skills, Interdisciplinary Skills, Value Integrated Education, Yoga Education Skills, Qualitative Research in Education, Employing Mixed Research Methodology, Development of Tools & Techniques for Educational Research, Shifting Paradigms of Teacher Education, Quality Indicators of Teacher Education, Ensuring quality of Teacher Education, Identity of Education, Cultural, Moral & Religious Heritage of

India, Developmental Challenges & Educational Determinism, Status of Educational Predicaments & Constitutional Right To Education, Status of Human Development Index in India, Universal Happiness Index, Status of Teacher Education in India, Establishing Equivalence of Teacher Education Modes, Formulating Teacher Education Policy, Establishing Norms for Teacher Education Parameters, Education for the Disadvantaged Groups, Inclusive Education, Continuous Professional development of Teachers, Career Advancement in Teacher Education, Re-visiting Teacher Education Curricula, Re-Visiting Act, Norms & Regulations of Teacher education, Establishment of Inter-University Consortiums in Teacher education, Exploring the Possible Roles of State, Society, Education & Judiciary in Teacher Education, Research Agenda for Teacher Education, Developing Competencies of Teacher Educators for Enhancing Creative Writing Abilities of the Learners, ICT Aided Constructivist Approach for Professional Development of Teachers, Reflections on the Academic Performance Indicators, Indian Consortium of Research in Education & Strengthening Educational Research, Action Research as “ My Research”, Research Synthesis & Meta-Analysis, Educational Philosophy of India, Quality of Indian Teacher Education, Manpower Planning in Teacher Education, Digital Lesson Designing & Implementation, Developing Professional & Humane Teachers, School Curriculum Framework & Teacher Education Curriculum Framework, Teacher Education: Public & Private, Multiple Intelligence, Policies & Programs, Assessment through Rubrics, Portfolio Assessment, Working With Community, Symbiosis, Participatory Approach of Problem Solving, Cooperative Learning, E-Learning Packages on various Methods, Specialized Teacher Education Programs, Pedagogy: Critical, Reflective & Constructive, Teacher Education for Disadvantaged & Differently Able Groups, Physical Education, Education for Skill Development, Education for Parenting, Development of Skills for Food Processing, Psychology of Infant, Child, Adolescent, Young, Adult & Ripe, Education of Eastern & Western Values.

- **Unique ID of Every Teacher Educator & Teacher Education Institution**

Time & Again there is a suggestion that the NCTE should provide unique ID to every Teacher Educator and Teacher Education Institution. How can NCTE provide unique identity? If unique identity is a number, certainly a centrally established agency can

provide it. But in reality the unique ID is acquired through peer review and evaluation over a period of time. Unique Identity is earned through dedication, innovation, continuous struggle and identification with Education & Teacher Education. Therefore, we need to clear which shade of identity we are referring to as a goal.

- **Career Advancement of Teacher Educators**

Let the Professionals have Career in Teacher Education. Do not upgrade us or downgrade us through the questionable scales. Career Advancement in Higher Education has become more of a matter of Whims and Fancies of, so called, Expert Committees. There are questions asked, such as, was there a casualty in the Promotion Committee. We need to perfect the APIs. Very often mere nomothetic compliance is promoted than real merit.

- ***Teacher Educators for D. El. Ed are not Qualified***

Most of the Teacher Educator at the D. El. Ed. are not qualified for the Elementary Level. Most of them have M.Ed. or Master's Degree in any School Teaching Subject & Diploma in Education. M.Ed. (Elementary) or degree & Diploma in Elementary is highly desirable, but, rarely available. A foundation course in Elementary Education ought to be mandatory for their confirmation as Teacher Educators at the D. El. Ed. level, because, unless they have understanding of the Stages of Social Maturity of the Children how can they educate them. There are many a Stages of Social Maturity, such as, Incorporative, Impulsive, Interpersonal, Institutional, and Inter-Individual. How can they be Teacher Educators at this stage without having comprehensive understanding of the children; their wholistic Profile-Physical, Cognitive, Affective, Psychomotor, Spiritual & Environmental?

- ***Questioning the Legitimacy of our own Products***

We have started questioning the legitimacy of our own products, rather we have started disowning our own products as evident through TETs & TATs above School Teachers, NETs & SETs above Higher Education Teachers, API for promotion of Higher Education, APS for Judgment of our Publications. The entire nation has become a vicious circle. May God help us to come out of it. *The following poem tries to depict the reality:*

*Anti-Plagiarism Software & Academic Performance Indicators (APS & API)*

*When we are down with Academic Plague Epidemic*

*Why do we require Anti Plagiarism Software?*

*We do not have even a single Nobel Laureate during eight decades*

*Why there is a need to run TURNITIN, PLAGUETRACK, DUPLICHECK & ITHENTICATE?*

*When we have polluted, both, our GANGA & SHODH GANGA*

*Why do we need CROSS CHECK, PUBLICATION, & CUSTOM REPOSITORIES?*

*When we have lost our HERITAGE, INNOVATIVENESS & RESEARCH QUEST*

*Why there is a need to be painful detecting Theft & Piracy?*

*Anti-plagiarism Software & Academic Performance Indicators*

*Disregard Identity of Indian Education*

*Mechanized Research, Meek Constructions, Empty Publications*

*Are the Repositories of our round the clock Production!*

*Shedding off the wonderful ornaments - APS, API, TET, TAT, NET, SET*

*We need to identify, formulate & address real Indian problems*

*In every breath, at every step, in every experiment, on every path*

*We need to kindle fresh thinking, spring innovation, Invest & Invent!*

*Not Anti Plagiarism Software, We need Innovation Friendly Software*

*Not Human Development Index, We Need Universe Development Index*

*Not Councils & Commissions, We Need Education Identity-Vision & Mission*

*Not Grants Commission, We Need Self Supportive Production & Patents!*

## **Research & Innovation: Some Expression**

Every problem demands research. Our research methodology starts in womb & continues throughout life. Every moment we ought to be innovative, because, of the latest novel problems encountered by us. There can be numerous approaches for research & innovation. Some of these find expression as follows:

### **1. Symbiosis**

- a. We should learn to play together, be it Hockey, Football, Cricket, Basket Ball, Badminton, Lawn Tennis, Carom or any game for that matter. Every game demands energy, skills, coordination, oneness, unity, fellow feeling, liberation, full resonance with the players, ingredients and field, of course, sportsmanship.
- b. Every day with the dawn, a marvelous phenomenon occurs at many places in India. People throw a party to birds & animals, variety of food, such as, JAWAR, BAZRA, Home ROTI, Sliced breads and biscuits. In villages it is very common. Daily, there is a deeply touching view everywhere in India, where, Pigeons, Parrots, Squirrels, Kabars, and at times some guest visitor birds also join - A marvelous, gracious Sangam of Plants, birds, animals, & human beings.
- c. During 1980s A.D., one-day afternoon a Pig started crying, because of suffocation. It was, because, some pig hunters with rope tied bamboos were trying to capture it. The cry was so painful that all the persons of the community, Boarders from the University campus hostels, Residents of the Servant Quarters, came out and passersby on the hostel road stopped and stood still, and like the silent spectators were experiencing the sordid seen, but, no one acted. Meanwhile a cow came running towards the spot. The cow fought with the hunters and kept fighting till the time the predators did not leave the pig & place and the Pig was Safe & Secure. We very often hear that “Man is a social animal”. What use are those feelings and wisdom which do not emanate into action?

## **2. Participatory Approach of Problem Solving**

Participatory Approach of Problem Solving has been found to be very effective for addressing a problem.

### **a. Designing a computer program for solving a problem**

A class is asked to design & develop a program for addressing a problem. Number of programs are designed and developed by the classmates. Various programs are presented by the classmates to the entire class. Each program presented is evaluated on some criteria by the classmates. Coefficient of concordance is computed to identify the best program.

### **b. Teaching Statistical Techniques of data processing through cooperative learning**

A statistical technique of data processing is introduced by the teacher to the class. Then the class is given problem for statistical data processing. Some work out the solution correctly, whereas, others incorrectly. Those who are not in a position to work out the solution correctly are asked to discuss with those who have worked out. It has been found that along with learning statistical data processing techniques, these learners develop many affect attributes,



such as, cooperation, team work, sharing, diagnosis & remediation, civilization & citizenship. The very look establishes the face validity & process validity of the class.

### **3. Wholistic Approach of Teaching-Learning**

Wholistic approach demands development of a complete human where ideas spring, feelings flow, motor creates, spirit reins, and the self resonates with the self and the environment, for example:

**a. Tea Preparation:** Why do we prepare tea & how do we prepare tea? Where are the tea gardens? Where from the tea has originated? Is it native or non-native? If non-native, who introduced tea in India? What is the chemical composition of tea leaves? Which pan we make use of while preparing tea? What is the origin of the LPG which we make use of for tea preparation? How the gas stove is manufactured? Why do we add basil, black pepper and ginger? How long do we extract tea leaves? What finally is the prepared tea, its composition? How much and how frequently do we take tea? How tea contributes to Wholistic development?

**b. Production & Cracking of Crackers:** Let us take up an example of Production & Cracking of a Cracker, namely, Multi-Colour Fountain (ANAR): What are the ingredients of an ANAR? Where from these ingredients are procured and how? What is the ANAR container? What are the determinants of multi-colours and height of the fountain? Which chemical reactions take place when we spark the ANAR? After the ANAR is cracked, how do the evolving gases interact with the environment? What are the probable effects of cracking ANAR? WHAT are the chemistry, physics, mathematics, economics, environmental Science & Sociology of ANAR? Is it joyful, harmful, or joyfully harmful? What is the status of child labourers who work in factory of crackers?

### **4. Flow of Collective Wisdom Through Reflective Dialogues**

Here a group or class experiences a phenomenon in real life situation or Technology Enabled. The group members are asked to record their reflections, followed by reflective dialogue in the class, such as, A child selling Indian Flags on the advent of Independence Day or Republic Day, A Cat & Dog friendly together, A Beautiful Young Girl wearing Costly Ornaments, A Cow standing with its Calf with. It has been found to have very significant effects. The class really realizes collective wisdom.

## **5. Personalized Teacher Education**

The personalized Teacher Education demands healthy & peaceful ambience and highly dedicated resourceful Humane Teacher Educators. It is also called ZLP (Zero Lecture Program). The features of this program are such as follows: The Pupil Teachers devise their own Programs & Schedule, whereas, the Teacher Educators Are Facilitators. The entire B.Ed. Program Course-wise is distributed amongst various groups of the Class. The group members prepare their Lessons and Present to the group. The groups are rotated. There is sharing within and between the groups. The evaluation is done by the Self, Peers and Teachers & graded on the bases of congruence. There is a very healthy Classroom Culture & Field Culture right from morning till evening. The Personalized Teacher Education Program is going on at School of Education, DAVV, Indore, MP, Department of Education, Banasthali Vidyapeeth, Banasthali, Rajasthan, and Department of Education, University of Lucknow, Lucknow. Right from Day1, the Pupil Teachers identify with their selves as Teachers round the clock. Identity of Teachers & Teacher Educators is well recognized and appreciated through this Innovative Program.

## **6. Dedicated Specialized Teacher Education Programs**

School of Education, Devi Ahilya Vishwavidyalaya, Indore during 1990, designed, developed and implemented many a innovative programmes, such as, Bachelor of Computer Education (B.C.Ed.), Master of Computer Education (M.C.Ed.), Futurology of Education. These programs were self-supportive. These could be run on the basis of Collective Wisdom of these Programs. It is immense Teacher Education Strength to find the Pass Out of these Programs as Domain Leaders in many countries, namely, India, USA, UK, Hong Kong, Germany to name some of these.

## **7. Open Education Resources for Teacher Educators, Teachers & Learners**

There are many OERs for Learner and Learning, such as, GeoGebra , Google Earth, Hot Potato, C-map, R-campus, Mahara, Moodle and Wikispaces, Classroom 2.0, Visual Field Trip, In-Service Training Program, Academic Association, Collaboration & Forum, Journals & other Resources, Statistical Tools, and Web Conferencing.

## **8. Constructivist & Connectionist Approach**

Learning can be seen as a process of that of understanding and contextualizing socially, culturally, historically and politically relevant issues. Hence it is important that the teacher's

role is revitalized. Teacher Education system has to inculcate the culture of germination of new ideas, incubation, innovation, creation and construction. Every construction ought to be interconnected.

### **9. Indian Consortium of Research in Education ([www.icorecase.org](http://www.icorecase.org))**

Centre of Advanced Study in Education, Baroda is establishing ICORE at CASE. It is the Consortium of Institutions and individuals for Research in Education. It is a self-managing network of educational bodies that play a substantive role in the field of educational research. I-CORE aims at assembling a diverse coalition of partners to formulate questions worth asking, contribute to research which is relevant in the contemporary contexts, helps in understanding educational mechanisms, promotes holistic learning and highlights their policy implications worthy of action. The consortium is entirely a voluntary effort with its secretariat at the CASE, It is the Consortium of Institutions and individuals for Research in Education. It is a self-managing network of educational bodies that play a substantive role in the field of educational research. I-CORE aims at assembling a diverse coalition of partners to formulate questions worth asking, contribute to research which is relevant in the contemporary contexts, helps in understanding educational mechanisms, promotes holistic learning and highlights their policy implications worthy of action. The consortium is proposed entirely as a voluntary effort with its secretariat at the CASE (Centre of Advanced Study in Education), Faculty of Education and Psychology, The M. S. University of Baroda. The member institutions and individuals shall be required to contribute towards its activities. The CASE will further strengthen networking with the apex national agencies, such as, UGC, NCERT, NUEPA, AICTE, AIU, CIIL, EFLU, ICSSR, HBCSE and also at the international level with various institutions and agencies at Sweden, Germany, UK, USA, Australia, China, Thailand and all the SAARC countries. I-CORE shall be a non-profit forum consisting of institutions organized and operated for educational and professional purposes. An institution shall be eligible for membership if it has made a definitive, substantial, and continuing commitment to a credible research program or to I-CORE 's goal to facilitate high-quality research providing core services (from development of research proposal to surveying previous researches to statistical analysis, and evaluation expertise). Specifically, the Consortium seeks to become an intellectual Center that will maximize the potential of education researchers and foster the development of networks of collaboration and support among educationists.

## **10. Computer Networks: Internet, INFLIBNET**

It is digital age. Within one seventh of a second a message can cover the entire globe, the speed of electromagnetic waves being 7 times the circumference of the earth. So the globe at large has been in a position to realize omnipresence, recency & immediacy. Internet is a store house of global wisdom. We can have full networking with the globe anywhere, anytime, any purpose. For that we need to be info-savvy, net-savvy and techno-savvy. Every one of us ought to be skilled in Asking, Accessing, Analyzing, Applying and Assessing. We have various Information Library Networks. Indian Library Network is INFLIBNET. We can become members of the INFLIBNET and have access to the Learning Resources of all the interconnected libraries.

## **11. Cosmic Collective Wisdom**

The entire cosmos is full of collective wisdom. Varieties of Airplanes flying in the sky have realized the wisdom of flying birds with wings & hollow bones. Two Beautiful Blue Velvet Beatles crossing a road breadth-wise, holding a fully spherical seed of a fruit, climbing on it, pushing & pulling it, caught the attention of many a passerby, presented willful, witful, and unparallel collective wisdom controlling & holding the most unstable spherical seed, rolling swiftly, steadily, balancing the push & pull scientifically, playfully, cheerfully, lovely. Whenever, passing from there we always aspire the phenomenon to recur.

## **12. Genesis of Bharati Text Editor**

We were trying to study the relative effectiveness of various modes of Computer Assisted Learning Material (CALM) for learning Rhymes and BAL GEET at the Lower Primary level, in Hindi and English. The different modes were Text, Text-Graphics, Text-Graphics-Music, Text-Graphics-Music-Recitation, Text- Graphics-Music-Recitation-Enacting for learning Rhymes and BAL GEET for Vocabulary, Analytical Understanding, Comprehensive Understanding, LSRW, and Joyful learning. Then the available commercial Hindi Text Editors, namely, Prakashak and Sulekh were not fixing the MATRAS properly. One of the B.C.Ed. Students developed a Hindi Text Editor over one year and named it “BHARATI” after the name of his Mother. This indigenous Hindi Text Editor worked very well. Another problem which we encountered was with respect to production of Musical Scripts of the Rhymes. One of our students who is expert on Harmonium taught us Harmonium for six months. We could confidently and proficiently produce the musical scripts. This is how the collective wisdom of the group was utilized for conducting the research work.

## **Symbiosis of Teacher Education & School Education**

- There is only a little symbiosis between Teacher Education & School Education.
- There are mismatches, such as,
  - Domain & Pedagogy
  - Problems & Skills
  - Teaching Style & Learning Style
  - Teacher & Learner
  - Mason & Construction

## **NEED FOR TAXONOMY OF EDUCATIONAL SKILLS**

Teacher Education Institutions are lost in the rut & routines. There have been Committees, Commissions, Curriculum Frameworks, State, Society & Judiciary interventions. But where is the expression?

We need to introduce Taxonomy of Educational Skills in Education at the National level. The proposed Taxonomy of Educational Skills has been differentiated into eight domains as follows:

- Self-Development Skills
- Social Development Skills
- Interpersonal & Collaborative Skills
- Communication Skill
- Self-Direction Skill
- Resilience
- Social Responsibility Skills
- Human Relations Skills
- Emotional Skills
- Adjustment Skills
- Human Development Skills
- Citizenship Skills
- Accountability & Adaptability Skills
- Life Skills
- Critical Thinking & Training Thinking
- Leadership, Administration & Management Skills
- Creative Leadership Skills
- Administration Skills

- Time management Skills
- Key Skills for Every Manager
- Spiritual Development Skills
- Yoga Skills
- Wholistic Development Skills

### **Renewal of the Courses in Education**

There is a need to renew most of the courses in Education. We should come out of our old coats. Do we expert committees know what are our problems and needs? We may stroll with crowns of idealism but we have to face the stark reality. For example, there is a need to renew curricula of Teacher Education & School Education. Courses such as follows are proposed to be introduced in Teacher Education:

#### **1. Corporate Social Responsibility & School Education**

CSR & School Education be introduced in Teacher Education Curricula at the earliest.

##### **Objectives:**

- To set up and manage a School.
- To support School learning.
- To connect with the Parents.
- To provide Career Guidance & Psychological Counseling to Students & Parents.
- To ensure progression from Primary to Upper Primary, Elementary to Secondary and Secondary to Higher Education.

##### **Units:**

Unit-1: Concept of Corporate Social Responsibility

Unit-2: CSR & Elementary Education

Unit-3: CSR & Secondary and Higher Secondary Education

Unit-4: CSR for Realizing Compatible Education

Unit-5: Independence of both the Corporate & Society through Interdependence

#### **2. Corporate Social Responsibility & Higher Education**

##### **Objectives:**

- The Prospective Teacher Educators will study the following Roles of Corporate Sector.
- Sharing Cost of Higher Education.

- Supporting & Strengthening Higher Education.
- Establishing Linkage between Learning & Earning.
- Strengthening Research & Development.

**Units:**

Unit-1: CSR & Science Education

Unit-2: CSR & Social Science Education

Unit-3: CSR for Vocational Education & Programs

Unit-4: CSR & Research & Development in Education

Unit-5: CSR & neo-capitalism & neo-liberalism in Higher Education

**3. Health Education in India****Objectives:**

- The Prospective Teacher Educators will build a scenario of Health Education in India.
- The Prospective Teacher Educators will develop a Knowledge Base of the Most Common and Uncommon Diseases in India; their Diagnosis & Remediation.
- The Prospective Teacher Educators will learn the Tech Related Health Risks & Learn How to Fix These.
- The Prospective Teacher Educators will study the Health Education Vision & Mission of India.

**Units**

Unit-1: Health Education Scenario in India: Entity & Identity

Unit-2: Most Common & Uncommon Diseases in India

Unit-3: Tech-Related Health Risks & How to Fix Them

Unit-4: Health Issues & Health Education: Vision & Mission

Unit-5: Approaches to Sound Health

**4. Mental Hygiene & Health Guidance****Objectives:**

- The Prospective Teacher Educators will develop a knowledge base of the Mental Health Problems.
- They will learn the Diagnosis & Remediation of the Mental Health Problems.
- They will learn How to Strengthen Mental Hygiene & Health

**Units:**

Unit-1: Nature & Scope of Mental Hygiene & Health



Unit-2: Analysis of the Defense Mechanisms & Conflicts

Unit-3: Mental Disorders & Treatment

Unit-4: Counseling for Mental Health

Unit-5: Technology Enabled Diagnosis & Remediation\

## 5. Taxonomy of Educational Skills

### Objectives

- The pupil teachers will be in a position to identify and classify various Educational Skills.
- The pupil teachers will be in a position to employ various Educational Skills, viz., Techno-savvy Skills, Techno-Pedagogic Skills, Research & Construct Skills, Yoga & Spiritual Development Skills and Self Development & Citizenship Skills.

### Units:

Unit-1: Techno-Savvy Skills

Unit-II: Techno-Pedagogic Skills

Unit-III: Research & Construct Skills

Unit-IV: Yoga & Spiritual Development Skills

Unit-V: Self Development - Citizenship Skills & Life Skills

## 6. ICT in Education: Designing & Development

### OBJECTIVES:

This course helps the prospective teacher educators to-

- appreciate the educational possibilities and opportunities of ICT
- use ICT as a medium of learning.
- develop perspectives and approaches on ICT supported assessment.
- undertake research using ICT
- design an individual website.
- use open source software for educational purposes

### Units

Unit-I: Understanding ICT

Unit-II: ICT: Curriculum and Pedagogy

Unit-III: ICT for Professional Development and Educational Research

Unit-IV: Open source movement and Web designing for Education

Unit-V: Utilization of e- Resources

## 7. ICT in Education: Web Technologies and E-Learning

### OBJECTIVES

To prepare the prospective teacher educators to

- apply web technologies in classrooms
- understand the issues related to Copy Rights
- organize learning in a virtual environment
- design and develop e-content for any school subject
- critic on e-content
- identify and organize appropriate e-content from the world wide web
- understand recent trends in ICT in Education.
- develop competencies related to Wiki editing

### Units

Unit-I: Web 2.0 & Semantic Web for Teaching-Learning

Unit-II: Information sources and copyright Issues

Unit-III: E – Learning

Unit-IV: Learning Course Management and Online Evaluation

Unit-V: Designing, Development and validation of e- content material

### Recommendations:

1. Institutional Plants should have healthy structure & ambience.
2. There should be adequate manpower planning for Teacher Education & School Education.
3. There should be symbiosis in School Education & Teacher Education.
4. Cultural heritage inclusive of eastern values ought to be revived in Indian Schools.
5. Educational Curricula & Modes of Transaction ought to be renewed.
6. There should be added focus on Activity Approach.
7. Cooperative, Collaborative & Participatory Learning ought to be practiced.
8. There should be adequate focus on Constructivist & Connectionist Approaches.
9. Creative & Innovative Teaching-Learning should be enhanced.
10. All the laboratories of Schools-Science, Maths, Technology, Psychology, Language ought to be in healthy state.
11. All the schools should conduct Action Research- My Problem, My Sources & Resources, My Methodology, My Solution, Quality enhancement of my school.
12. Every school ought to have Guidance & Counseling Cell.
13. All the subjects-Science, Maths, Technology, Social Science should realize their essence.

14. Life Skills, Multiple Intelligence Skills, Emotional Maturity Skills, Spiritual Development Skills , Science Process Skills, Creative Composition Skills should have due focus in Indian Schools.
15. Health Education ought to be integral constituent of School Education.
16. There should be adequate focus on Games & Sports.
17. All the Teachers & learners should be Techno-Savvy.
18. There should be networking amongst Schools within India & between other countries.
19. Mathematics, History & Geology seem to be the weakest links of the present day schools. These ought to be strengthened.
20. Value Education, Peace & Harmony Education ought to be strengthened.
21. There ought to be essence learning rather than mere cognitive perceptual learning.
22. CC E ought to be scientifically & humanistically implemented.
23. Schools ought to be full of life, rather than full of forced discipline.
24. Taxonomy of Educational Research should find expression in, both, Teacher Education & School Education.
25. Education ought to realize its identity.

### ***Concluding Remarks***

*When there is change every elsewhere, then, how come Teacher Education & School Education are Stale & sterile? When will there be valid Manpower Planning in Education? How will we realize healthy Teacher Education & Schools Education? How will we realize Corporate Social Responsibility in Education? How will we realize Technology Integrated Education? When will we design Activity Based Curricula? When will we learn cooperatively? When will we practice Participatory Approach of Problem solving? When will we design suitable Inclusive Education? When will we introduce the Constructivist & Connectionist approaches? When will we realize creative & critical thinking simultaneously? How will we learn to address the developmental challenge? When will we learn to sustain the cultural heritage of India & to have perfect vision of the invisible? When will we learn to value the indigenous? When will Education realize its identity in India?*

*Pumping in crore of rupees can facilitate Education, but, it demands crore of Heads, Hearts, Hands & Souls in full resonance to realize Education. RTE can legalize Education, but, it demands the wish & will of all to culture Indian Education. Once again we need to have full determination with action to realize Elementary Education, Higher Education, Vocational Education & Professional Education. Visual Learning Environment, Health, Life Skills,*

---

*Social Networking, Corporate Social Responsibility, Technology Integration, Activity Base, Cooperative Learning, Participatory Learning, Inclusive Education, Constructivist Approach & Connectionist Approach, Choice Base, all these aspirations, have their roots in ancient Indian Education. Could we revive the eastern history to modernize Teacher Education & Education?*