

शिक्षा में नवाचार पद्धतियों और प्रयोगों पर विद्यालयों और
अध्यापक शिक्षा संस्थानों के लिए अखिल

भारतीय प्रतियोगिता: 2013–14

All India Competition on Innovative Practices and
Experiments in Education for Schools and Teacher
Education Institutions: 2013-14

विद्यालय एवं अध्यापक शिक्षा में नवाचार
Innovations in School and Teacher Education

प्रो. बी. पी. भारद्वाज
(विभागाध्यक्ष एवं कार्यक्रम समन्वयक)

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अध्यापक शिक्षा विभाग

राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्
श्री अरविन्द मार्ग, नई दिल्ली-110016
(राष्ट्रीय संगोष्ठी: 27 जून, 2014)

Department of Teacher Education

National Council of Educational Research and Training
Sri Aurobindo Marg, New Delhi-110016
(**National Seminar: 27 June, 2014**)

All India Competition on Innovative Practices and Experiments in Education for Schools and Teacher Education Institutions

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National Council of Educational Research and Training

Department of Teacher Education

All India Competition on Innovative Practices and Experiments in Education for Schools and Teacher Education Institutions

Backdrop

In early sixties, the then Department of Extension Programmes for Secondary Education of the NCERT launched a scheme entitled "Seminar Reading Programme for teachers and heads of secondary schools." The scheme provided an opportunity to develop detailed papers in English and in any other modern Indian languages on teaching strategies and techniques, which they found to be the most effective. The papers were submitted to the Extension Service Department. From time to time modifications were made in the scheme regarding its scope, nomenclature, nature of participants, eligibility criteria, specification of themes, short-listing of papers, number of awards, amount of cash prize, procedure of submission of papers, eligibility, cash prize etc.

The scheme was launched on the premise that top-down model of educational reform has failed to deliver the desired dividends. This is because this model involves teachers as conduits for implementing ideas and some externally generated research based solution to school problem(s). This model has not been successful to address problems faced a teacher in his/her context. This is because each teaching context is unique.

It was felt earlier that teacher does not have innovative ideas and requisite skills to create knowledge for educational reform. It is now felt that a wealth of expertise resides in the practices of classroom practitioners. What is needed is to encourage them to implement these ideas systemically in their work situation and to document them.

Review of the Scheme

Till 2004-05 the scheme was known as "All India Competition on Innovative Practices and Experiments for School Teachers and Teacher Educators" with a provision of 100 cash prize of Rs. 2000/- each (70 for school teachers - 50 for elementary level & 20 for secondary level and 30 for teacher educators - 20 for elementary teacher educators & 10 for secondary teacher educators). The

Scheme has been revised by the department from time to time. To make it more effective and functional, a review of the scheme was undertaken by the department during 2005-06. The department organized an in-house meeting and suggestions were also invited from the RIEs. Two expert group meetings were also convened by the department.

National Curriculum Framework - 2005 under the heading *Encouraging Innovations* in Chapter 5 entitled *Systemic Reforms* made the following observations: "Individual teachers often explore new ways of transacting the curriculum in addressing the needs of students within their specific classroom context (constraints of space, large numbers of students, absence of teaching aids, diversity in the students body, compulsion of examination, and so on). These efforts, often pragmatic but also creative and ingenious, by and large remain invisible to the school and the larger teaching communities, and are usually not valued by teachers themselves. The sharing of teaching experiences and diverse classroom practices can provide opportunities for an academic discourse to develop within school as teachers interact with and learn from each other. This will also encourage new ideas and facilitate innovation and experimentation. How can innovative and creative ways of teaching and learning be encouraged and supported by the system so that they can become a body of practice that can be brought to a stage when they can be built back into the system? For a start, there is a need to create structured spaces within schools, and at the level of the cluster and block where teachers are encouraged to share and discuss classroom practices and experiences. If seen as worthwhile, some of these ideas and practices can be systemically followed up. It is also important to bring together groups of teachers within and across schools and provide support to them in terms of resources as well as time to work together. There is also, a need for documentation and research of identified 'good practices' (5.5.2).

In view of the above, the existing scheme of awarding prize to individual teachers/teacher educators was replaced by a new scheme in which the award is given to schools/teachers education institutions wherein the innovations are practiced by teachers, head teachers/principals and management as partners with an idea to sustain innovation(s) in the system. The title of the existing scheme was reformulated as "All India Competition on Innovative Practices and Experiments in Education for Schools and Teacher Education Institutions" from 2008-09.

Objectives

The main objectives of the scheme are to:

- sensitise teachers about the potential of innovative practices and experiments for improvement of teaching-learning;
- encourage schools and teacher education institutions to try out novel ideas and practices for improvement of different areas of school education and teacher education;
- encourage schools and teacher education institutions to identify problems they face and adopt a realistic approach to find solutions, thereof;
- create an environment in schools and teacher education institution by encouraging team work and total involvement of the players in the execution of the innovations so as to ensure their sustainability; and
- provide a forum to teachers and teacher educators to share their innovative ideas with all the stakeholders.

Number of Awards

Under the revised Scheme, it has been decided that the total number of awards to schools/Teacher Education Institutions will be 30. The number of awards will be equally divided among the five regions as per the jurisdiction of each Regional Institute of Education located at Ajmer, Bhopal, Mysore, Bhubaneswar, and Shillong. The suggested break-up of the total number of awards would be as follows:

Distribution of Awards		
I. For Schools:		20
a.	<i>ECCE/Primary/Elementary schools</i>	<i>10</i>
b.	<i>Secondary/Senior Secondary Schools</i>	<i>10</i>
II. For Teacher Education Institutions:		10
a.	<i>Teacher Education Institutions at ECCE/Primary/Elementary levels</i>	<i>05</i>
b.	<i>Teacher Education Institutions at Secondary level</i>	<i>05</i>
Total Number of Awards		30

The printed information bulletin is disseminated to different institutes such as RIEs, IASEs, CTEs, DIETs, KVS, NVS, individuals etc. with a request for further dissemination. Advertisement inviting project proposals to carry out innovations from schools/teachers education institutions are published in the leading national as well as local dailies of the country. Bi-lingual information bulletin giving details about the scheme is also available on NCERT Website

Under the present scheme, project proposals are invited from schools/teacher education institutions. Received project proposals are evaluated at two levels – RIE and NCERT level. The schools and teacher education institutions whose project proposals are considered to be innovative in nature are informed to carry out the innovations along with the suggestions given by the experts.

Team leader and project coordinator are invited by the department to the NIE Campus to present their report in the national seminar. Based on the combined rating of project report and its presentation in the national seminar, schools/Institutes are selected for award. The cash award of Rs. 20,000/- along with a certificate is presented to each selected School/Institute.

Under the present scheme, project proposals were invited from schools/teacher education institutions. Received project proposals were evaluated at two levels – RIE and NCERT level. The 12 schools/institutions whose project proposals found to be innovative in nature were informed to carry out the innovations along with the suggestions given by the experts. One institute has dropped the project due to personal reasons.

The 11 schools/institutions were invited to present the final report in the National Seminar, organised on 27th June, 2014. Team Leader and Project Co-ordinator were invited to present the report. 10 schools/institutions were presented the report in the Seminar. One school namely Z.P.P. High School Jagannadhapuram Post, Tadpallgudem Mandal, W.G. Dist. – 534 145, Andhra Pradesh would not participated in the National Seminar due to personal reasons. Based on the combined rating of project report and its presentation in the National Seminar all the 10 schools/institute were selected for award. The cash award of Rs. 20,000/- along with a certificate is given to each selected schools/institute. One institute, District Institute of Education and Training (DIET), 20th Mile, Sonapat – 131 029 (Haryana) was awarded last year with Rs. 20,000/- as award money & certificate as per the provision of the scheme this year institute will be awarded with certificate only.

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**National Seminar on Innovative Practices and Experiments in Education
for Schools and Teacher Education Institutions: 2013-14**

Date: June 27, 2014

Venue: Room No. 229, Chacha Nehru Bhawan (CIET)
NCERT, New Delhi-110016

Programme Schedule

09.30-10.00 A.M.	Registration	
10.00-10.20 A.M.	Welcome & Brief about the Programme	
	Prof. B.P.Bhardwaj Head & Programme Co-ordinator	
	Inaugural address by Prof. Parvin Sinclair Director	
	Joint Director Prof. B.K. Tripathi, will grace the occasion	
	Presentation & Discussion	Schools/Institution s
10.20-10.40 A.M.	Integrating Cultural Formats and Artistic Expression in the Academic Life- Experiment and Education Initiatives	Sri Tarachand Galada Jain Matriculation School 44, Madley, 1 st Street, T Nagar, Chennai - 600 017 (Tamil Nadu)
	Dr. (Smt.) Sita Ranjit <i>Principal & Team Leader</i>	
	Mr. S. Sabrinathan Hon. Art & Cultural Co-ordinator <i>Project Co-ordinator</i>	
10.40-11.00 A.M.	Beyond the Black Board	Excel Public School 1-C, Hootagalli Industrial Area, Belavadi Post, Mysore - 570 018 (Karnataka)
	Mr. Mathew K G <i>Principal & Team Leader</i>	
	Ms. Nagashree T R Teacher <i>Project Co-ordinator</i>	
11.00-11.15 A.M.	Tea/Coffee Break	
11.15-11.35 A.M.	Child's Problems and Problem Child : Learn to Solve and Solve to Learn	Govt. Senior Secondary School, Bhiwani Road,Rohtak- 124001 (Haryana)
	Mr. Baljeet Singh <i>Principal & Team Leader</i>	
	Mr. Yashpal Singh Lecturer in Biology <i>Project Co-ordinator</i>	

11.35-11.55 A.M.	<p>Inculcation of Value of Respect for Female Gender Through Value Oriented Activities</p> <p>Dr. Ram Mohan Tripathi <i>Principal & Team Leader</i></p> <p>Dr. Amardeep Kaur Associate Professor <i>Project Co-ordinator</i></p>	Babe Ke College of Education, V.P.O. Mudki, Distt. Ferozepur-142060 (Punjab)
11.55-12.15 P.M.	<p>Effect of Mobile Learning on Achievement of B.Ed. Students</p> <p>Dr. Khushivinder Kumar <i>Principal & Team Leader</i></p> <p>Mrs. Maninder Kaur Assistant Professor <i>Project Co-ordinator</i></p>	B.C.M. College of Education Sec. 32 A, Urban Estate, Chandigarh Road, Ludhiana -141010 (Punjab)
12.15-12.35 P.M.	<p>A Study of Impact of Induction Programmes upon the Professional Development of Teachers and Quality in Education</p> <p><i>Principal & Team Leader</i></p> <p>Dr. Naresh Kumar Sachdeva Lecturer in Sociology <i>Project Co-ordinator</i></p>	District Institute of Education and Training, 20 th Mile, Sonapat -131029 (Haryana)
12.35-13.00 P.M.	<p>Oratory Training for Student Teachers for Enhancing Communication Skills</p> <p>Dr. Sunny Skariah <i>Principal & Team Leader</i></p> <p>Dr. Rosamma Phillip Assistant Professor <i>Project Co-ordinator</i></p>	Mount Tabor Training College Pathanapuram, Kollam - 689 695 (Kerala)
13.00-14.00 P.M.	Lunch Break	
14.00-14.20 P.M.	<p>Developing A Model of Peer Tutoring for Effective Implementation of Individualized Education Programme in Inclusive School</p> <p>Dr. K V Narayana Kurup <i>Principal & Team Leader</i></p> <p>Dr. N Sethumadhavan Sr. Lecturer <i>Project Co-ordinator</i></p>	District Institute of Education and Training (DIET), Ernakulam Kuruppampady, Ernakulam District - 683545 (Kerala)

14.20-14.40 P.M.	<p>Initiating an Orientation Towards Neuro Cognitively Targeted Teaching Practices among the Students of Teacher Education Programme at the Primary Level</p> <p>Mr. Thiru S. Natrajan <i>Principal & Team Leader</i></p> <p>Dr. A. Prabhakar Devaraj Sr. Lecturer <i>Project Co-ordinator</i></p>	District Institute of Education and Training (DIET), Oddanchatram Dindigul Distt.- 624619 (Tamil Nadu)
14.40-15.00 P.M.	<p>Use of Digital Technology in Learning of English</p> <p>Mr. P S R Chowdari Headmaster & Team Leader</p> <p>Goteti M V S R Krishna School Assistant (English) <i>Project Co-ordinator</i></p>	Z. P. P. High School Jagannadhapuram Post, Tadpalligudem Mandal, W. G. Dist. - 534 145 (Andhra Pradesh)
15.00-15.15 P.M.	Tea/Coffee Break	
15.15-15.35 P.M.	<p>Development of Reusable Learning Contents and Interactive Student Response System with Optimal Information Technology</p> <p>Dr. Santanu Mandal <i>Principal & Team Leader</i></p> <p>Kakali Majumdar Assistant Teacher <i>Project Co-ordinator</i></p>	Dighalgram Netaji Vidhyapith High School (HS) Vill/P.O. Dighalgram, Distt.-Nadia - 741257 (West Bengal)
15.35-16.30 P.M.	<p>Sharing of The Experience and Discussion on Dissemination of Innovative Practices and Experiments</p> <p>Porf. B.P. Bhardwaj Dr. J.K.Patidar Dr. Vijayan K.</p>	
16.30-17.30 P.M.	<p>Comments and Suggestions by Experts</p> <p>Valedictory Session</p>	

List of the Schools/Institutions: Awarded in 2013-14

S. No.	Title of the Project	Name of School/Teacher Education Institution	Name & Designation of Team Leader and Project Coordinator
1.	Child's problems and problem child : Learn to solve and solve to learn	Govt. Senior Secondary School, Bhiwani Road, Rohtak- 124 001 (Haryana)	Mr. Baljeet Singh <i>Principal & Team Leader</i> Mr. Yashpal Singh Lecturer <i>Project Co-ordinator</i>
2.	Inculcation of value of respect for female gender through value oriented activities	Babe Ke College of Education, V.P.O. Mudki, Distt. Ferozepur-142060 (Punjab)	Dr. Ram Mohan Tripathi <i>Principal & Team Leader</i> Dr. Amardeep Kaur Associate Professor <i>Project Co-ordinator</i>
3.	Effect of Mobile learning on achievement of B.Ed. students	B.C.M. College of Education Sec. 32 A, Urban Estate, Chandigarh Road, Ludhiana -141010 (Punjab)	Dr. Khushivinder Kumar <i>Principal & Team Leader</i> Mrs. Maninder Kour <i>Project Co-ordinator</i>
4.	A study of Impact of induction programmes upon the professional development of teachers and quality in education	District Institute of Education and Training, 20 th Mile, Sonapat - 131029 (Haryana)	<i>Principal & Team Leader</i> Dr. Naresh Kumar Sachdeva <i>Project Co-ordinator</i>
5.	Oratory Training for Student Teachers for Enhancing Communication Skills	Mount Tabor Training College Pathanapuram, Kollam - 689 695 (Kerala)	Dr. Sunny Skariah <i>Principal & Team Leader</i> Dr. Rosamma Phillip <i>Project Co-ordinator</i>
6.	Developing a model of peer tutoring for effective implementation of individualized Education programme in inclusive school	District Institute of Education and Training (DIET), Ernakulam Kuruppampady, Ernakulam District - 683545 (Kerala)	Dr. K V Narayana Kurup <i>Principal & Team Leader</i> Dr. N Sethumadhavan Sr. Lecturer <i>Project Co-ordinator</i>
7.	Initiating an orientation towards neuro cognitively targeted teaching practices among the students of teacher education programme at the primary level	District Institute of Education and Training (DIET), Oddanchatram Dindigul Distt. - 624619 (Tamil Nadu)	Mr. Thiru S. Natrajan <i>Principal & Team Leader</i> Dr. A. Prabhakar Devaraj Sr. Lecturer <i>Project Co-ordinator</i>
8.	Beyond the Black Board	Excel Public School 1-C,Hootagalli Industirial Area, Belavadi Post, Mysore - 570 018 (Karnataka)	Mr. Mathew K G <i>Principal & Team Leader</i> Ms. Nagashree T. R. <i>Project Co-ordinator</i>
9.	Integrating Cultural	Sri Tarachand Galada	Dr. (Smt.) Sita Ranjit

	Formats and Artistic Expression in the Academic Life— Experiment and education Initiatives	Jain Matriculation School 44, Madley, 1 st Street, T Nagar, Chennai - 600 017 (Tamil Nadu)	<i>Principal & Team Leader</i> Shri S. Sabrinathan <i>Project Co-ordinator</i>
10	Development of reusable Learning Contents and Interactive Student Response System with optimal information technology	Dighalgram Netaji Vidhyapith High School (HS), Vill/P.O. Dighalgram, Distt.- Nadia - 741257 (West Bengal)	Dr. Santanu Mandal <i>Principal & Team Leader</i> Sri Kakali Majumdar <i>Project Co-ordinator</i>

List of the Schools/Institutions: Awarded in 2012-13

S. No.	Title of the project	Name of School/Teacher Education Institution	Name & Designation of Team Leader and Project Coordinator
1.	Application of innovative methods in Teacher Training Colleges including teaching through CAI and framing lesson plans based on the branching pattern of programmes instruction	Shri Bhawani Niketan TT college Sikkar Road, Chomu Puliya, Jaipur-302023, Rajasthan	Dr. Savitri Mathur <i>Principal & Team Leader</i> Smt. Seema Singh <i>Project Co-ordinator</i>
2.	Ruchikar Vyaaharik Ganit - NCF-2005 ke alok mein Eco club ke madhyam se ganit shikshan adhigam ko ruchikar va prabhavi banaya jana	Govt. Inter College Simlakh Block-Betalghat, Janpad, Nainital-263135 Uttrakhand	Shri H.R. Arya <i>Principal & Team Leader</i> Shri Himanshu Pandey Mitr <i>Project Co-ordinator</i>
3.	Heritage Studies: Transforming Integrated Pedagogy	GD Salwan Public School Rajinder Nagar, New Delhi-110060	Mrs. Vijaylaxmi Singh <i>Principal & Team Leader</i> Mrs. Seema Goyal <i>Project Co-ordinator</i>
4.	Fostering Creative thinking among students through innovative teaching methodology	CB Gupta Saraswati Vidyapeeth, VIII-Singharpur, Mathura Road, Aligarh (UP) 202001	Sh. B.D. Sharma <i>Principal & Team Leader</i> Sh. Raj Kumar Sharma <i>Project Co-ordinator</i>
5.	The School outreach programme: A collaborative model of professional development for student-centred pedagogy	Princess Esin Girls' High school, 22-3-660, Purani Haveli, Hyderabad-500 002 Andhra Pradesh	Mrs. Javeria Siddique <i>Vice-Principal & Team Leader</i> Mr. Minhaj Arastu <i>Project Co-ordinator</i>

6.	Inculcating values through Game and Discussion (GAD) Strategy	St. Thomas College of Teacher Education, Mylacompu, Thodupuzha Idukki (Distt.) Kerala- 685608	Dr. Johnson Mathew <i>Vice-Principal & Team Leader</i> Dr. C.C. Kurian <i>Project Co-ordinator</i>
7.	Portfolio writing: An Innovative Instructional Strategy for students in Teacher Education	School of Education Pondicherry University RV Nagar, Kalapet Puducherry-605014	Prof. M.S.Lallithamma <i>Dean, School of Education & Team Leader</i> Dr. K. Chellamani <i>Project Co-ordinator</i>
8.	Effectiveness of Teacher made Kit in Developing Language Skills of the learners of Class-VI in English	Mendhakhai UGUP School, Ward No 8, at PO- Udala, Dist.Mayurbhanj- 757040 (Odisha)	Smt. Sandhya Padhi <i>Headmistress & Team Leader</i> Dr. Duryodhan Dash <i>District Inspector of Schools & Project Co-ordinator</i>
9.	Leverage to Success	Kerala Public School, Burmamines (Mills and Godown area, Near Lakdi Taal) , Jamshedpur- Jharkhand -831007	Mrs. Sreekala Karunakarn <i>Principal & Team Leader</i> Mrs. Sheela Satish <i>Project Co-ordinator & Junior School Co-ordinator</i>
10.	A study of Innovative experiences of Semesterization School Experience Programme (SEP) & CO-curricular Activities (CCA) in D.Ed Course and their impact on the Quality of Teacher Education	DIET, Beeswa (20 th) Mile, Badh Malik, Sonapat Hayana	<i>Principal & Team Leader</i> Dr. Naresh Kumar Sachdeva <i>Project Co-ordinator</i>

List of the Schools/Institutions: Awarded in 2011-12

S. No.	Topic/Title	Name of Schools/Teacher Education Institutions	Name & Designation of Team Leader and Project Coordinator
1.	Spelling Made Easy by Visualisation Techniques	Kendriya Vidyalaya, Shalimar Bagh, AN Block, Delhi-110088	Mrs. Sushma Chaudhary <i>Principal & Team Leader</i> Mrs. Sangeeta Arora <i>PRT & Project Co-ordinator</i>
2.	CMP कार्यक्रम के अनुप्रयोगों द्वारा शैक्षिक उत्कर्ष और समुन्नयन	Kendriya Vidyalaya, Eklinggarh Cantt. GordhanVillas, Udaipur- 313001 (Rajasthan)	Shri S.P. Agrawal <i>Principal & Team Leader</i> Mrs. Bindu Gupta <i>PGT Hindi & Project Co-ordinator</i>
3.	Development of Safest Sixth Sense	Kendriya Vidyalaya, Tagore Garden, New Delhi-110027	Mrs. Seema Srivastava <i>Principal & Team Leader</i> Mrs. Krishna Purohit <i>H. M. & Project Co-ordinator</i>
4.	Believe in Yourself	Kendriya Vidyalaya, NFC Vigyan Vihar Delhi-110092	Shri M.L. Agrawal <i>Principal & Team Leader</i> Mrs. Rachana Jain <i>PRT & Project Co-ordinator</i>
5.	Teaching Water Pollution through Innovative Techniques using Bottle Ocean Activity and Concept Map	Govt. In-service Training Centre, Circular Road, Faridkot-151203 Punjab	Shri S. Manjeet Singh <i>Principal & Team Leader</i> Dr. Kirandeep Kaur Brar <i>Lecturer Chemistry & Project Co-ordinator</i>
6.	इतिहास शिक्षण-कुछ नये आयाम	Kendriya Vidyalaya No.01, Navy Nagar, Colaba, Mumbai-400005, Maharashtra	Sh. P. Salvaraj <i>Principal & Team Leader</i> Mrs. Neelam Awasthi <i>PGT History & Project Co-ordinator</i>
7.	शिक्षा में नवाचार पद्धतियों को बढ़ावा देने के लिए सामुदायिक सहभागिता एवं संसाधनों का प्रबंधन से सम्बन्धित नवाचार परियोजना	District Institute of Education & Training Pendra, P. O. Pendra, Dist. Bilaspur, Chhattisgarh	Mrs. Meeta Mukherjee <i>Principal & Team Leader</i> Shri. Kaushal Prasad Rao <i>Project Co-ordinator</i>
8.	Open Education Resources in Teacher Education	Pushpanjali College of Education, 50 M.G. Marg Papdy Vasai (W), Dist. Thane, Maharashtra -401207	Dr. Mariamma Joseph <i>Principal & Team Leader</i> Mr. Agnes R. D' Costa <i>Assistant Professor & Project Co-ordinator</i>

9.	Challenges for transfer of learning towards multilingual target-group and converting the text into activity-based communicable concept (in the special reference of Kendriya Vidyalaya Donimalai)	Kendriya Vidyalaya Donimalai, Dist. Bellary, Karnataka - 583 118	Mrs. Nirmala Kumari M <i>Principal & Team Leader</i> Dr. Ram Kumar Singh <i>PGT Hindi & Project Co-ordinator</i>

List of the Schools/Institutions: Awarded in 2010-11

S. No.	Topic/Title	Name of Schools/Teacher Education Institutions	Name & Designation of Team Leader and Project Coordinator
1.	पर्यावरण संरक्षण में शैक्षिक नवाचारों की भूमिका	Shri Agrasen PG College of Education, (CTE) KeshavVidyapeeth Jamdoli, Jaipur - 302031	Dr. Ashok Kumar Sharma <i>Principal & Team Leader</i> Dr. Ashok Kumar Sidana <i>Project Co-ordinator</i>
2.	HUGS-Unified Holistic and Graphophonic Strategy to enhance reading skills of English Language	Govt. Model High School, Sector 37-C, Chandigarh-160036	Mrs. Chanderkanta <i>Principal & Team Leader</i> Ms. Ratinder Kaur <i>Project Co-ordinator</i>
3.	Open-ended approach for Learning History at Senior Secondary Level	Govt. Model Senior Secondary School, Sector-32, Chandigarh	Mr. Darshanjit Singh <i>Principal & Team Leader</i> Mr. Arun Kumar Sharma <i>Project Co-ordinator</i>
4.	Classroom Management Techniques for Primary Classes	Kendriya Vidyalaya Sector-VIII, R K Puram Delhi-110022	Dr. S.P. Thakur <i>Principal & Team Leader</i> Ms. Sunita Mishra <i>Project Co-ordinator</i>
5.	Free and Open Source Softwares: A tool for Learning Language & Mathematics	Mayoor School, Ranade Marg, Alwar Gate, Ajmer-305008	Mr. Neeraj. K. Bedhotiya <i>Principal & Team Leader</i> Ms. Sindhu Chaturvedi <i>Project Co-ordinator</i>
6.	Dynamic Integration for the Generation of English Language	District Centre for English, Neyyattinkara, Thiruvananthapuram, Kerala	Dr. B. Sreejith <i>Chief Tutor & Team Leader</i> Sri Manoj C. <i>Project Co-ordinator</i>

7.	Reflective process enhances instructional competency among student teachers at primary level	Govt. DIET, Bheemunipatnam, Visakhapatnam, AP, 531163	Sri M. Suryanarayana <i>Principal & Team Leader</i> Dr. M. S. Sarma <i>Project Co-ordinator</i>
8.	Identification of Dyslexic students in English and Mathematics and giving them adequate remedial measures with help of training and scientific technology	Govt. Primary School, Ecole Anglaise, Laporte Street, Puducherry-605001	Ms. K. Poyadhamourthy <i>HM & Team Leader</i> Mr. V. George Fernandez <i>Project Co-ordinator</i>
9.	Library Junction: Development of an online academic social Network	Kendriya Vidyalaya, Pattom, Thiruvananthapuram, Kerala, 695004	Mr. C. P. Kumaran <i>Principal & Team Leader</i> Mr. Fiasal S. L. <i>Project Co-ordinator</i>
10.	Developing Skills in Solving Mathematical word problems through innovative approach at elementary level	DIET, Dhenkanal, Orissa 759001	Dr. Susandhya Mohanty <i>Principal I/C & Team Leader</i> Mr. Tapas Kumar Nayak <i>Project Co-ordinator</i>
11.	Experiments and practices in class-room teaching learning procedure for enhance the understanding level of the children on Sound-Letter Correspondences in the first language/Bengali	Bhotepatty R.R Primary School, P.O. Bhotepatty, Jalpaiguri-Dist. W.B -735305	Mr. Santosh Kumar Roy <i>Head Teacher & Team Leader</i> Ms. Supriya Ranjan Paul <i>Project Co-ordinator</i>

List of the Schools/Institutions: Awarded in 2009-10

S. No.	Topic/Title	Name of Schools/Teacher Education Institutions	Name & Designation of Team Leader and Project Coordinator
1.	Developing Physical Education Culture in Schools	District Institute of Education & Training, Idukki, Thoddupuzha-685584 Kerala	Shri K. Prabhakaran <i>Principal & Team Leader</i> Dr. C. C. Kurian <i>Senior Lecturer</i> Mr. K. G. Vijaya Babu <i>Project Co-ordinators</i>
2.	Mobile teacher group for improving quality of learning in lower primary schools	District Institute of Education & Training, District-Darang P.O Dalgaon, Assam-784116	Md. Momtaz Ali Ahmed <i>Principal & Team Leader</i> Shri Bhupen Kumar Das <i>Project Co-ordinator</i>
3.	Effect of Story Centred approach for overall development during early childhood	Salwan Montessori School Sector-5, Gurgoan- 122001 Haryana	Dr. Indu Khetarpal <i>Principal & Team Leader</i> Ms. Moushumi <i>Project Co-ordinator</i>
4.	Strategies for Inculcating Human Values in School Education	Vyasa International School, No. 101/2, Doddabommasandra B.E.L.North Gate Vidyananyapura, Bangalore-560092	Mrs. Sunita Phadnis <i>Principal & Team Leader</i> Shri Vivekanandda J <i>Project Co-ordinator</i>
5.	For Green Scene - Stay Green	Bhartiya Vidya Bhavan's Public School (Vidyashram), Jubilee Hills, Hyderabad-500096	Mrs. C. Rama Devi <i>Principal & Team Leader</i> Mrs. Survarni Rao <i>Project Co-ordinator</i>
6.	Creativity Unleashed through Fun Science	Sri Vani Education Centre School, 16 th & 17 th km off Magadi Road, Bangalore- 91	Mrs. Karthiayani Bhat <i>Vice-Principal & Team Leader</i> Mrs. Shalini Bhat <i>Project Co-ordinator</i>

List of the Schools/Institutions: Awarded in 2008-09

S. No.	Topic/Title	Name of Schools/Teacher Education Institutions	Name & Designation of Team Leader and Project Coordinator
1.	Environmental Awareness for Secondary School Student	New Era Senior Secondary School, Vadodara, Opp. Jayprakash Society, Nizampura, Vadodra-390002, Gujarat	Mrs. Priyadarshini S. Kelkar <i>Principal & Team Leader</i> Ms. Pradnya Gokhale <i>Project Co-ordinator</i>
2.	Reaching the Dropout in Formal and Community based learning- Community intervention through Neighbouring School Teachers	District Institute of Education and Training, Shankar Nagar, Raipur, Chattisgarh	Dr. (Smt.) R. Bambra <i>Principal & Team Leader</i> Dr. S. K. Jain <i>Project Co-ordinator</i>
3.	Science-For the Liberation of Marginalized People	District Institute of Education and Training, Wayanad, Sultan's Bathery, Wayanad, Kerala-673592	Shri P. Abdul Razak <i>Principal & Team Leader</i> Mr. Siva Prasad P. <i>Project Co-ordinator</i>
4.	Development of Values among the Learners through Specific Designed Activities at Primary Level	Kendriya Vidyalaya No. 1(Army), Army Area, Ajmer Road, Nr. Army Pub. School, Jodhpur-342010	Dr. Hoshiyar Singh <i>Principal & Team Leader</i> Mr. Satish Chand Sharma <i>Project Co-ordinator</i>

(1)

Summary

Integrating Cultural Formats and Artistic Expression in the Academic Life Experiments and Educational Initiatives

Background

Society is a colourful tapestry of many Cultures Arts, Craft and Traditions, the warp and woof of which is the diversity of its native traditional aesthetic knowledge. This is because each culture expresses its' community's unique way of life through a set of creative and performing arts and craft traditions. In a country like India the rich diversity in traditional arts and cultural heritage are truly an integrating experience for the body, mind soul and intellect. Respecting India comes from accepting multiplicity of cultural expression thus interpreting India's artistic diversity as strength besides conveying the new idiom of the 'Indian onenesses'.

Challenge

In today's world of free media and market force, the preservation and transmission of art and culture needs continuity besides, eternal reshaping and renewing. The new millennium has brought both hopes and catastrophes. Today education means competition, creating professionals and catering to the gigantic needs of mass production. Thus traditional societies tend to sacrifice art and cultural forms of expressions in the hands of educational curriculum. It is high time that parallel efforts are made in integrating truly sublime cultural expression to change the paradigm of cultural indifference presently being witnessed in schools. There indeed is a need for creating alternative 'Pedagogy landscape' for art and culture, with this assertion an experiment germinated in our school - "***Bharathvarsha***"

Ensuing Scenario

Interestingly the appreciation for art is ever growing. With multiple media and beaming of more than thousand satellite channels, catering people with 24 x 7

entertainment, media is in dire need of performers, art managers, even organizers etc, In fact a paradox is emerging when entertainment media will explode whereas we will have too little to feature on this. It is the right time to start the course correction from school stage itself.

National Curriculum Framework (NCF)

Educational planners and thinkers were wise enough to think about the massive need and had rightly touched this aspect in NCF. Integrating art and culture has been masterly dealt in their reports. Despite these clarion call, the 'A' to 'Z' of art and culture remains still a midsummer night's dream with an indifferent approach to art classes and isolation of art teachers in school. This project is conceptualized to give a pragmatic overview to NCF recommendations.

In Nutshell

In other words, this is a "*Creative project on Creative learning*" as it creates vibrant learning environment where children are taken as equal partners in designing and implementing their projects. Here children explore subject of their choice and take full responsibility to design and execute their own self-empowerment in the didactics of art and culture.

What Makes This Project Unique?

'Bharathvarsha' is an experimental learning project that is designed to propel the child in its journey through creativity and imagination. Through this innovative project, 'children driven festivals' are created in schools by ensuring outdoor and indoor activities. Here an "inside out' approach is created by working out a learning environment that serves the natural growth of child. The other credits of this innovative project include customization of arts and crafts subject in the tune with the need and requirement of the specific age group. The experience thus gained through personalized and integrated learning enables them to create massive sets and aesthetic ambience for their own school functions.

Where is Innovation?

As mentioned elsewhere integrating art, craft and aesthetics into the mainstream education is the mother's idea as enshrined in National curriculum framework. The innovation here is in the process applied in the realization of text or

visualized by NCF, the grammar is taken from the NCF and poetry on that basis is created in this school.

Learning Essence

Children through this experiment learn multiple skills by first being given an opportunity to learn from professionals and then the responsibility to collaborate with each other to attain common self-chosen dream. Through this experiment students aggregate all four roles of different age group. Explorer (3 to 5 years) creator (8 to 10 years) collaboration (11 to 13 years) and leadership role (+ 14 years).

School's Worthy Status

This school, where the present proposal project was implemented is unique in many senses. Students from first generation learner group, linguistic minorities, yet fading in to the mainstream language of the state caught between two distinct cultural experiences are some of the problems to which this project will find a panacea. Aspirationally, children of these families are motivated to become homemakers or shop-owners. This school's demography is best suited for this experiment. The effort of this project is to systematically plan artistic exposure and cultural experiences to be in sync with the state fixed curriculum and yet progressively and incrementally change the perception, idea, understanding of art and philosophy so as to evolve students into a modern, inclusive, acceptable, globally adorable, PAN-INDIAN hall mark from their rigid parochial existence.

How the Task Went Ahead

'Bharathvarsha' - a six month project had four segments per month. During the class room teaching of mainstream curriculum, some ideas spilled over aside and students picked it up. It was anything and everything to do with art, culture, crafts, aesthetic tradition and flavour of India. Teacher is just a facilitator. 'Formats are changed; subject matter repetition disallowed and after the period is over a basic content is created by students themselves. This experience goes on for all the sessions.

There were no entrance tests, no examinations, no punishments for defaulters but carefully calibrated debriefing culminating in giving appreciation certificates to the children at the end of academic year thus creating a vision, a renewed interest and possibly a career choice in any of the unconventional stream of jobs waiting to happen in the near future.

(2) Summary

Beyond the Black Board

Background

The role of education, apart from imparting knowledge, is to shape a person into a socially responsible, culturally enlightened, morally upright and spiritually enriched being. The present educational system focuses more on teaching how to make a living rather than how to live in society. The uniqueness of education system lies in the belief of a system of education that is capable of engaging the cognitive abilities, emotional life and social inclination of future citizens of the world. It needs to focus on building skills through all levels of intelligence, based on the theory of 'Multiple Intelligence'.

Although innovative practices are a regular feature in public schools, but it is also needed to organize the activities according to the skills and level of the learners. It is thus necessary to have a clear view of the underlying objectives and learning outcomes of the activities carried out.

It was equally important to streamline the planned activities and steer them towards achieving skills necessary for the 21st century. Hence, a framework was developed for the project titled '**Beyond the Blackboard**' which included learning strategies and effective methods for language learning.

The National Curriculum Framework (NCERT) provides guidelines that served as a motivating factor at EPS towards designing and executing this project. The time frame was three months and targeted class V, VI, VII & VIII, ranging over 42 hours.

Following strategies were involved in the execution of the Project-

- Blended learning
- Collaborative learning
- Integrated and fun- filled activities
- Use of newspapers in language learning
- Professional publishing

Blended learning

Technology cannot be a substitute to the classical method of language teaching, yet it supplements the basic system. Since technology has transformed communication around the world, it is natural that it plays a pivotal role. Classrooms are the arenas of interactive and experiential learning. Teachers needs to focus on helping students to 'think' and 'learn' than 'what to think' and 'what to learn'.

Collaborative learning

We use the collaborative method which allows students to actively participate in the learning process by talking to each other and listening to other's point of view. We believe that collaboration establishes a personal connection between students and the topic of study. It helps students think and communicate in a less biased way. Group projects and discussions help teachers to assess student's abilities to work as a team, leadership skills and presentation abilities.

Integrated and fun-filled activities

Games which are task based and have a purpose beyond the articulation of speech serve as excellent communicative activities. This method offers students an enjoyable and creative learning atmosphere.

Use of newspapers in language learning

The use of newspaper text in the classroom aims to encourage it as a language learning resource. Grammar cannot be taught as a standalone aspect of a language. It isn't the sole focus of lessons but rather an integral part of learning to communicate effectively in the target language. Printed matter from newspapers may be used as an excellent source of resource material for activities that involves grammar.

Professional publishing

One effective way of valuing children's work as well as provide incentive towards bigger dreams, was to plan for a range of ways to publish their writing which acted as a social awareness medium. Ultimately, students have to be able to interpret and express themselves in the language.

'Beyond the Black Board', is an effort to transform the way in which students at EPS learn English by bringing about a paradigm shift from the conventional teaching-learning methods to a more contemporary , child-friendly, participative, interactive and experiential approach.

The project aims at sensitizing and empowering the learners to communicate confidently and effectively in any given situation. It provides students an opportunity to develop their self esteem and feel that they belong to a positive peer group that values academic success. It also provides students the opportunity to develop leadership skills, become advocates and agents of desired change.

It provides teachers with professional autonomy, a unique, positive teaching and personal experience that would impact their broader classroom experience. It also enables parents acquire better inputs, needed for a deeper involvement in their child's development and education.

Outcomes of the Project

The project helped students articulate their own interpretations of a given activity in an intelligent manner combined with curiosity and awareness. It also assisted them in making inferences and judgments. Initiative towards playing an active role and a sense of responsibility was developed.

It further facilitated students to write in appropriate style and format and read a variety of printed texts. Exhibiting skills of making oral presentations were nurtured. The project encouraged students to apply the concepts of grammar taught in the skill areas of Reading, Writing, Listening and Speaking.

Following activities were organized-

- Puppet Theatricals
- Tit-Bit-Gags
- Bioscope Bubble
- The Unknown
- The Humour Cannon
- News Scanner
- Grammar Euphoria
- Portrait of the Diary
- "Digi Tale" (Animation)

- The activity on **Puppet Theatricals** stimulated children's imagination and encouraged creativity, helping them discover a wonderful interactive method to introduce narrative.
- **Tit-Bit-Gags**, besides being a blend of curiosity and creativity also developed dialogue writing ability and high-order thinking.
- **Bioscope Bubble** shed the bygone conventional methodology of the 'teaching- learning' process through visual stimulus, providing an effective means for teachers to deliver the required curriculum content.
- **The Unknown** prepared the learners to enter into the real world scenario. It helped students deliver a coherent presentation using information and diction suitable for the subject, purpose and audience.
- **News Scanner (Editorial)** exercised and strengthened the creativity of the students.
- **The Humour Cannon (Limericks)** empowered the learners to visualize and verbalize their imagination.
- **Grammar Euphoria** provided an intrinsic motivation toward language acquisition and a natural approach to language learning.
- **Portrait of the Diary** provided the aural input that served as the basis for language acquisition and enabled students to interact.
- **"Digi Tale" (Animation)** elicited high order thinking, catered to individual differences and promoted learner autonomy.

Implications

Thus, the project, '**Beyond the Black Board**', incorporates innovative learning methodologies that are relevant, flexible and meaningful. It is a model that meets the needs of our ever growing global society where communication skills play a critical role. The Project is intended to enable learners to make positive contributions through a collaborative and multi-level approach to learning of English and focuses on developing language skills through self-directed learning strategies and teamwork.

(3) Summary

Child's Problems and Problem Child: Learn to Solve and Solve to Learn

Child's problems and problem child are usually ignored in schools. In our project with the use of innovative practices/novel ideas, we can solve most of the problems and also turn the problem child into an active learner.

Worthwhile approaches of teaching-learning recognised and found continuously are being adopted in the classrooms by Biology and English subject teachers. Their efforts are creative and ingenious, by and large remained invisible to the school and larger teaching community. Measures of conceptual understanding, classroom management, academic performance and attendance rate of 48 students of Biology and English groups were much higher than those of child's problem and problem child. The study/project entitled "Child's Problems and Problems Child Learn to Solve & Solve to Learn" was undertaken.

Classes included: 10+1 and 10+2 of Science stream, (Total 328 students) and 76 of Biology groups.

Organisation: Semester system

Time Span: 12 months

No. of team members: 7

Assessment prior to execution of the project and initial feedback taken from students brought to light the following facts:

- Attendance rate-65%.
- Truancy rate-47%.
- Ninety five percent admitted students were willing to learn, 64% had poor retention power, 22% had low attentiveness, 68% felt no interpersonal interaction, and 90% liked multimedia assisted/innovative methods of teaching-learning. Ninety percent students pointed out disinterest in the classroom as a major reason for absenteeism and truancy, 5% pointed family/personal reasons for the same and 3% pointed health problems as a reason.

Problems Identified

On the basis of common symptoms and interaction with students and parents, classroom assessment, the following problems were identified- Personal, School, Family, Adolescence, Health and Consequential problems along with children with special needs.

Existing Status of Child Problems

Poor academic performance and Poor interpersonal relationship were the consequences of above mentioned unaddressed problems.

Intervention

The following activities were undertaken to address the issue -

- Planned and created the required resources and infrastructure.
- Mobilized human resources like teachers, students professions/experts, community, mentors, etc.
- Mobilized man made resources like museum, science corner, virtual resources, YouTube, Wikipedia, laboratory, bulletin board, specimens, print media, gardens and parks, cell phones, models, etc.
- Mobilized the natural resources like local sites, ponds lakes and rivers, etc.
- Designed lesson plan as per learning style of the students.
- Created required innovative material, ICT/Multimedia room and computer labs.
- Adopted remedial strategies/novel idea/experiments/approaches to solve identified problems
- Specific strategies were adopted to deal with children with special needs, health related problems, adolescent problems, inclusive classroom, absenteeism, behaviour and problem child like:
 - Caretaking behaviour
 - Differentiated teaching learning technique
 - Activity based and experiential learning
 - Cooperative and adaptive learning
 - Multimedia/ICT technique
 - Table walk intellectual technique
 - Play with learning technique
 - Utilizing community resources, etc.

The following were the outcomes of the project -

- Attendance rate increased by 27% (from 65% to 92%)
- Truancy/skipping rate decreased by 42% (from 48% to 6%)
- Classroom management very much improved.

The study further revealed noticeable improvement in students -

- Academic performance.
- Interpersonal relationship.
- Improvement in competitive skills (6 student's qualified NEET examination).
- Four students admitted into different higher education institution.

Recommendations

- We as a part of our duty should consider it to be mandatory in our role as educators not only to inculcate desirable social values but also to develop positive attitudes in students in order to help them become responsible global citizens;
 - Implementations of such innovative practices/novel ideas should be widely disseminated among different schools;
 - A teacher must select and organise innovative activities in the classroom, laboratory and also beyond classroom and school so that optimum learning on the part of learners occurs; and
 - Like Biology and English classrooms, the worthwhile practices need to be implemented more effectively in classrooms of other subjects from the upcoming academic session.
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(4) Summary

Inculcation of Value of Respect for Female Gender through Value Oriented Activities

Since the time immemorial, women have been treated as second rate citizens, all across the globe. The situation is almost the same everywhere irrespective of the developed country or the developing country, where every day we see a number of news of barbaric acts against women. These barbaric acts include the cases of female foeticide, female infanticide, dowry deaths, domestic violence against women, acid attacks on women, eve teasing, sexual harassment at work place, child abuse, child marriage, lower wages and this endless list keeps us reminding that a female is not a human being and hence deserves to be subjected to all such crimes. The investigators, feeling concerned about the above said issues felt that while we cannot fix the world, we can ensure that we respond with respect and sensitivity to women by listening, encouraging and complimenting them every chance we get. Hence an experiment was done to inculcate this value of respect towards the female gender in the Prospective Teachers and would be Teacher Educators.

Methodology

In the present project, experimental method was used to inculcate value of respect for female gender through value oriented activities. Single group design was used for the experiment. First of all this single group was administered pre-test and then a series of value oriented activities were started. Then a post test was administered to see the required inculcation of value of respect for female gender. A sample consisting of 300 students of B.Ed. course and 35 students of M.Ed. course studying in Babe Ke College of Education, VPO Mudki, District Ferozepur, Punjab were taken as subjects for this project. In the absence of a standardized test in value of respect for female gender, a self constructed questionnaire was used to test the value of Respect for female gender. The tool was prepared in Punjabi language.

After administration of pre-test a number of activities were undertaken to inculcate the value of respect towards female gender. Those activities include displaying movies, celebration of days with respect to women, Extension Lectures, Essay writing competition, Poster & Slogan Writing competition on the topic "Women Empowerment and issues" during N.S.S. Camp, A survey for sensitizing the students regarding the status of women & their empowerment & awareness during N.S.S. camp, Display of episodes of Satyamev Jayte on Women related issues, National Seminar on "Evolve Her-Empowering women from the Inside Out" and Release of a book entitled "Evolve Her-Empowering women from the Inside Out". On 16th March, 2014 Post Test was administered.

Findings

The results depicted that Prospective Teachers and would be Teacher Educators have scored 54.46% with mean value of 44.12. The mean value of 44.12 with 54.46% out of 81 of the total marks show that there exists medium level of 'value of respect towards female gender' among the education students. Dimension wise analysis of pre-test depicted satisfactory level of scores in all the dimensions.

Prospective Teachers and would be Teacher Educators scored 60.09% with mean value of 48.68 on Post-Test. The obtained mean value and percentage again showed medium level of 'Value of respect towards Female Gender' among the Prospective Teachers and would be Teacher Educators as in pre-test. Dimension wise analysis of Pre-Test depicted satisfactory level of scores in all the dimensions.

A slight increase in both mean and percentage was reported for, during Pre-Test and post-test. The t-ratio is found out to be significant at 0.05 levels. Therefore it can be assumed that the programs and activities definitely increased the value of respect for female gender among education students.

An increment in both mean and percentage was also reported in Pre-Test and post-test in all the four dimensions viz. 'Family Environment', 'In My Opinion' 'General Knowledge' and 'Agreeability'. The t-ratio is found out to be significant at 0.05 levels. Therefore it can be assumed that the programs and activities definitely impact the thinking of Prospective Teachers and would be Teacher Educators in relation to all the four dimensions.

It was evident from dimension wise analysis that dimension IV (Agreeability) scored highest and dimension III (General Knowledge) scored lowest among all the four dimensions. Increase in mean and percentage from pre-test to post-test

in all the dimensions revealed that the undertaken activities were helpful in sensitization and developing positive values among Prospective Teachers and would be Teacher Educators attitude towards female gender. A low increase in mean and percentage may be due to adulthood, as it is most difficult to change the attitude during this stage.

In a nutshell it may be stated that there exists a satisfactory level of “Value of respect for female gender” among Prospective Teachers and would be Teacher Educators, which can be increased up to a significant level by undertaking value oriented activities and programs.

(5) Summary

Effect of Mobile Learning on Achievement of B.Ed. Students

The whole world is using mobile. The key benefit of Mobile Learning is that it isn't constrained by the need to be in a particular location, such as sitting in a classroom or perched in front of a computer within a fixed place. It can take place anywhere and anytime, responding to the needs of an "always-on" society by providing learners with materials and resources that can access wherever they choose. With this consideration a research study was conducted in our institute on the topic **"Effect of Mobile Learning on Achievement of B.Ed. Students."**

Methodology

While conducting the research, a survey questionnaire was constructed and administered.

A vocabulary module was also constructed. On the basis of graduation percentage of B.Ed. students (as per the survey questionnaire) and being active users of Facebook and Whatsapp, three groups were formed, i.e. Facebook users, Whatsapp users and Controlled group.

Pre-test was conducted for all the three groups, i.e. Facebook users, Whatsapp users and Controlled group.

Treatment was given to both the experimental groups, i.e. Experimental group 1 (Facebook Users) and Experimental group 2 (Whatsapp Users). The controlled group was provided with the printed Vocabulary module similar to the experimental group. No other treatment was given to them.

Post-test was conducted for all the three groups, i.e. Facebook users, Whatsapp users and Controlled group.

Students of the experimental groups were asked to fill out a written opinionative survey at the end of the experiment in order to receive their feedback on the use of Mobile Learning System. The survey was administered at the college by asking the students to fill the survey questionnaire during a lecture session, where the students were given 10 minutes to complete the questionnaire.

Conclusions

After conducting the research and interpretation of the results it was concluded that:

- (1) The students like Mobile-Learning as a mode of Instruction.
- (2) Mobile-Learning (Facebook Users & Whatsapp Users) has a significant effect on the achievement of B.Ed. students.

Therefore, it can be concluded that the most important implication is that it points towards the craze for mobile in the mind of the dents. This craze can be utilized by an aware teacher for providing the students with better learning through the medium of Mobile-Learning.

Educational Implications

The first and the most important implication is that it points towards the craze for mobile in the mind of the students. This craze can be utilized by a teacher for providing the students with better learning through the medium of Mobile-Learning.

The modules for providing learning through mobiles should be specifically created by keeping the special features and a few of the limitations of the Mobile Learning in mind i.e. the small Screen size of mobile phones, the possibilities of lots of distracters due to the learner being mobile etc.

Mobile-Learning can also be utilized in the education field for gathering, assessing and processing information outside the classroom. It can encourage learning in a real-world context, and help bridge school, after school and home environment. Mobile-Learning may thus also help to overcome many of the challenges associated with larger technologies as they fit more naturally within various learning environments.

While Mobile-Learning can never substitute the actual teacher-student and classroom experience (where learning can happen holistically), it can and will enable learner to snack on bits of information effectively. What really cracks the puzzle (of developing good Mobile-Learning Products) is building the most effective instructional design that uses any mobile phone device to facilitate learning.

(6) **Summary**

A Study of Impact of Induction Programmes upon the Professional Development of Teachers and Quality in Education

(A study with reference to newly appointed teachers of Distt. Sonapat, Haryana)

Introduction

Education, by its nature influences and gets intervened by whole developmental process. There is hardly any field of activity or sector of development which is not influenced by education in some form or other. There is no sector of development which does not have its impact on the system of education. Therefore, the dynamics of education and its role in social transformation and national development makes it essential that the content and process of education are continuously reviewed in order to make them in tune with the changing needs, demands & aspirations of the society. So far as the school education is concerned, it is a sector of fundamental importance to both individual & national developmental process. The rapid growth of knowledge and emergence of new means and methods of communications make it essential that the curriculum at the school stage is reviewed continuously to respond to future challenges. In order to fulfill its role as a vehicle for social change, the school curriculum, teacher education & role of teacher itself has to be dynamic enough to respond to changing national priorities and long term developmental goals of education. For a teacher to be effective he has to be made well versed in all techniques, methodologies & true knowledge of whole educational system. So need of initiation of '**Induction Programmes**' for teachers is being realized so that he may become independent, self reliant & confident in his profession before entry into service.

Recently Haryana Education Department has started Induction Programmes for newly appointed teachers. So the study of the programmes & collection of information related to it is very essential to find out the significance and importance of these programmes for teachers, students and educational system. Ultimately from the study the impact of these type of the programmes upon the quality of the education may be noted.

Methodology

Methodology of the study includes the seeking of opinions of newly appointed teachers, teacher educator and administrator about the merits and the demerits of the programmes through Questionnaires and Interviews. A set of Questions were prepared for newly appointed teachers, teacher educator & administrators to judge the need of the programme for the professional development of teachers and quality in educational system thereof.

Analysis of Data

The collected data was analyzed on the basis of positive and negative responses of teachers. Questionnaires were filled up by 80 participants of Induction Programme i.e. newly appointed teachers. Out of 80 participants, 72 responded that induction programmes are beneficial, important and useful for newly appointed teachers. Hence 90% of the participants were in favour of the programme and they suggested that these induction programmes make the teachers well aware of the educational system and all activities of the school education. The induction programmes make the newly appointed teachers efficient and effective.

Suggestions Received from Participants

Following suggestions were given by the participants-

1. Maximum number of activities and projects should be discussed among the participants for effective education.
2. Interactive session should be there.
3. Practical work and life skills should be discussed for all round development of students.
4. CCE and CCA should be encouraged.
5. Social, cultural, physical and aesthetic activities should be included in these programmes.
6. Topics on moral values should be there.
7. Topics on development of scientific knowledge should be there.
8. Topics on accounts matter of the educational system should also be included in the programme.

9. Participants also suggested that time period of the induction programme should also be enhanced to at least one month.

Educational Implications

1. Good points suggested by the newly appointed teachers may be implemented in the education system such as various activities for all round development of students.
2. Techniques and methodologies suggested by respondents may be adopted for betterment and professional development of teachers.

(7) Summary

Oratory Training for Student Teachers to Enhance Communication Skills

Background

The art and science of teaching is nourished through the art of speaking. One of the most important hurdles among student teachers is their speech anxiety that leads to apprehension about their ability to communicate effectively. They have many inhibitions related to their verbal and nonverbal communication skills that adversely affect their performance in practice teaching. If they possess the skills of facing a group and interacting with them effectively, then they can become good teachers with good management and leadership skills. This project is an attempt to highlight the significance of oratory training in solving the problems associated with communication ability of student teachers. Since B.Ed is a terminal course for majority of students they are to be fully equipped to communicate effectively.

Focus of the Project

- ❖ To prepare five minutes talk on a topic.
- ❖ To present a talk on a topic before an audience.
- ❖ To observe and listen a speech to identify its merits and to propose feedback
- ❖ To link the acquired skills with classroom teaching
- ❖ To extend the programme in other institutions.

Preparatory Works Done

Baseline survey- To identify the need among the student teachers related to the project we conduct a survey among the teacher educators and student teachers.

Action Plan- As suggested by the staff and students of the institution, the Staff Council of the College has decided to implement the programme within the stipulated time. A committee was constituted for the effective execution of the project.

Resource Activation

Oratory Trainers (within the institution): Four Teacher Educators of the institution who are resourceful in communication skills gave their consent to provide training for the student teachers.

Oratory Training Experts: Three eminent speakers of the State were contacted to come to the college for giving their valuable suggestion.

College Library: The necessary reading materials that contain the art of public speaking, communication skills, motivational stories and tips for effective presentations as well as new papers are made available at the library for easy reference for students.

All India Radio: The Akasvani of the State has a special programme in the morning related to the use and misuse of regional language. So, we have decided to utilize the programme for the present project for rectification of language problems.

Video Recording: The speeches of the student teachers are allowed to record for the self review and reflection.

Phases of the Programme

Phase I: Orientation for OTP- Orientation is given by the project t coordinator.

Phase II: Training in Topic Development Competency- Training is provided in preparing talks for five minutes.

Phase III: Training in Platform Mechanisms- This gives the competencies associated with self-presentation while a person is on a platform. Posture-Appearance-Eye Contact-Breathing-Nonverbal gestures

Phase IV: Training in Performing and Presenting- In this session, the student teacher has to perform the task and training in the following aspects is provided. Using microphones appropriately, Voice Modulation Training-Pronunciation- Pace of speech, Refer to written notes.

Phase V: Training in evaluating performance of speakers- This session deals with certain instructions for effective feedback, Components to be observed while a person is on the stage.

Phase VI: Training in performing talks for specific occasions- Training is provided to extend various types of speeches as follows:

- Welcome Speech
- Presidential Address
- Inaugural Address
- Felicitations

- Key Note Address
- Vote of Thanks

After the training a mock-meeting is conducted in which students themselves assume various positions as Principal, Minister of Education, Panchayat President, MLA, MP etc. They perform their speeches as per their roles and feedback is provided by the audience as well as teacher educators.

Phase VII: Effective Journal of OTP- Student teachers are motivated to record the descriptions of each day's activities of OTP. On each 5th day they have to submit the reflective journals before the project committee. The best ten journals are awarded cash prizes.

Phase VIII: Linking the acquired skills in real classroom Presentations- The student teachers are sent to the school for four days as a school initiation programme. The students try to integrate and apply the skills they have acquired through OTP.

Procedure

Implementation of the project period: from 2013 November to 2014 October (Academic year of Kerala university)

- Commencement of the programme : 9th December 2013
- Orientation programme: 9th -11th December 2013, 2:45pm-3:45pm, (3 hrs)
- Presentation started : 16th December 2013
- Total number of student teacher presented talks:45
- Total number of students teachers presented talks:65
- Mock-meeting conducted:7th March 2014
- Final submission of Reflective Journals:10th March
- Cash award Distribution for the best 10 Reflective Journals:14th March 2014

Results

The benefits of the programme are written in the reflective journals of student teachers. A rating scale was administered to assess the benefits of the training in a relation to practice teaching. From the feedback the impact of the programme on the participants are given under the following heads.

Writing skills

- They have acquired skills in systematized writing with apt vocabulary and right examples.
- They raised the use of words for persuading the learners.
- They improved linking experiences and examples in presentations.
- They developed the habit of note-taking of interesting anecdotes.

Reading skills

- They improved their reading habit.
- They developed good pronunciation for loud reading.
- Their ability for linking the points with major content enhanced.
- They note down the major points while they read.

Presentation skills

- Their stage fright reduced.
- They developed skills of eye contact.
- They improved regulation of speed of conversation.
- They avoided closed postures and practiced right postures on stage.
- They minimized the use of unnecessary interjections like um,ah etc.
- Their mannerisms like shuffling from foot to foot, cracking of voice and stammering reduced.

Listening skills

- They become familiar with the skill of observing the nonverbal communication of others.
- They can listen attentively to other's talk.
- They can analyse, synthesise and comprehend what others say.
- Their critical thinking skill has improved.
- They can easily develop their own points of view by listening to others.

Practice teaching

In addition to the above skill enhancements, the student teachers have reported that OTP has many benefits for their teaching practice.

- They became more confident to face students.
- Through appropriate gestures their teaching as well as class management improved.

- Topic development training fostered their lesson plan development.
- Increased use of humour made their classes more attractive.
- Their skills to capture attention of students through body language and verbal switching have developed.

Personality Traits

Student teacher opined that their personal qualities have improved. Following traits are identified as the most crucial elements of personality that fostered through OTP.

- Self confidence
- Self esteem
- Pleasant interactions with others
- Initiative for social gatherings
- Achievement Motivation
- Assertiveness

Scope of Oratory Training Programme

The teacher educators and the students proposed that the programme should continue till the end of the academic year so that all students get benefits of the programme for the coming years too. The nearby school authorities approached the institution to render our service to them to train their students. We should like to extend the programme in other institutions.

Thus from the feedback of all participants it can be inferred that OTP proves as an efficient programme in enhancing the various skills of student teachers which are helpful in the various walks of their life. So OTP can be considered as an innovative practice that can be replicated in any educational institution.

(8) **Summary**

Developing a Model of Peer Tutoring for the Effective Implementation of Individualized Education Programme (IEP) in Inclusive Schools

Special education facilities for children with special needs emerged as an attempt to provide quality education to all and to improve educational status of the children belonging to disadvantaged group.

Later it was observed that seclusion of children with different abilities and confining them to special schools inflicts serious handicaps in their social and cope-up skills. Inclusive classroom was considered as the remedy to address the problem.

But it is a proven fact that children with different abilities have to be provided individual attention, appropriate adaptations in the learning exposures according to their needs and challenges etc. Individualized Education Programme (IEP) for each child with different ability along with inclusive education was developed to address the problem.

Motivation to Undertake the Project

DIETs were established with a motive of formulating and implementing academic initiatives for improving the quality of education including the education of the underprivileged. As a part of this, we have developed many educational initiatives for the benefit of children with special needs which were implemented by a team of resource teachers specially recruited for this purpose.. These resource teachers have been regularly visiting schools for providing onsite support to teachers and handling children with different abilities. Resource teachers focusing on the education of children with intellectual challenges have repeatedly reported in their review meetings that --.

- 1) In spite of all trainings and advocacies, IEP is not taking place in inclusive schools. Teachers are not making any significant learning adaptations in terms of methodology, TLM and learning environment so as to cater to the needs of the children with intellectual challenges;
- 2) This is not because of less commitment on the part of the teachers but they are under many constraints - i) overcrowding classrooms and burden of the overloaded curriculum. This prevents them from the effective implementation of the programme even with their sincere efforts as they

have to be engaged with the other children too ii) The teachers fear that devoting a lot of time for paying individual attention to children with challenges would result into less time for other children which will adversely affect the overall performance of the school; and

- 3) There were instances that the children with intellectual challenges were ignored, and made fun of them. Such ill-treatment leads to a kind of 'loneliness' on impart of these children.

In the light of the situation, we thought about an effective alternative to ensure learning assistance to these children. Peer tutoring was the alternative we thought out to address the issue. We felt that following would be benefits of peer tutoring.

- a) Children with intellectual challenges would be getting learning assistance from a competent peer rather than the teacher; and
- b) Interacting with a peer may be beneficial to develop social skills rather than mere academic achievement.

A Unique Model Developed For Peer-Tutoring

Peer support in learning is not a new concept. In ancient India, it was prevalent. The old saying "*acharya padamadate, padam shishya swamedaya, padam sa bhramacharyabyha*" (complete learning takes place through teacher, peer, and self) indicates this. Vygotsky, the Russian educationist who was an expert in 'defectlogy' - an old term for special education was the profounder of collaborative learning. He advocated that a competent peer can help a less competent child to achieve his/her potential.

Peer tutoring also is not an innovative idea. But our attempt was to develop a different model considering the uniqueness of the situation

- 1) The learner is having intellectual disabilities and cannot expect whole hearted co-operation from peer tutor;
- 2) The programme in any way should not affect the tutor badly. His ambitions, aspirations, and learning needs have to be taken care of; and
- 3) The programme was expected to be running along with routine classroom hours without interrupting regular classroom activities and affecting the learning of the tutor.

Implementation of Programme Activities

The project was planned at the district under the leadership of DIET. The activities were the following-

- A particular learning package including specially designed teaching learning materials transforming the learning tasks into simple worksheets was developed so that the children with intellectual challenges can attempt the task;
- The peer tutors were selected and oriented to undertake the task. They were expected to provide essential assistance to the intellectually challenged child. The tutor-learner collaboration was limited to interval hours but without interrupting their recreation and other comforts; and
- Strategies for maintaining a cordial and healthy relationship between the tutor and the learner and also for motivating both of them were also formulated.

All these were done in consultation with experts in the field.

Forty schools were selected to implement the project and teachers of these schools were oriented. Sixty Resource teachers of the district led the programme with regular monitoring, on-site support and periodical assessment.

Project Evaluation

After a period of one year, the project was subjected to comprehensive evaluation using the following tools.

- Questionnaire for teachers
- Focus group discussion among resource teachers
- Reflective Journal for peer tutors - An innovative method for monitoring and assessment was developed by collecting the experiences of the tutors through a reflective journal. The tutors expressed their independent thoughts, feelings and creative suggestions in the journal.

Major findings

1. The observations were highly encouraging. Analysis of the data showed that all learners showed improvement at various levels in the subjects selected;
2. Out of the 40 students, 17.5% showed very high progress, 40% showed normal progress and 42.5% showed slight progress in the subject selected;
3. Hundred percent of the teachers reported that significant positive changes were observed in certain other areas i.e. interest in learning, attention in the classroom, doing homework, and overt behavior of the learner.

4. Remarkable achievement was also noted in the learning achievement of the tutors;
5. Parental involvement could also be enhanced as a result of the program; and
6. In most cases, an emotional attachment was developed between the learner and the tutor who provided support and encouragement to the learner and feeling of social responsibility to the tutor.

The way forward

Peer tutoring can be developed into an effective strategy for addressing learning difficulties. We are attempting to disseminate our experiences to all the schools of the district.

(9) Summary

Initiating an Orientation towards Neuro-Cognitively Targeted Teaching Practices among the Students of Teacher Education Programme at the Primary Level

Introduction

Research on translating evidence-based neuroscience findings into interventions that can be tested in educational settings has emerged as a scientific field. Numeracy and literacy involves neural processes of different brain regions.[1,2] Also post-natal development of the cortical regions reaches a stage in children of the age of 9 to 12 years. In this context a study has been made to initiate an orientation towards neurocognitively targeted teaching practices among the students of teacher-education programme at the primary level.

Objectives

- i. To make the teacher-trainees literate on themes in brain research that can inform educational practice consistent with neuro cognitively targeted teaching.
- ii. To identify themes in brain research that teachers can apply as they design instruction, concept maps, and cognitive learning activities.
- iii. To develop ***Neuro Cognitively Targeted Teaching Model*** on a make shift basis.
- iv. To construct **'neurosmart classrooms'**.
- v. To design **'Concepts maps'** on select-lesson-topics of fifth standard Mathematics (numeracy) and English (literacy).
- vi. To develop **'cognitive learning activities'** on select-lesson-topics of fifth standard Mathematics (numeracy) and English (literacy).
- vii. To conduct model classes of 'neuroteaching' on select-lesson-topics of fifth standard Mathematics (numeracy) and English (literacy).
- viii. To construct a five-point-scale of observation-schedule of Neuro-Cognitive Assessment (NCA) and, to evaluate the neurocognitive attainment among the fifth standard children who participated in the model-classes.

The whole exercise was put into operation through three stages, which are explained following:

STAGE-I

The first stage is concerned with making the teacher-trainees literate on themes in brain research that can inform educational practices to be consistent with neuro cognitively targeted teaching.

Lecture-sessions were conducted for the teacher-trainees on the following topics of neural processes of learning.

- i. Physiological process of learning in children.
- ii. Brain systems and the associated cognitive functions.
- iii. Neurosmart classrooms and its neurocognitive effects.
- iv. Concept mapping and its neurocognitive effects.
- v. Neurocognitive correlates of cognitive learning activities.

Each of the lecture-sessions was followed by group discussions, among the teacher-trainees. Then work shops were conducted for the teacher-trainees on the following topics.

- i. Designing Neurosmart classroom.
- ii. Concept mapping on the select-topics of fifth standard Mathematics (numeracy) and English (literacy).
- iii. Developing cognitive learning activities on the select-topics of fifth standard Mathematics (numeracy) and English (literacy).

Neural Processes of Learning

Neuroimaging studies indicate that all sensory input information/experience reaching the brain is processed first by limbic system, the emotional centre, and then processed in the cognitive or thinking centre located in the frontal cortical parts.

The impulses are electrochemically conducted through neurons by synaptic secretions of neurotransmitters like dopamine, and norepinephrine, enabled by positive emotions, towards neocortical cognition.

Brain-Patterning

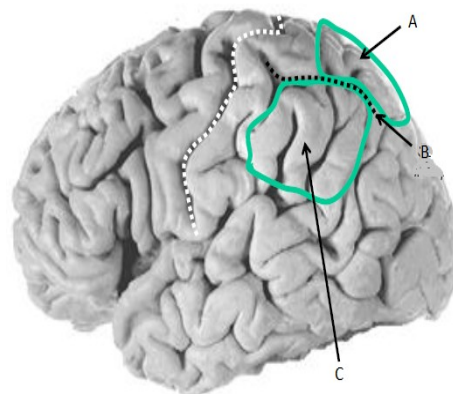
The emotional-cognitive behavior is based on the high degree of connectivity between networks of brain areas, called hubs [3].

The positive emotional connections facilitated by physical learning environment and teacher's initiative movements bring in dynamic coalitions of hubs and make the brain to be patterned to precisely orchestrated neuronal connectivity onto the frontal cortical parts wherein cognitive functions are realized.

The brain systems and the associated cognitive functions

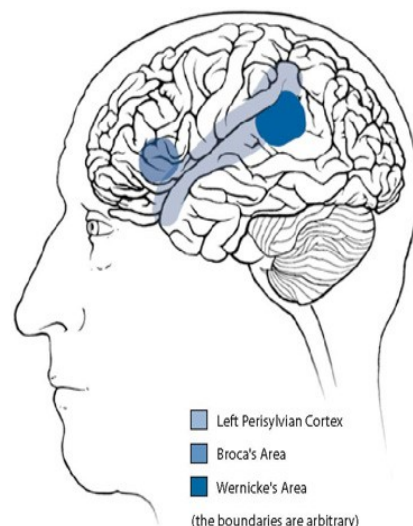
Numerical Cognition

Numeracy is created in brain through synergy of biology & experience. Cognitive neuroscience research has found an innate '*number sense system*' hard-wired into the anatomy of brain. This '*number instinct*' in the intraparietal sulcus cause a cluster of neurons fired when basic number tasks are taught [4, 5, 6].



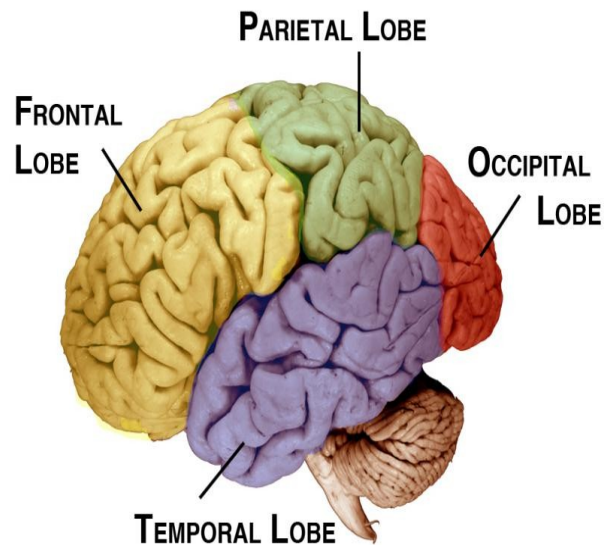
- A) Superior Parietal Lobule
- B) Inferior Parietal Lobule
- C) Intraparietal sulcus

Lexical Semantic Skills



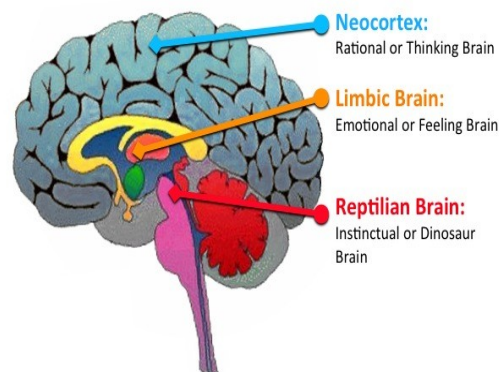
A network of areas spanning left perisylvian cortex are centrally involved in Lexical semantic and syntactic skills [7]. Lexical semantic representation of numerical information facilitates numerical processing through a network of areas spanning left perisylvian cortex [8].

Visual-Spatial Cognition



Occipitotemporal visual association cortex is centrally involved in pattern recognition and perception, and visualization [9]. Perception and mental manipulation of spatial relations are localized more dorsally in the posterior parietal cortical areas [10]. Firing of neurons that are wired towards an orchestrated neuronal connectivity in-between Occipito-temporal and Parietal lobes cause co-ordinated brain patterning. This facilitates visual spatial mental imagery skills [11].

Neocortex



Executive functionalities like focused attention, working memory, cognitive control, reward-processing system are localized in prefrontal cortical areas towards a general enhancement of cognitive processes and higher order thinking skills [12,13,14].

STAGE-II

The second stage involves identification of themes in brain research and accordingly constructing teaching activities, to facilitate neurocognitive processes of brain-friendly learning.

In order to steer clear, and **pattern the formation of neuronal pathways** from the emotional limbic brain, and thus initiate the neural processes of learning, the teacher-trainees were involved in developing what may be called as '**Neuro smart classrooms**'.

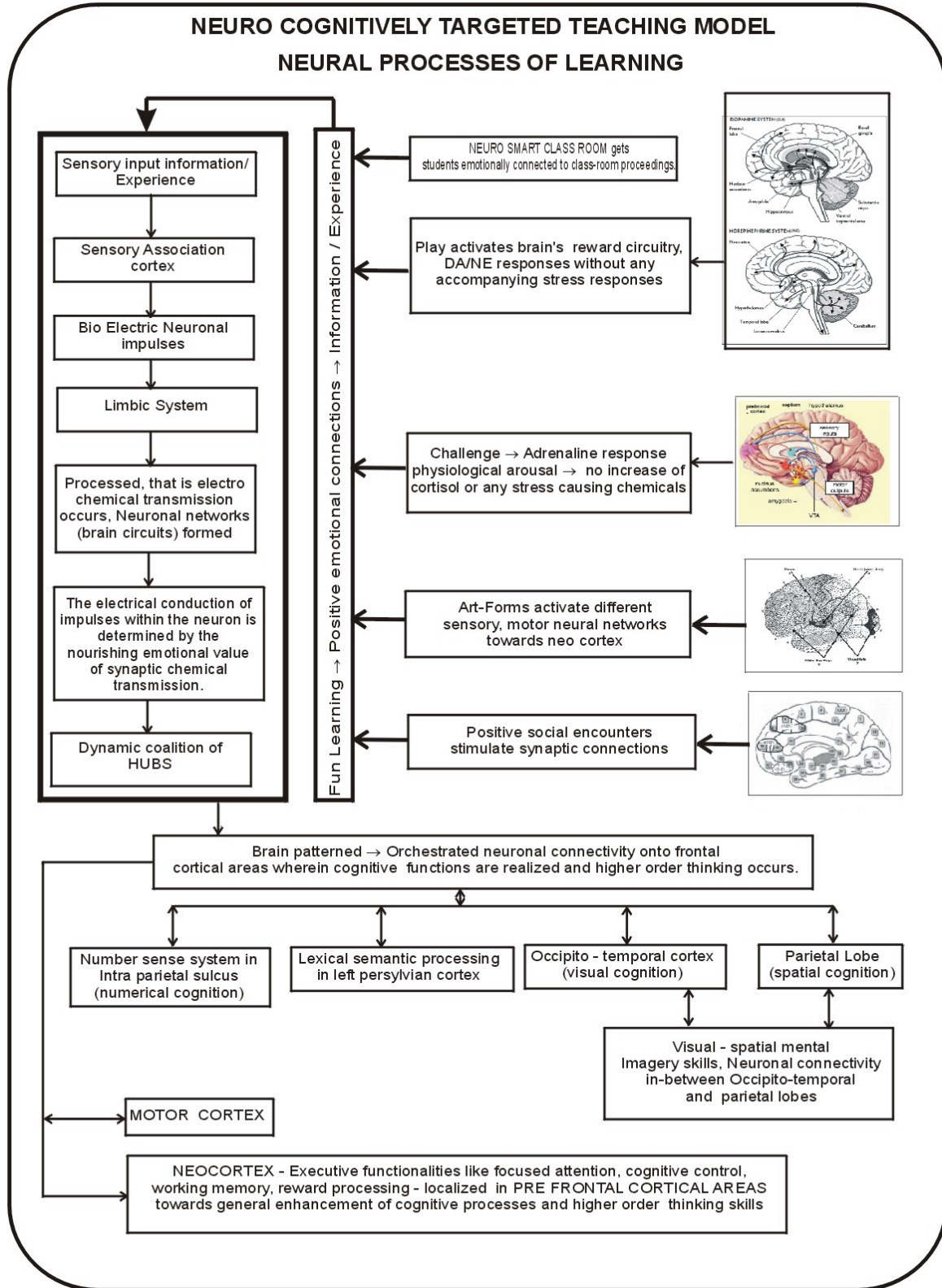
Neuro Smart Classroom

Novelty, beauty and order through visual, auditory and olfactory stimuli get students emotionally connected to class-room proceedings.

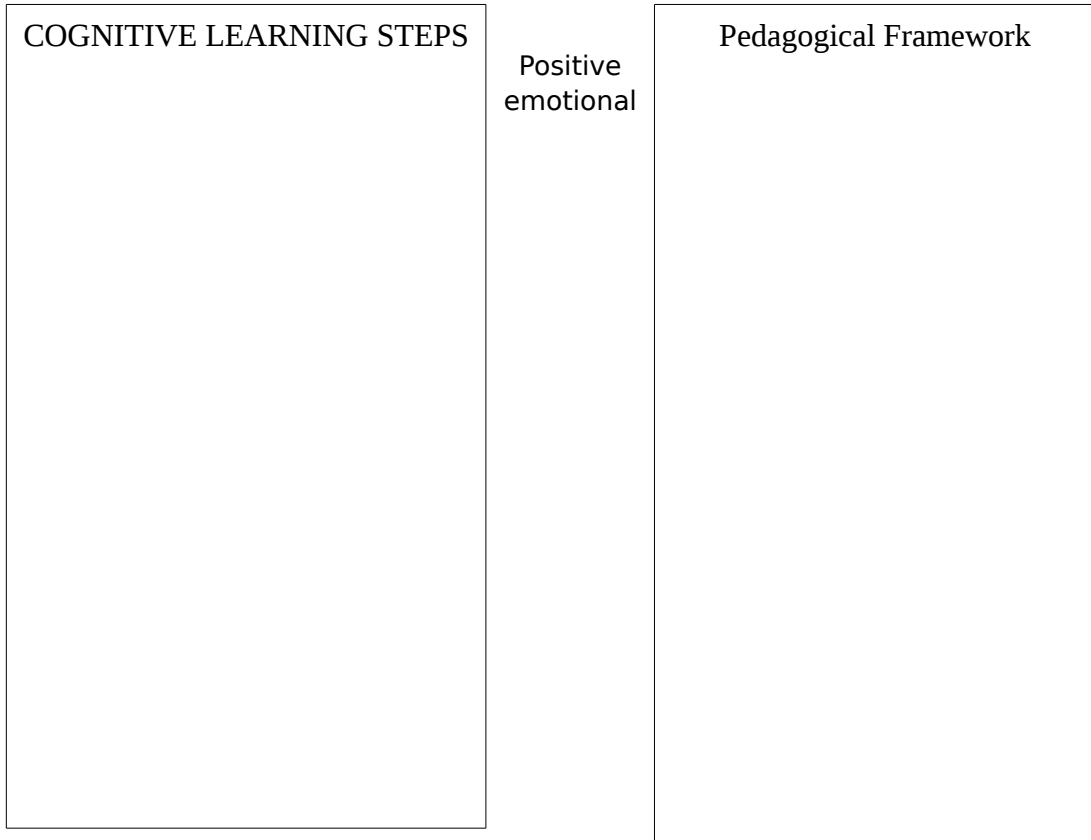
Teacher moves with children to minimize stress and avoid threat-causing practices in the class-room. At the same time the teacher initiates strategies that promote positive emotion. Thus Neuro smart classroom involves setting-up of physical learning environment, and establishing positive emotional climate. This facilitates curiosity-arousals, cognitive stimulations and positive emotional attachment that would tap into children's emotional response systems and initiate neural processes of learning [15].

Neuro Cognitively Targeted Teaching Model

The team of Lecturers and the teacher-trainees developed a makeshift "Neuro Cognitively Targeted Teaching Model" which consists of neural processes of learning, cognitive learning steps, and pedagogical frame work and is given below:



Neuro Cognitively Targeted Teaching Model



connections within the unit of study

D1

Cognitive Stimulations

D2

Concept Mapping

D3

Learning Activities

D4

Multimodal Tasks of applications

D5

Cognition

C2

Patterning

55

C21
Action
C3
Memory
C4
Emotion
C1
Thinking
C22
Learning
C23

Concept Mapping

This gives a wholesome pictorial representation of various concepts and competencies that students will acquire during learning the lesson-unit.

Neuroscientists tell us that the brain categorizes new stimuli into concepts, and then combines these concepts to create new patterns of thinking and understanding. **That is, brain learns through patterning.**

Fun Learning

Lesson contents are presented through learning activities which are modeled on neuro cognitively targeted tasks. These cognitive tasks address the underlying mental systems and their associated cognitive functions. They are taken from cognitive neuroscience literature and are supported by evidences from neuro-imaging data. The cognitive learning tasks involve predominant activation of appropriate neuro cognitive systems and thus facilitate learning.

Such cognitive learning tasks need to be performed in an enjoyable fun-learning environment through meaningful infusion of play way method, visual and performing art forms, and team-learning. Then children would enjoy and brain's reward circuitry through dopamine and norepinephrine responses, without any accompanying negative stress responses, improves brain plasticity, facilitates learning mechanisms at synapses, and enhances cognitive learning [16]. The brain seeks out such fun-filled enjoyable cognitive tasks and becomes adaptive to learning. For, the ability to enjoy is adaptive and provides some survival advantage.

When we perceive a hard task as a challenge, and not as a threat, an epinephrine-based response raises physiological arousal and does not increase cortisol or any other stress causing chemicals. We are able to access higher cognitive functions in necortex, develop new-brain patterns and learn from the experience [17].

When the hard task is perceived as a threat, the neo-cortex (the cognitive centre) is bypassed entirely, and the "fight, flight, fright, or fornication" stress response of limbic brain takes over. This inhibits synaptic neuronal transmission and deters learning.

Teachers need to know their students in setting-up the difficulty level of a challenge. Teachers need to follow practices to stretch the brain, and build new patterns through guided sensory input and guided mind focus [18].

STAGE-III

In the third stage the teacher-trainees put into experimentation the neuro cognitively targeted teaching practices.

The teacher-trainees handled the numeracy and literacy classes for the selected twenty students of fifth standard through cognitive activities and, as well, made keen observations of the class-room-behaviour of the children and measured the academic achievement through simple oral and/or written test.

Based on the observation and interaction, the neurocognitive attainment was assessed through the five-point-scale of observation-schedule of neurocognitive assessment.

It is conspicuously clear that the children were happy, highly motivated, largely interested and actively involved in the cognitive activities, and thus, emotionally connected to the lesson-content. This indicates that the limbic system, the emotional centre is activated so that neuronal connectivity is facilitated to reach the frontal cortical parts, the cognitive centre so that cognitive learning effectively takes place.

The results have identified enhancement in the arithmetic, visual, spatial, lexical semantic and prefrontal executive cognitive functions, and hence predominant activation of selective neural substrata of the brain.

Thus the teacher-trainees had an intrinsic experience of neurocognitively targeted teaching practices [19].

(10) **Summary**

Development of Reusable Learning Contents and Interactive Student Response System with Optimal Information Technology

The immediate objective of the project was to make learning fun - not just for the best performers but also for the weak students in the class.

To give a quick context on 'Dighalgram Netaji Vidyapith High School' (DNVHS), it is a rural school in West Bengal with an average teacher-student ratio of 1:61, almost all the classes are over crowded and more than two-thirds of the students are first generation learners. The school is working with 'Future Society' as a non-profit organization on trial and institutionalizing of technologies that can address the above mentioned challenges.

As a part of the project, two key changes were made to the way a teacher conducts her class.

- 1.** Create digital lessons that can support individual students' pace of learning. Subsequently making the digital lessons available for revision at any future point of time, this includes materials (Hardware/Software) like-
 - i.** Laptop/ PC
 - ii.** Pen Tab with stylus pen
 - iii.** Software required
 - a.** Active Presenter - for recoding (screen capturing) the pen strokes and voice and subsequently converting it into .mp4 file
 - b.** MS PowerPoint for creating the lecture slides (Optional; Free tools like open office can also be used)
 - c.** Free make for converting the .mp4 digital lesson in other formats
 - iv.** LCD Projector (optional - for projection in class only)
- 2.** Use of an improvised Student Response System (SRS) named qCard to assess understanding of students in real time and facilitate relevant discussions for effective learning e.g. By making students' aggregated responses to feedback questions visible to all and by systematically making them interact with one another for better grasp of the concepts. The qCard includes materials (Hardware/Software) like-
 - i.** A desktop or laptop running Windows XP or above

- ii. qCard application
- iii. Printed qCards on plain A4 paper
- iv. A web HD camera 3MP or above resolution. USB extension cord might be required to mount the camera at a height so that it has view of the complete classroom.
- v. LCD Projector optional for projecting the questions and responses from students and playing the digital lessons.

Extremely satisfactory results were received using digital lessons and qCard SRS. Sharing some our findings

In order to evaluate overall student satisfaction, 78 students from the pilot project were asked to indicate how satisfied they were with the learning methodology on a five-point scale from 1 (Very satisfied) to 5 (Very unsatisfied).

In order to examine the students' perceptions in depth, they were asked the following open-ended questions:

1. *What do you like about this method?*
2. *What do you not like about this method?*
3. *How does this method help you learn?*
4. *What was the best thing about this method?*

Students' responses to each of these questions were as follows:

1. What students liked

Students enjoyed the digital lessons very much. During discussion many a times we had to replay the lectures for better clarity on some topic. When we told them that they can carry the digital lessons home they were very excited and wanted to know how. The prompt Multiple Choice Questions (MCQ) response collection and sharing results of MCQ was very interesting for them.

2. What students did not like

Though large number of parents have mobile phones students does not have access. So they were not really sure if they will be able to access digital contents at home. They wanted the computer center loaded with digital lessons to be open for longer hours after regular school timing.

3. How helped in their learning

Audio visual contents in local dialect helped the students in their learning. They were involved in discussion within group and coming up with a group response

using qCard. If the answers of the groups were incorrect it was discussed among the groups under teacher's facilitation.

4. What is the best in student's opinion

What students liked most is the interactive environment, where response from every group is heard and shared with other teams. They were excited that the short digital lessons can be replayed as many times as needed and specially at students' own wish and convenience.

The changes also complemented Continuous and Comprehensive Evaluation (CCE) framework through formative assessment. It raised student interest in the class and they were also excited at the prospect of taking the digital lessons home with them to revise as per their convenience.

A longitudinal study would allow us to better evaluate the longer term learning outcome and impact of this project. The school is working to improve different aspects of the project over time including a digital library in the school, designing better teaching materials and appropriate feedback questions, making the technology easier to use.

The school is working with other schools and cross pollinating the knowledge to expand this to district, and state and at national level. Development of digital lessons in vernacular languages which would be virtually free may be great contribution for enhancement of learning in various curricular areas. This would also result in development of a nationwide learning network.