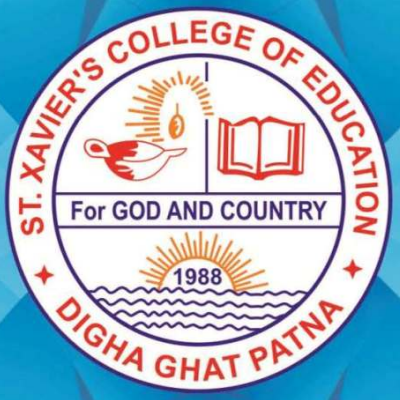
ISSN 2347-5676

Journal of Research in Education

(A Peer Reviewed and Refereed Bi-annual Journal)



St. Xavier's College Of Education

P.O.-Digha Ghat, Patna-800 011(Bihar)

Vol. 6 No. 1

JUNE 2018

Journal of Research in Education

(A Peer Reviewed and Refereed Bi-annual Journal)

Vol.6 No.1 **June 2018**

St. Xavier's College of Education

Digha Ghat, Patna-800011
Bihar (India)

JOURNAL OF RESEARCH IN EDUCATION

EDITORIAL BOARD

Published by:

ST. XAVIER'S COLLEGE OF EDUCATION
DIGHA GHAT, P.O., PATNA - 800 011 (BIHAR)
Phone No.: 0612-2260253 ♦ Fax No .: 0612-2260253
E-mail : sxcepatna@gmail.com ♦ Website : www.sxcepatna.edu.in

ISSN 2347-5676

Printed by :
Lovely Printers, Digha Ghat Patna-800011,Opp. Canara Bank (✆ : 9939711961)

Editorial

Dear Readers,

Research is a systematic process of conducting activities to develop generalizations, principles or theories that will be helpful in predicting future occurrences.Research usually goes beyond the specific sample and situations under study and infer characteristics of a target population from the sample observed. Research is more than information retrieval or simple collection of raw data. Once completed the analysis the findings of the study must be carefully recorded and reported. The reports in form of research papers are to be published in a good journal.

This issue here is one of such collection of seven different research papers which are the outcome of dedicated research work of different scholars and researchers. Use of ICT in the schools of Bihar has been always a neglected area of study and thus one of the papers has highlighted the timeline and different initiatives in the field of ICT been taken by Govt. of Bihar. Right to Education is another such area which has to be studied in detail. A paper in this issue has reported on implication of RTE in some part of Odisha. Spiritual Intelligence is something we all must try to develop and study among the students and teachers, a paper has tried to give a detailed idea of SQ to all the readers. This issue also consists of a paper on Emotional Intelligence of tribal children of Jharkhand. One paper has been devoted to science education and another to preparation of a research tool. Our environment and people around us have always taught us many lessons and one paper is on these environmental Gurus teaching us many lessons on life.

Research involves the quest for answers to unsolved problems and this issue reflects the authors quest for their research problem and careful and systematic reporting of their findings. Hope the readers will enjoy the issue and will get some bright ideas in the field of education and research.

With Regards.

Editorial Board

Vol. 6 No. 1 **June, 2018**

CONTENTS & AUTHORS

ICT@School initatives in Bihar: The Past and the Present

Dr. Vikramjit Singh

Abstract

Information and Communication Technology has become one of the eminents in today's education system. ICT as a change agent has been recognized as having the potential to reform the existing system of education, which has been facing many challenges, and dealing with varios problems and issues. However, the mere availability of computers does not impact student learning. ICT should be used along with student-centered pedagogy. Policy makers need to think in terms of combinations of input factors that can work together to influence learning. Coordinating the introduction of computers with national policies related to curriculum, pedagogy, assessment and teacher training would have greater impact on our system of education. In terms of teaching-learning process quality in education, India has a pyramid structure with most of the schools at the bottom. It is here that ICT can make a huge difference and permeate the gaps between different sections of the pyramid by standardization and ease of application. Government of India has launched various National Programs to promote ICT at the school level. Bihar is a state where use of computers in education as well as in day to day working is minimal or started of late. The paper here has tried to highlight different government initiatives for increasing computer skills among teachers and students in perspective of what was there in the past and what it is now in the present at the time when ICT@Schools scheme is at the stage of completion.

Key Words: ICT, ICT@Schools, Bihar, CAL, eSamarth, BEP,BOOT

ICT - Change Agent for Holistic Education or the New Age Disparity

Initially, due to the material and social disparity amongst people, only few people had access to the information and goods available. This created a situation where certain people developed more in the

material, educational and social domains. As this continued, those who had the knowledge to use technology and look for information along with the necessary means could access and avail of the opportunities while the others lagged behind. This created greater disparities.

Thus, there were the Information Haves and Information Have-Nots. This led to un-equal access and use of the new media in terms of power and availability. As Information and Technology became critical, only few had the access and knowledge to use the tools to access and organize learning and information while others could not. This led to certain sections having exclusive power and access leading to the formation of an information and knowledge gulf or divide thereby creating a lack of equality – the Digital Divide was born.

Amartya Sen (1992) asked – 'Equality of What?' This question led to the breakup of the inequality into technological (opportunity), immaterial (freedom), material (capital), social (position, power) and educational (capability, skill) inequalities. A further breakup led to the description of various forms of access to technology such as motivational, material, skills and usage access (Dijk, 2005). These disparities led to the need for a system which could bridge this divide.

The need of the hour is to strengthen a system of education using systemic changes in tune with curricula reforms based on values such as social justice and equality. A holistic approach is required for inclusive learning. Learner Engagement, Curiosity and Creativity are to be encouraged. Experiential learning – observing, exploring, discovering, analyzing and critically reflecting are as important as knowledge content. Subjects like mathematics should enhance the child's ability to think and reason, to visualize and handle abstractions, to formulate and solve problems; Science should engage the student in acquiring methods and processes that

nurtures curiosity and creativity particularly in relation to the environment; Social Sciences should focus on conceptual understanding rather than rote learning and should equip the child to think independently and reflect critically on social issues; history should be recast as a shaping influence on the child's conception of the past. The role of the teacher is to enable students to discover their talents, to realize their physical and intellectual potential to the fullest, to develop character and desirable social and human values to function as responsible citizens. (National Curriculum Framework 2005, NCERT)

Lifelong learning is a critical need today. It can be defined as a process of accomplishing personal, social and professional development throughout the life-span of individuals in order to enhance the quality of life of both individuals and their collectives (Dave, 1976).

ICT as a Change Agent

ICT as a change agent was recognized as having the potential to reform the system. However, the mere availability of computers does not impact student learning. ICT should be used along with student centered pedagogy. Policy makers need to think in terms of combinations of input factors that can work together to influence learning. Coordinating the introduction of computers with national policies related to curriculum, pedagogy, assessment and teacher training will have greater impact. Various impacts of ICT, such as Impact on learning of school subjects, impact beyond the curriculum such as enhanced motivation and a positive attitude, impact on diverse students through enhanced self-esteem and learning autonomy, impact on teacher skills and motivation, impact on classroom practice and impact on schools and communities are certain areas where ICT can contribute. This is also consistent with the MDGs (Kozma).

Three main approaches to ICT as Change Agent (Cox et al, 2004) by the teachers include:

1. the enhancement of particular concepts and skills
2. using an ICT resource to enhance the existing topic
3. using an ICT resource to empower student learning.

Presenting knowledge in new and challenging ways and freeing the student from repetitive tasks enhances learning (Kemmis et al, 1977). Evoh (2007) proclaimed ICT as one of the most powerful educational reforms tools to achieve the 'Education for All' goals of the UN.

But, there are certain barriers to ICT also. These include teacher and administrator attitudes and beliefs, ineffective leadership, traditional structure and insensitivity to local cultures. (Hew et al, 2007). Also a rigid hierarchy and teacher isolation are hindrances (Williams et al, 2008). School principals should therefore be better informed of teachers' perceptions. (Wong, 2006) Educationists should take this view into account when developing curriculum (Juang et al, 2008)

In terms of teaching-learning process quality in education, India has a pyramid structure with most of the schools at the bottom. It is here that ICT can make a huge difference and permeate the gaps between different sections of the pyramid by standardization and ease of application.

Some successful ICT Implementation in India

In Delhi, Project Sharada is an innovative approach to bring students to school by using ICTs for facilitative learning and increasing interest and motivation. Run by the Municipal Corporation Department, Delhi, it addressed low retentions, enrollment, disinterest in education and absenteeism in the urban poor

community. More than 487 computer learning centers have been made possible with 500 education volunteers and 2,500 PCs under Linux OS. This provides under- privileged communities with equal opportunity.

In Khammam District of Andhra Pradesh, the Giri Pragna Project has been successful for providing opportunities to tribals. 50 school complexes covering classes 6 to 10 and 10,000 children every year are exposed to computer-aided learning. The latest technology and syllabus is used. Special CDs are designed in local language. Teacher training is also a prime focus.

In Kerala, the ICT@school project has enhanced the productivity of teachers and students in over 8000 schools in the State. It has a strong network of 200 master teachers and 5600 school IT coordinators who are handpicked from amongst the school teachers. The program is fully integrated into the existing school educational processes and trains school teachers. At least 1.1 lakh teachers have been trained. The focus of the training has moved over the years from IT to using IT for other subjects.

In content development there is the free operating system - GNU/Linux - which is bundled with educational software like Dr. Geo, Rasmol, K-Tech lab, Kalcium, etc. All these packages are being extensively customized by the teachers themselves for facilitating complete ICT enabled education in the state. The Project has prepared interactive multimedia CDs, Handbooks & Training modules for ICT as well as Text books for IT in standard 5 to 10. The developed content is as per National Curriculum Framework.

The project has shown considerable success. It has resulted in higher level of teacher engagement, integration of computer learning with regular learning processes and development of teacher networks and collaborative content creation processes. All of these support teacher professional development and have led to a stronger

education system and better learning outcomes.

Intel Teach Program has reached more than 5,70,000 teachers across 14 states. It helps in providing pre-service and in-service teacher training to help integrate technology in the classroom. Microsoft – 'Project Shiksha' was also launched to instill ICT awareness amongst teachers.

Hole in the Wall Education Limited (HiWEL), a cooperative effort between NIIT and the International Finance Corporation (IFC) installed computer kiosks in urban slums. 'Namma Dhwani' was India's first cable audio initiative. It transmits information to schools and individual homes. Planet Read initiated 'Literacy for a Billion' using subtitles on song based programs.

The National Policy on Education (NPE) was released in 1986 amended 1992 with the Program of Action (POA) on NPE stressing the need to improve the access to computers in schools. Further the working group on Elementary and Adult Education for the 10th Five Year Plan (2002-2007) recommended that one or two schools in every cluster in the country should have facilities for computer based learning which can be used by children in adjoining schools. In 2004, the Department of Education released a draft scheme for ICT in schools for computer-aided learning.

National Programs launched by government of India to promote ICT at the school level

1. Sarva Shiksha Abhiyan (SSA)

SSA is a flagship program of the Government of India to achieve universalization of Elementary Education as mandated by 86th Amendment to the Constitution of India making free and compulsory education to children aged between 6 and 14 years a fundamental right. SSA is implemented in partnership with State Governments. It has an innovative component for girl education,

early childhood care and education, interventions for children belonging to scheduled tribes and community computer education especially in the upper primary school level. SSA aims to create computer awareness and literacy and empower students through computer-aided learning.

2. Gyan Darshan

Doordarshan's educational channel, Gyan Darshan was launched in January, 2000 in partnership with Ministry of HRD and IGNOU. This channel provides curriculum based programs in the areas of primary, secondary, higher, distance, technical and vocational education. Gyan Darshan 1 is the main channel and includes country wide classroom programs. Gyan Darshan 2 and The Training and Development Communication Channel (TDCC) are one-way video and two-way audio satellite based interactive systems for distance education. Gyan Darshan 3 is for technical education.

3. Gyan Vani

In November 2001, an FM radio channel called GyanVani was launched. The channel serves to address local educational, development and socio-cultural requirements. The programs are broadcast in English, Hindi and regional languages.

4. EDUSAT

EDUSAT is the first Indian satellite for the Educational Sector and was launched in September, 2004 by ISRO. Although meant for school and college level education it also supports non-formal education.

5. SWAYAM PRABHA

The SWAYAM PRABHA is a group of 32 DTH channels devoted to telecasting of high-quality educational programmes on 24X7 basis using the GSAT-15 satellite. Every day, there will be new content for at least (4) hours which would be repeated 5 more times in a day, allowing the students to choose the time of their convenience. The

channels are uplinked from BISAG, Gandhinagar. The contents are provided by NPTEL, IITs, UGC, CEC, IGNOU, NCERT and NIOS. The INFLIBNET Centre maintains the web portal.

6. ICT @ Schools

The Scheme of Information Technology and Communication (ICT) @ Schools was introduced by the Govt. of India in 2009. The reason for introducing the scheme was to address the huge disparity in India in Information Technology (IT). The ICT scheme therefore proposed to open new vistas of learning and bridge the socioeconomic and geographic divide across the country with respect to Information Technology and provide a level playing field to rural as well as metropolitan students.

ICT initiatives in Schools Bihar

Government of Bihar has taken an initiative in the implementation of Computer Aided Learning (CAL) in school and has been recognised for these efforts through the Manthan South Asia award for e-governance for the year 2010 under the e-education category for its project "Implementation of computer aided learning in 244 schools in Bihar under the BEP-India". The literature on use of ICT for pedagogy has set out certain benchmarks for integration of ICT into the learning process as a way to improve the quality of school education in specific social contexts.

The state of Bihar has formulated its education policy in the light of RTE Act, 2009 . The act provides not only free and compulsory education to children in the age group of 6-14 but also guarantees quality education to all of them . The innovative teaching methods are used to make the teaching learning process interesting, delightful and enjoyable. Computer is one of the means by which mutual learning can be facilitated. The Government of Bihar has initiated Computer Education in Government schools of Bihar.

Computer Education at elementary level in the Schools of Bihar

At present there are more than 619 Computer aided learning (CAL) centres operational in the state and spread over 375 blocks of the state. The state has adopted three models under CAL. The models are:

(i) BEP Model
(ii) BOOT Model
(iii) e-Samarth Model

BEP model

Under this model Computer aided learning is implemented through Sarva Shiksha Abhiyan in 234 Cluster Middle Schools. Till the year 2005 -06 cluster medium schools was identified for imparting Computer aided learning through in-house arrangements. A unit cost of rupees 2.5 lakh was to be incurred on each centre for having 3 units of Pentium computer, UPS (2 KVA), laser printer, furniture, electrical fittings, generator/ solar energy panel, teacher's training and others etc. a

Under the BEP model, eTLMs were procured under the 'Head Start' program being run under the Rajya Shiksha Kendra,MP, Bhopal. Around 20 titles of e-TLMs were selected and introduced in 234 cluster middle schools, where infrastructure was already in place. Two teachers from each clusters middle schools were identified by the districts. The selected teachers were given training either under the Computer aided learning program or 20 days in-service teacher training. The trained teachers where called Master-Trainers who in turn had to train the teachers of other CAL centres.

Build , Own, Operate , Transfer (BOOT) Model

Build, Own, Operate, Transfer (BOOT) Model was introduced in the year 2005-06 in a decentralized manner under public private partnership through local Private Partners/ NGOs for a maximum period of three years. Under the Sarva Shiksha Abhiyan, 50 lakhs is allocated per district per year for computer education. SC & ST

education and to promote girls' education . Under the BOOT model, private partners/NGOs were given the reponsibility of imparting computer education for which a sum of 15 lakh rupees was given to one district. Every year around 8 to 10 schools were selected. Private Partners/NGOs provided computers, teaching learning materials and one instructor at every centre. Altogether 29 NGOs/ Agencies were involved in the state at local level. The total number of centres operational under this model was 141.

E- Samarth

In order to overcome the problems faced by both BEP and BOOT models, the state in consultation with BSEDC and its consortium IL & FSs has entered an MOU to operionalize 244 CAL centres across the state under e-samarth. The immportant highlights of e-samarth model are as follows:

1. Training of 3 teachers from each 619 centres in CAL.
2. Supplementation of State specific and curriculum based contextual e- TLMs(100 titles) in languages and mathematics.
3. Provision of K-yan to overcomes issues like high student computer ratio.

This project has been quite popular and has been awarded MANTHAN award, South Asia 2010-Digital inclusion for Development.

Computer Education at Secondary and Senior Secondary level through ICT@School Scheme in Bihar

The Information and Communication Technology (ICT) in schools have been subsumed in the Rashtriya Madhyamik Shiksha Abhiyan (RMSA). Now ICT in Schools is a component of the RMSA. The Information and Communication Technology (ICT) in Schools (ICT@Schools) was launched in December, 2004 and revised in 2010 to provide opportunities to secondary stage students to mainly build their capacity on ICT skills and make them learn through computer aided learning process. The Scheme is a major catalyst to

bridge the digital divide amongst students of various socio economic and other geographical barriers. The Scheme provides support to States/UTs to establish computer labs on sustainable basis.

Components
The scheme has essentially four components:-

- The first one is the partnership with State Government and Union Territories Administrations for providing computer aided education to Secondary and Higher Secondary Government and Government aided schools.
- The second is the establishment of smart schools, which shall be technology demonstrators.
- The third component is teacher related interventions, such as provision for engagement of an exclusive teacher, capacity enhancement of all teachers in ICT and a scheme for national ICT award as a means of motivation.
- Fourth one relates to the development of a e-content, mainly through Central Institute of Education Technologies (CIET), six State Institutes of Education Technologies (SIETs) and 5 Regional Institutes of Education (RIEs), as also through outsourcing.

The highlights of the revised scheme are:-

- The non-recurring expenditure for school has been revised from Rs. 6.7 lakh to Rs. 6.4 lakh whereas annual recurring expenditure has been revised from 1.34 lakh to Rs. 2.70 lakh. The recurring cost will be provided for a period of 5 years from the year of sanction.
- The objective of the Scheme is to cover all Government and government aided secondary and higher secondary schools by giving priority for early coverage of schools in educationally backward blocks and in areas having

concentration of SC/ST/minority/weaker section.

- Under the revised scheme, there is a provision of a suitably qualified full time computer teacher in each secondary and higher secondary school. In case of higher secondary school having computer related subjects as elective, there would be need for a post graduate in computers teacher.
- There are provisions for in-service (induction and refresher) training for all teachers in secondary and higher secondary schools to enable them to impart ICT enabled teaching.
- 150 smart schools would be sent up by State Government and UTs at the district level using a grant of Rs. 25 lakh for a schools and a recurring grant of Rs. 2.5 lakh per year. This would enable provision of at least 40 computers in each such school.
- There is a provision to strengthen SIETs to contribute to e-content development.
- Management, monitoring and evaluation will be strengthened.
- Convergence with the existing programme would be essential especially in teacher training and ensuring reliable power supply and internet connectivity.
- The scheme includes National Award for teachers using ICT in schools in the teaching learning process.
- The sharing pattern will be 75:25 between the Centre and the State except for the north eastern States including Sikkim where the ratio would on 90:10.

As per the SSA and RMSA ICT@School is one of the flagship programmes of the MHRD and Bihar was lagging in doing ICT@School for almost 2 years+ and wanted to implement the same at the shortest possible time, the BSEIDC was given the task in month of October-November 2011 and with a small team had to complete the task as per the wish list to reach out to the children in villages of Bihar. The core objective was to reach out to the children of Bihar and also take care of major road blocks and failure points in the previous model adopted by the state and other state

governments across the country.

Under School Education Department a society was started to curb discrepancy in implementation steps for the school children of Bihar. The objective was to reach out to the school children in the state where electricity and theft were two major road blocks for computerisation in schools.

Discussion and Conclusion

Government of Bihar's CAL (e-samarth) programme in learning centres and middle schools has been experimenting with multiple delivery systems. A public delivery model had been in place earlier under SSA which covers 234 middle schools (Model 1). Since 2005-06 a decentralised BOOT model has been covering 141 schools (Model 2). The current initiative based on PPP implemented by a consortium of partner organizations with IL&FS as the implementing partner has been introduced in 244 schools spread over all 38 districts of Bihar (Model 3). In total, 175000 students and 2100 teachers in 619 centres spread over 375 blocks in all districts of Bihar are officially covered under the programme. There are also private delivery initiatives by education, skill and software providers. For the ICT@School scheme nearly ten years, six private agencies, 2,000 schools, over Rs 1,000-crore project has been passed towards 'ICT@schools' scheme, meant for government-aided secondary and senior secondary schools with the aim of bridgingthe digital divide in Bihar the only thing missing is the result. The project was started in 2008, when India's leading computer education company NIIT was awarded contract for the ICT project in 400 schools.It was supposed to cater to 60,000 students. Bihar State Electronics Development Corporationn(BELTRON) was the state nodal agency.

A couple of years later, another contract for 600 schools was awarded to Educomp in 2010, which is now nearing completion of its term Nobody knows how many children benefited from the

scheme, which introduced computers to kids even as reports came in that many schools could never use them for power problems and other issues. In the year 2012 , however, the government has launched a modified phase II of the scheme, involving four private operators for 1,000 schools in the six specified zones, though outcome of the earlier adopted 1,000 schools remains far from satisfactory for lack of computer literate teachers too.

The second phase of ICT@ schools project was launched under the Bihar State Educational Infrastructure Development Corporation Ltd (BSEIDC), which awarded contracts to ILFS and Compucom (in two zones each),besides Pearson and Core Education in one zone each on BOOT (Build Own OperateTransfer) model mode. The companies have to install 10 computers in each of the schools and ensure proper training. "But monitoring remains a big concern. Near about six years have passed since this project too but no one bothered to monitor and investgate the progress and the fulfllment of the objectives of ICT@schools as was framed under National Policy on Information and Communication Technology (ICT) In School Education, 2004.Thus Bihar presents a unique opportunity to study the relative efficacy of the different delivery models in the same social environment in how far these have succeeded in improving the quality of learning in elementary schools. These type of studies only will reflect how far we have suceeded in implementing ICT in our school, how our teachers has become resourceful in integrating ICT in the curriculum and how much students are using it for their learning experiences.

References

Banerjee,A.,Cole,S. ,Duflo,E. &Linden,L.(2003). Improving the Quality of Education in India: Evidence from Three Randomized Experiments, March, www.cepr.org/meets/wkcn/ 3/3515/papers/duflo.pdf

Banerjee,A.V.&Duflo,E.(2011).PoorEconomics:ARadicalRethinkingoftheWaytoFight Global Poverty, PublicAffairs, New York

Banker, R. D., Chang, H., & Pizzini, M. J. (2004). The balanced scorecard: judgmental effects of performance measures linked to strategy, The Accounting Review, 79 (1), p.1–23.

Barret,A.M.(2009).TheEducationMillenniumDevelopmentGoalsBeyond2015,Prospectsfor Quality and Learners, Edqual Working Paper No. 13, University of Bristol

Bowles, S. &Gintis.(1976).Schooling in Capitalist America: Educational Reform and the Contradictions of Economic Life, Basic Books

Consultation on 'National Policy on ICTs in School Education', 29th-30th April 2008, New Delhi , Workshop Report, http://itforchange.net/media/NPISE/Draft_WKSH_

Das Gupta, C.(2010). 'The Effectiveness of 'Targeting' in Bihar', Proceedings of International Seminar on 'Poverty in Bihar: Patterns, Dimensions and Eradication Strategies', Patna, Published by Institute of Human Development, Delhi, with ADRI Patna and UNDP EFAGlobal Monitoring Reports (VariousYears), UNESCO,www.unesco.org

Feldman,K.A.(1976).GradesandCollegeStudents'EvaluationoftheirCoursesandTeachers, Research in Higher Education, Vol 4.

GESCI.(2007)Towards a National Policy on ICT in School Education in India – A Multi Stakeholder Perspective – A collaborative effort of The Department of School Education & Literacy (D/SE&L), Ministry of Human Resource Development (MHRD), Government of India, along with Global e-Schools and Communities Initiative, Centre for Science, Development and Media Studies (CSDMS), 2007, www.csdms.in

Gurumurthy,K.(2009).ComputerLearningProgramsinSchools:Mov

ingfromBOOTModelsto an Integrated Approach, Perspective Paper on ICTs in Education, IT for Change, www.itforchange.net

Gurumurthy,K.&Vishwanath,K.(2010).ICTsprogrammesinschoolsinYadgirdistrict,ITfor Change Case Study, www.itforchange.net

Gurumurthy, A. &Singh,P.(2010). 'ICTD – Is it a new species of development?', http://itforchange.net/images/ICTD_Species_of_Devlp_Ed.pdf

Hariharan,V(2010).OpenSource:ModernizingIndia'sEducationSystem, http://www.opensource.com

ISG. (2006). Information Security Governance: Guidance for Boards of Directors and Executive Management, 2nd ed. IT Governance Institute publication.

ISG. (2006). Information Security Governance: Guidance for Boards of Directors

Report_NPISE_Consultation_May2008.pdf and Executive Management, 2nd ed. IT Governance Institute publication

Kerala IT@Schools programme - http://itschool.gov.in/index.php

Linden, L. Banerjee, A. Duflo,A.(2003).Computer-Assisted Learning: Evidence from a Randomized Experiment, Poverty Action Lab Paper No. 5, October, http://econ-www.mit.edu/files/804

MHRD Concept note on 'PPPs in school education'. National Policy on ICTs in School Education, MHRD, see http://itforchange.net/media/Concept_note_on_possible_models_of_Public_Private_Partnership_in_schooleducation-2.pdf

National Policy on ICTs in School Education. http://education.nic.in/secedu/ict.pdf

Position paper , National focus group on Educational Technology , NCF 2005. NCERT 18.Prof Poonam Batra – panel presentation on "ICTs and Teacher Education", http:// public-software.in/node/730

Rahul De. Economic Impact of Free and Open Source Software – A Study in Vikramshila Education Resource Society.(2009). Information and Communication Technology for Quality Education, Shikshak Sammelan Kolkata, www.vikramshila.org

Vidya Bhawan Society & Azim Premji Foundation.(2008). AStudyoftheComputerAssisted Learning Program (CALP), www.azimpremjifoundation.org

WorldBank,.(2007). MDG Global Monitoring Report, www.worldbank.org

World Bank, (2009).Secondary Education in India: Universalizing Opportunity, Human Development Unit, South Asia Region

●●●

RIGHT TO FREE AND COMPULSORY ELEMENTARY EDUCATION IN WESTERN ODISHA: AN ANALYSIS

Mr. Poulastya Mahananda

Abstract

The Right of Children to Free and Compulsory Education Act (RTE) 2009 has been implemented in India since 1st April 2010. It is also implemented in the state of Odisha from the same date. The Government of Odisha has taken many initiatives for implementing the provisions of the Act in all areas. This study has been conducted to (i) find out access of elementary schools in Western Odisha, (ii) examine availability of infrastructure and teaching learning materials in elementary schools as per the RTE Act, (iii) examine initiatives taken for admission of Children with Special Needs (CWSN) as per the RTE Act and (iv) examine initiatives taken for admission of out of school children as per the RTE Act. The survey method was used with sample of 54 elementary schools and 54 HMs selected from three districts of Western Odisha namely Bargarh, Balangir and Nuapada by using random sampling. The investigator used interview schedule consisting of items based on provisions of the RTE Act. The study found that 38.89% of habitations in Western Odisha does not have elementary schools within 1KM, elementary schools in rural, urban and tribal areas are lacking requisite infrastructures like one classroom for every class, school playground, boundary wall, an office cum store cum headmaster room, separate toilets for boys and girls, All the elementary school does not have science kits, mathematics kits, charts, maps and globes for teaching learning. The school where it is available, not being used by teachers for classroom teaching, 20.37% of schools have not identified out of school children in their locality. The present study is helpful for the government,

school administration, community members, and agency of education for realizing the goals of the RTE Act.

Key Word: Elementary education, Out of school children, Children with special needs.

Introduction

Elementary education lays foundation for reading, writing and mathematics, which are basic skills of life and further education. It is the gateway to all higher levels of education that train the scientists, teachers, doctors and other highly skilled professionals that every country, no matter how small or poor requires. Just as strong foundation is important in the construction of a building-elementary education is very important in the education for the child and progressive development of his personality. The positive role of Universal Elementary Education (UEE) in strengthening the socio-economic base of a nation cannot be over-emphasized. Recognizing the importance of it, the original Article 45 in the Directive Principles of State Policy in the Constitution mandated the State to endeavour to provide free and compulsory education to all children up to age 14 within a period of 10 years. The National Policy on Education (NPE), 1986/92, states via the 86th Constitutional Amendment, a new Article 21A was added in Part I of the Constitution of India to make free and compulsory elementary education a fundamental right for children.As a follow up to the NPE, a number of programmes were initiated in India with a view to achieving UEE. These efforts were intensified in the 1980s and 1990s through several interventions such as Operation Blackboard (OBB), the Shiksha Karmi Project (SKP), the Andhra Pradesh Elementary Education Project (APPEP), the Bihar Education Project (BEP),the UP Basic Education Project (UPBEP), Mahila Samakhya (MS), the Lok Jumbish Project (LJP), and Teacher Education, which put in place a decentralized system of teacher support through District Institutes of Education and Training (DIETs) and the District Elementary Education Programme (DPEP). The latest is the SSA, a

centrally-sponsored scheme implemented in partnership with state governments for the UEE across the country.Sarva Shiksha Abhiyan (SSA) is the government's flagship programme to provide universal access to elementary education for children 6-14 years old. Due to these initiatives, over the years there has been significant spatial and numerical expansion of elementary schools in the country. Today, access and enrolment at the Elementary stages of education have reached very close to universal levels. The scheme aims to improve enrolment, retention, and the quality of education to enable children to achieve grade appropriate levels of learning. The number of out-of-school children at the elementary level has reduced significantly. The gender gap in elementary education has narrowed and the percentage of enrolled children belonging to scheduled castes and tribes has increased successively. Despite this, the goal of universal Elementary education is yet to be achieved in the country. There remains the unfinished agenda of universal education at the upper elementary stage. The number of children —particularly those from disadvantaged groups and weaker sections who drop out ofschool before completing upper elementary education remains high. The quality of learning achievement is not always entirely satisfactory even in the case of children who complete elementary education.

Rationale of the Study

The RTE Act 2009 has been implemented in Odisha from 1st April, 2010. The Government of Odisha has prepared Model rules for the implementation of the Act notified on 27 September 2010 in the light of the RTE Act 2009. The model rules have assigned important roles to the different stakeholders for effective implementation. The SCERT of Odisha has been designated as Academic Authority for implementing the RTE act in the state.

Many researchers have taken interest for studying different aspects of the RTE Act and it implementations. Some these studies are discussed here.

Mohalik (2012) reported that no school has identified out of school children in their locality. So necessary steps required to be taken by educational authority for identification of all out of school children and admission in age appropriate class.Schools are lacking in separate toilet for boys and girls, safe drinking water, play materials, teaching learning materials, playground, boundary wall, health check up facilities, special teachers. Necessary steps required to be taken by educational authority for providing all these facilities to elementary schools.**Buragohain (2009)** found that Odisha has a specific problem of school dropouts, as about 48 percent of children dropout from class 1-3, without learning something to label them as literate.School is very far and unaware of benefit from education are the some important reasons for children dropping out from elementary level schools. **IMS(2007)** reported that major problems faced by VECs in school were shortage of classrooms, and teachers, delay in supply of textbooks & TLM, lack of boundary wall and shortage of funds.**Mallik (2001)** found physical conditions like unsatisfactory school infrastructure, lack of proper transportation facility, unattractive school environment, and lack of security; social factors like unsatisfactory functioning as PTA, MTA, lack of parents consciousness, , interest and attitude, home sickness of children; economic factors like poverty and irregular supply of text books are some of the major constraints of Elementary Education.**Naik (1992)** found that the facilities available in elementary schools were inadequate- 63 percent schools did not have their playground and games materials: 65 percent of them were not supplied with science kits and other teaching aids, and incentives like free books; mid-day meals etc were not provided adequately.

Most of these research studies reveals that elementary schools are not equipped with minimum infrastructure and TLM facilities even Govt. has implemented many initiatives in this regard. On the other hand, five year has passed since the day of enforcement of the RTE Act. In order to know how successfully the rule is getting implemented at the operational level i.e. at school levels, the

investigator has made this attempt to understand operational efficiency and preparedness of the schools.Therefore, it is necessary to study that to what extent the schools located in rural, urban and tribal areas comply with the given norms and standards as specified in RTE Act.

Statement of the Problem

The present problem is stated as Right to Free and Compulsory Elementary Education in Western Odisha: An Analysis. The investigator has raised following research questions.

1. Whether elementary schools are available within 1KM distance from the habitation of the child?
2. Whether infrastructure and TLM facilities are available in schools as per the RTE Act?
3. What are initiatives taken for admission of Children With Special Needs (CWSN) and Out of School Children (OSC)?

Objectives

1. To find out access of elementary schools in Western Odisha.
2. To examine availability of infrastructure and teaching learning materials in elementary schools as per the RTE Act.
3. To examine initiatives taken for admission of CWSN as per the RTE Act.
4. To examine initiatives taken for admission of out of school children as per the RTE Act.

Methodology

The survey method was used for conducting this study.The sample for the study consists of 54 elementary schools (18 each from rural, urban and tribal areas) and 54 HMs selected from three districts of Western Odisha namely Bargarh, Balangir and Nuapada by using random sampling. The investigator used interview schedule consisting of items based on provisions of the RTE Act. The collected data were analyzed by using percentage and accordingly interpretation was made.

Analysis and Interpretation

The investigator analyzed the data objective wise by using frequency and percentage which are presented in following tables.

Table 1-Distance of School from Habitation of the Child

Distance	Rural (18)	Urban (18)	Tribal (18)	Total (54)
1 KM	10 (55.55)	12 (66.67)	11 (61.11)	33 (61.11)
2 KM	2 (11.11	1 (5.55	2 (11.11	5 (9.26
3 KM	6 (33.33	5 (27.78	5 (27.78	16 (29.63

** Number in brackets is percentage and outside the brackets is frequency*

Table 1 indicates thattotal 61.11% of elementary schools are located within 1 km from village and town whereas 55.55% and 66.67% of elementary school are located within 1 km from village or townin rural and urban areas and 61.11%in tribal areas. It also reported that total 9.25% of elementary schools are located within 2 KM from village or town whereas 11.11% of elementary school within 2 km from village and townin rural and tribal areasrespectively and 5.55% in urban areas. It also reveal that total 29.63% of elementary school are located within 3 km from village or townwhereas 27.78% of elementary school are locatedwithin 3 km from town or village of urban and tribal areasrespectively and 33.33% in rural.The location of the school is graphically presented in figure-1.

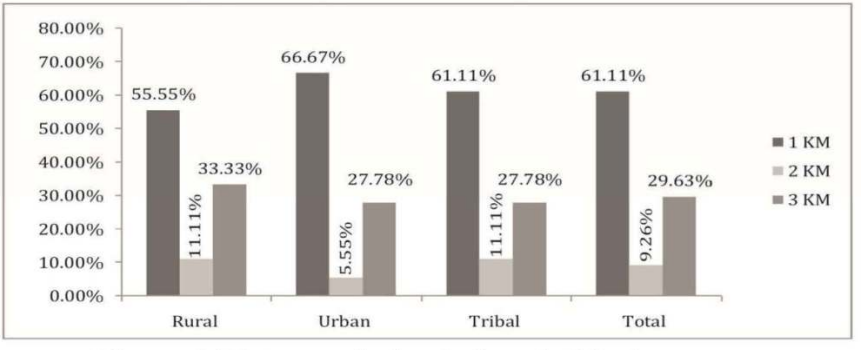


Figure-1: Distance of schools from habitation

Table-2: Availability of Facilities in Schools

Facilities	Rural (18)	Urban (18)	Tribal (18)	Total (54)
One room for every class	15 (83.33	15 (83.33	12 (66.67	42 (77.78
Barrier free access	15 (83.33	18 (100	12 (66.67	42 (77.78
School playground	14 (77.78	10 (55.55	12 (66.67	36 (66.67
Boundary wall	14 (77.78	18 (100	12 (66.67	44 (81.48
Office cum store cum headmaster room	10 (55.55	13 (72.22	13 (72.22	36 (66.67
Separate toilets for boys and girls	13 (72.22)	14 (77.78)	12 (66.67)	39 (72.22)
Safe and adequate drinking water facilities	16 (88.89)	17 (94.44)	16 (88.89)	49 (90.74)
Kitchen for cooking MDM	15 (83.33)	18 (100)	18 (100)	51 (94.44)

**Number in brackets is percentage and outside the brackets is frequency*

The table-2 reveals that total 77.78% of schools have one classroom for every class but it is 83.33% in rural and urban areas and 66.67% in tribal areas. The same table also points out thattotal 77.78% of schools have barrier free access to all children but it is 83.33% and 100% inrural and urban areas and 66.67% in tribal areas. Further the same table reports thattotal 66.67% of schools have play ground butit is 77.78% and 66.67% in rural and tribal areas and 55.55% in urban areas. The table indicates thattotal 81.48% of schools have boundary wall but 77.78%and 66.67% of school have boundary wall in rural and tribal areas and all school in urban areas.Further the same table indicates thattotal 66.67% of schools have an office cum store cum headmaster room but 72.22% of schools have an office cum store cum headmaster room in urban and tribal areas and 55.55% in rural areas. It also reported thattotal 72.22% of schools have separate toilets for boys and girls but it is 72.22% and 77.78% o in rural and urban areas and66.67% in tribal areas. Further the same table shows that total 90.74% of school have safe and adequate

drinking water facilities but 88.89% of schools have safe and adequate drinking water facilities in rural and tribal areas and 94.44% in urban areas.It is found thattotal 94.44% of schools have kitchen for cooking MDM but all schools have kitchen for cooking MDM in urban and tribal areas and 83.33%in rural areas.

Table-3: Availability of Teaching Learning Materials as per the RTE Act

TLM	Availability				Using			
	Rural (18)	Urban (18)	Tribal (18)	Total (54)	Rural (18)	Urban (18)	Tribal (18)	Total (54)
Science kits	11 (61.11)	11 (61.11)	14 (77.78)	36 (66.67)	11 (61.11)	10 (55.55)	10 (55.55)	31 (57.40)
Mathematic kits	9 (50)	12 (66.67)	16 (88.89)	37 (68.51)	9 (50)	11 (61.11)	14 (77.78)	31 (57.40)
Chart	17 (94.44)	14 (77.78)	17 (94.44)	48 (88.89)	17 (94.44)	14 (77.78)	15 (83.33)	46 (85.18)
Maps	17 (94.44)	16 (88.89)	17 (94.44)	50 (92.59)	17 (94.44)	16 (88.89)	16 (88.89)	49 (90.74)
Globe	18 (100)	17 (94.44)	17 (94.44)	52 (96.29)	16 (88.89)	16 (88.89)	15 (83.33)	47 (87.03)

**Number in brackets is percentage and outside the brackets is frequency*

The table-3 indicates thattotal 66.67% of schools have science kits butit is 61.11% in rural and urban areas and 77.78% in tribal areas.Further, total 57.40% of schools are using science kits but it is 61.11% in rural, 55.55% in urban and tribal areas. The same table also reports that total 68.51% of schools have mathematic kits but it 50% in rural, 66.67% in urban and77.78% in tribal areas. It is found that 57.40% of schoolsare using it for teaching. The same table indicates that 88.89% of schools have charts, 92.59% of schools have maps and 96.29% of schools have globes for teachings learning but same % of schools are not using it in classroom teaching. The availability of TLMs in schools is graphically presented in figure -2.

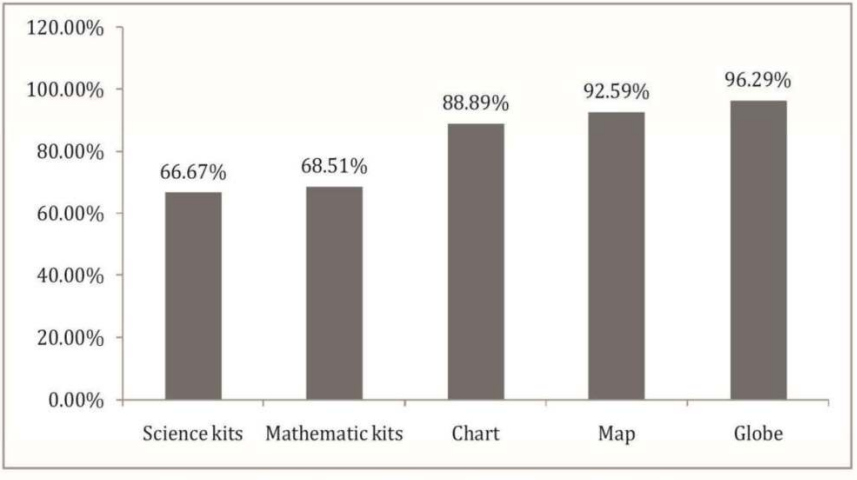


Figure-2: Availability of TLM in Schools

Table-4: Initiatives, Admission and Special training for CWSN

Initiatives	Rural (18)	Urban (18)	Tribal (18)	Total (54)
Identified children (6-14) age	12 (66.67)	10 (55.56)	17 (94.44)	39 (72.22)
Initiatives for admitting disable childrer	14 (77.78)	16 (88.89)	18 (100)	48 (88.89)
Attending disable children regularl	8 (44.44	13 (72.22	11 (61.11	32 (59.26
Special training for teache	3 (16.67	2 (11.11	7 (38.89	12 (22.22
Special teacher for disable childre	0	0	0	0
Available for training module	2 (11.11)	4 (22.22)	6 (33.33)	12 (22.22)
Any aid,equipment and appliances	3 (16.67)	3 (16.67)	5 (27.78)	11 (20.37)

**Number in brackets is percentage and outside the brackets is frequency*

The table-4 indicates that total 72.22% of schools have identified children in their respective locality but it is 66.67% in rural, 55.56 in urban and 94.44% in tribal areas schools. The table also indicates that

total 88.89% of schools have taken initiatives in admitting CWSN but it is 77.78% of schools in rural, 88.89% of schools in urban and all schools in tribal areas. It also reveals that 59.26% of schools are attending CWSN regularly whereas 72.22% of schools in urban and 61.11% of schoolsin tribal and 44.44% of schools in rural areas are attending CWSN regularly. The table points out that total 22.22% of teachers have received special training and training modules for teaching CWSN. No primary schools have special teacher for dealing with CWSN. The finds that total 20.37% of schools have aid and appliances for CWSN. The percentage of schools identified children between 6-14 years of age is graphically shown in figure-3.

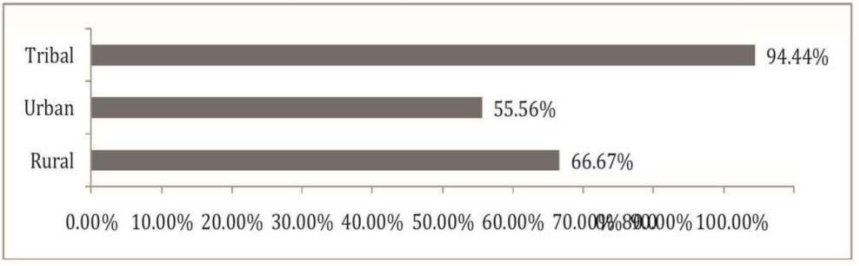


Figure-3: Identification of children of 6-14 years of age

Table-5: Initiatives, Admission and Special training for Out of School Children

Initiatives	Rural (18)	Urban (18)	Tribal (18)	Total (54)
Identified out of school childrer	15 (83.33	14 (77.78	14 (77.78	43 (79.63
Initiative for admitting out of school childre	15 (83.33	14 (77.78	14 (77.78	43 (79.63
Provided special training for out ofschool childre	6 (33.33	10 (55.56	8 (44.44	24 (44.44
Oriented teachers in giving special training for those children	2 (11.11)	2 (11.11)	6 (33.33)	10 (18.51)

**Number in brackets is percentage and outside the brackets is frequency*

Table 5-indicates that total 79.63% of schools have identified and taken initiatives for admitting out of school children (OSC) but it is 77.78% in urban and tribal areas and 83.33% in rural areas. The same table reports that total 44.44% of schools have provided special training for out of school children to bring the at par with otherbut it is 33.33% in rural, 55.56% in urban and 44.44% in tribal areas. Further the table reveals that total 18.51% of teachers are oriented in giving special training to out of school children but it is 11.11% of teachers in rural and urban areas and 33.33% in tribal areas.

Major Findings

- Total 61.11% of elementary schools are located within I KM from the habitation of the child whereas 55.55%, 66.67% and 61.11% of schools are located within 1KM in rural, urban and tribal areas. Hence it can be said that elementary schools are not located within 1KM distance from the habitation of the children in Western Odisha.
- Total 77.78% of primary schools have one classroom for every class and barrier free access to school for all students, 66.67% of schools have playground and office cum store room, 81.48% of schools have boundary wall, 72.22% of schools have separate toilets for boys and girls, 90.74% of schools have safe and adequate drinking water facilities and 94.44% of schools have kitchen for mid day meal. All these facilities are not equally available in rural, urban and tribal areas schools.
- Total 66.67% of schools have science kits, 68.51% of schools have mathematic kits, 88.89% of schools have charts, 94.44% of schools have maps and 96.29% of schools have globe.
- Total 57.40% of schools are using science kits and mathematic kits, 85.15% of schools are using charts, 90.74% of schools are using maps and 87.03% of schools are using globe in classroom teaching learning.
- Total 72.22% of schools have identified children in their respective locality, 88.89% of schools have taken initiatives

in admitting CWSN, 59.26% of schools are attending CWSN regularly and 22.22% of teachers have received special training and training modules for teaching CWSN.No primary schools have special teacher for dealing with CWSN.

- Total 79.63% of schools have identified and taken initiatives for admitting out of school children (OSC), 44.44% of schools have provided special training for out of school children to bring the at par with other, 18.51% of teachers are oriented in giving special training to out of school children

Educational Implications

The present study is helpful for the government, school administration, community members, agency of education for realizing the goals of the Right to Free and Compulsory Elementary Education Act.

- The study found that some of habitations in Western Odisha do not have elementary schools within 1KM. So urgent initiatives may be taken by the Govt. for making elementary school available in every habitation specially in tribal and rural areas as access is the first step in Universalizing Elementary Education.
- Some of the schools in rural, urban and tribal areas are lacking requisite infrastructures likeone classroom for every class, school playground, boundary wall, an office cum store cum headmaster room, separate toilets for boys and girls. Since head masters do not have fund available with them for these construction work, government should make the fund available to the schools on priority basis for the construction of these basic infrastructures.
- All the elementary school does not have science kits, mathematic kits, charts, maps and globes for teaching learning. The school where it is available is not being used by teachers for classroom teaching. It is necessary to provide all these facilities to all the elementary schools for

better teaching learning and also motivate teachers for regularly using in classroom teaching.

- One of the provisions of the RTE act-2009 is to bring all out of school children to school, provide training and admit them in class appropriate to their age. The study reveals that some of school has not identified out of school children in their locality. So necessary steps are required to be taken by educational authority for identification of all out of school children and admission in age appropriate class. Particularly all HMs, teachers as well as SMC members are required to be involved and motivated for identifying out of school children in their locality. They can prepare a data base for this work. At the same time training modules; bridge course required to be ready and HMs and teachers need to be trained for using. The OPEPA and SCERT may decide criteria for placing out of school children in particular class.
- Similarly children from weaker and disadvantaged section, disabled children are to be brought to school. They need special training or extra instruction for coming to main stream along with free teaching learning materials and other equipments.

Conclusion

The right to education act 2009 will bring a revolutionary change in the field of elementary education in our country if implemented in true spirit in rural, urban and tribal areas. It is the responsibility of the government to make schools available in all habitation specially inaccessible areas and sparsely populated areas, provide funds, infrastructure, recruit teachers and facilitate everything that is required for the Universalisation of Elementary Education. Emphasis should be given for making quality elementary education to socially disadvantaged section, CWSN and out of school children.

References

Buragohain, T. (2009). Poverty and Student Dropout in Orissa, Journal of Educational Planning and Administration, Volume, XXIII No. 2 April, pp. 169-183.

Director, IMS (2007). Learning- Teaching Problems of Tribal Children and Development of Strategies, Institute of Media Studies, Bhubaneswar, Odisha.

Malik, S.C. (2001). Constraints of Elementary Education in Koraput District of Orissa, Unpublished Ph. D thesis, Berhampur University.

Naik, S. (1992). Development of Elementary Education in Sundergarh District, Orissa with Special Emphasis on the Role Played by Local Leadership, Fifth Survey of Research in Education, New Delhi, NCERT, 2000.

Mohalik, R. K (2012). Status of Implementation of the RTE Act, 2009 in Odisha. The PAC report of RIE, Bhubaneswar.

Azim Premji Foundation (2011), *Right to Education Act: Key Gaps in Policy and Implementation,* http://mhrd.gov.in/rte

Govt. of India (2009).The Gazette of India, August, 2009.

http://www.education.nic.in

MHRD. (2009). The Right of Children to Free and Compulsory Education Act, 2009. MHRD, Govt. of India, New Delhi.

●●●

Spiritual Intelligence: An Innate Dimension of Intelligence

Suresh Kumar
Dr. Vikramjit Singh

Abstract

Spiritual Intelligence in an important aspect of today's human development The purpose of this research is to conceptualize Spiritual Intelligence with respect to philosophical and psychological context. In this paper an attempt has been made to recognize, comprehend, find out, analyse, synthesize, evaluate, critically examine and to develop positive attitude, sense of appreciation, and take interest in the dominant factors responsible for strengthening spiritual intelligence. The paper concludes 'Spiritual Intelligence : An Innate Dimension of Intelligence ' as "it is intelligence which helps to fulfil the potentialities of the individuals' abilities through the non-cognitive virtues to prepare them to solve the everyday problems for life creatively and constructively in the new situation of the socio-psycho-physical environment for attaining the highest knowledge and wisdom. Understanding spirituality as a kind of intelligence, the psychological conception of spirituality is associated with the rational cognitive processes like goal achievement and problem solving. Thus, this paper is significant to Education field where spiritual intelligence can be introduced to the students through the curriculum which teaches students how to behave with others, how to make decisions and act in everyday stressful world of interacting with difficult people and situations.

Keywords: Spirit, Spirituality, IQ, EQ, SQ.

INTRODUCTION

Since the dawn of humanity, a man's endeavour has been to lead a prosperous, happy and peaceful life. In pursuit of improving his quality of life, illusions prompted him to chiefly amass wealth. The

belief that materialistic possessions alone will bring happiness and respectability leads to disillusionment albeit, materialistic pursuit is a reality. The world is now moving rapidly towards a newer learning and awakening and beginning to build reliance on spirituality in varying degrees. A contended life can only be led through achieving a balance between materialism and spirituality. The idea of spirituality is increasing in prominence among recent publications in educational psychology and theory. This reflects a shift toward the exploration of spiritual concerns previously submerged by the advent of scientific positivisms and the effort to reduce, if not eradicate, the role of spirituality in education.

Spirit

Webster's dictionary defines spiritas "the animating or vital principle: that which gives life to the physical organism in contrast to its material elements: the breath of life".

Spirituality

Spirituality is "animating life forces, an energy that inspires one toward certain ends or purposes that go beyond self" (McKnight, 1984: 142). This matter of "going beyond self" is a recurring theme in descriptions of spiritual experiences and spiritual intelligence.To be 'spiritual' is to think, act and interact from an awareness of self as spirit not form, soul not body.

Misconception on Spirituality

Most of the people are overwhelmed with the notion that embracing spirituality would impel us to denounce the material world, near and dear ones, and proceed to mountains or jungles and engage in rigorous routine of praying and meditating the whole day long. It is far from truth. Nothing precludes a man from embracing spirituality while leading a normal life of a house holder.

Embarking on a Spiritual Journey

Awareness to awakening kindles the desire to engender a shift in

our thoughts. People may surely and gradually move from mundane way of life to a spiritual one. Draper, Brian (2009) states that "when it comes to embarking on a spiritual journey towards becoming more fully human, it is tempting to dream 'big' and it is good to want to change the world single-handedly; and change will only come about when we begin to demonstrate the positive benefits in our own lives. So we need to change our own world first. It is better to start small and change something - than to dream so big that you change nothing".

Intelligence

The word "intelligence" means "capacity for learning".Human intelligence is the intellectual power of humans, which is marked by complex cognitive feats and high levels of motivation and self-awareness. Intelligence is to use what you know in the right way at the right time in the right place with the right intention.

Intelligence is made up of three parts: nature, nurture and results. Intelligence is an innate potential (nature) that is: brought into form through practice (nurture / effort) and results in adeptness or appropriately reasoned behaviour or choice.

Multiple Intelligence

Howard Gardner defines intelligence as "The ability to create an effective product or offer a service. A set of skills that make it possible to solve problems. The potential for finding or creating solutions for problems, which involve gathering new knowledge"

Howard Gardner proposed that a human being is endowed with multiple intelligences. Each person has a unique combination. The following are the nine types of intelligences:

Table 1: Multiple Intelligences

(a)	Bodily / Kinaesthetic
(b)	Logical / Mathematics
(c)	Linguistic
(d)	Musical Rhythmic
(e)	Spatial
(f)	Intrapersonal
(g)	Interpersonal
(h)	Naturalist
(i)	Existential

Source - Howard Gardner (1983). Multiple Intelligence

According to Zohar, Marshal (2000) there are three kinds of neural organisation in the brain which allow 3 different kinds of thinking, corresponding to the 3 kinds of intelligence, i.e. rational intelligence, emotional intelligence and spiritual intelligence and associated neural arrangements.

Rational Intelligence

It was discovered in the early 20th century. It is rational, logical, rule-bound, problem-solving intelligence which can be tested with Stanford-Binet Intelligence Scales. IQ was taken as a signpost of people's abilities. It was believed that higher aperson's IQ, higher the abilities but it is true no longer with other intelligences impacting the abilities of a man. Brewer, Mark. (2008) endorses that people who successfully tackle the big issues of life are not always the ones blessed with great mental aptitude. These achievers possess something that is superior to sheer intellect.

Emotional Intelligence

Goleman, Daniel (1998) referred to emotional intelligence as "the capacity for recognizing our own feelings and those of others, for motivating ourselves, and for managing emotions well ourselves and in our relationships". It describes abilities distinct from, but

complementary to, academic intelligence, the purely cognitive capacities measured by IQ and is represented by emotional quotient (EQ). People who have high level of emotional intelligence skills are more successful in life than people having low emotional intelligence irrespective of their higher IQ.

Spiritual Intelligence

Spiritual capabilities include listening to your intuition, having a vision and being aware of your conscience, to name a few. These are the most powerful capabilities present in a human being and they beautifully complement I.Q. and E.Q. People who have explored deep inner frontiers of self and higher states of consciousness describe spiritual intelligence as the highest form of human intelligence and is commonly represented by spiritual quotient (SQ). The realisation works as a beacon for leading an enriched life. We are particularly referencing two such descriptions for easy recall, than for purposes of exclusivity or refined selection of the definition of terms.

"By SQ", I mean the intelligence with which we address and solve problems of meaning and value, the intelligence with which we can place our actions and our lives in a wider, richer, meaning-giving context, the intelligence with which we can assess that one course of action or one life-path is more meaningful than another. SQ is the necessary foundation for the effective functioning of both IQ and EQ. It is our ultimate intelligence" (Zohar & Marshall 2000, pp 3-4).

Wigglesworth (2003) defines Spiritual Intelligence as "the ability to behave with Compassion and Wisdom while maintaining inner and outer peace (equanimity)regardless of the circumstances." Love comes from a state of being, in unconditional giving and being 'present' fully.

According to Brahmakumari Shivani, "A man with high SQ not only responds appropriately in a particular situation or circumstance, but he also analyses as to why he is in that situation and how can better that situation. High SQ enables a person to operate beyond the boundaries.

Rational intelligence manages facts and information, using logic and analysis to make decisions. Emotional intelligence is necessary to understand andcontrol one's emotions and feelings, while being sensitive to the feelings of others. Spiritual intelligence, on the other hand, is necessary –

- To find and use the deepest inner resources from which comes the capacity to care and the power to tolerate and adapt
- To develop a clear and stable sense of identity as an individual in the context of relationships
- To identify and align personal values with a clear sense of purpose
- To live those values without compromise and thereby demonstrate integrity by example
- To understand where and how each of the above is sabotaged by the ego

Difference between Spiritual Intelligence and Spirituality

According to Brahmakumari Shivani- Spirituality is to 'know' who you are and Spiritual Intelligence is to 'realise' who you are and to live life in that awareness. You have always been who you are and, in truth, you can never be other than who you are, but it requires 'realisation' i.e. that moment when you 'see it', when you 'get it' and then you 'be it'. Spirituality is the knowledge of yourself as spirit/soul, and the understanding of your highest spiritual qualities and attributes, which are love, peace, purity and bliss. Spiritual Intelligence is the expression of these innate spiritual qualities through your thoughts, attitudes and behaviours. Being spiritual means the ego has dissolved, virtue has been restored to character and spiritual values connect your inner and outer worlds (thought to action). It is the ability to see every human being as soul/spirit, and thereby transcend all the false identities of race, colour, gender, nationality, profession and religion. It is in this awareness that we are then able to recognise and connect with the Supreme Power.

Components of Spiritual Intelligence

Emmons, 2000 identified five components in spiritual intelligence:

1. **Transcendence**: Transccendence is used to describe the religious status or beyond the physical realities. At this stage a person can get a superior status. It is the capacity to transcend the physical and material. It is going beyond the egoistic self into an interconnected wholeness. It is nurturing relationships and community with acceptance, respect, empathy, compassion, loving-kindness and generosity. It is the utilize a system perspective seeing the wholeness, unity and the interconnection among the diversity and differentiation.

2. **Consciousness:** The ability to experience heightened states of consciousness. It refers to knowing self and living consciously with clear intention and mindful, embodied awareness and presence.

3. **Meaning:** The ability to purify everyday experience. Experiencing significance in daily activities through a sense of purpose and a call for service, including in the face of pain and suffering.

4. **Grace:** The ability to utilize spiritual resources to solve problems. Living in alignment with sacred (divine, a universal life force, nature) manifesting love for and trust in life. Love, reverence and cherishing of life based on gratitude, beauty, vitality, joy and having an optimistic outlook based on faith or trust.

5. **Truth:** It is the capacity to be virtuous. It also includes the qualities of acceptance and forgiveness, embrace and love, Openness, open heart and mind, open curiosity.

   Noble (2000) agreed with Emmons' (2000) and has identified spiritual intelligence as an innate human potential and

added two other components: 1. The ***conscious recognition*** that physical reality is embedded within a larger, multidimensional reality with which people interact, consciously and unconsciously, on a moment to moment basis. 2. The ***conscious pursuit*** of psychological health, not only for themselves but also for the sake of the global community. Spiritual intelligence is the set of abilities that individuals use to apply, manifest and embody spiritual resources, values and qualities in ways that enhances their daily functioning and well-being (Amram, 2000). Wigglesworth (2002), has analysed the above five components and developed twenty one detailed skills of spiritual intelligence.

Table: 2 Spiritual Intelligence (SQ) Skills

Self/Self Awareness	Universal Awareness
1. Awareness of own worldview 2. Awareness of Life Purpose (Mission) 3. Awareness of Values Hierarchy 4. Complexity of inner thought 5. Awareness of Ego self/Higher Self	6. Awareness of inter connectedness of life 7. Awareness of wordviews of others 8. Breadth of Time perception 9. Awareness of limitations / power of human perception 10. Awareness of Spiritual Laws 11. Experience of transcendent oneness
Self/Self Mastery	Social Mastery / Spiritual Presence
12. Commitment to spiritual growth 13. Keeping Higher Self in charge 14. Living your purpose and values 15. Sustaining faith 16. Seeking guidance from Spirit	17. Wise and effective teacher / mentor 18. Wise and effective leader / change agent 19. Makes Compassionate AND Wise decisions 20. A calming, healing presence 21. Being aligned with the ebb and flow of life
Calm, peaceful at all time	**Compassionate and Wise Action**

Source - Cindy Wiggleworth (2016). Spiritual Intelligence and why it matters

Each of these skills has been described in five levels of skill proficiency. Level 0 is implied, and means that the person has not begun to develop that skill. Level 5 is the highest level we measure

with our online self-assessment. No skill or level is considered "required." And even at Level 5 a person is not considered "finished" as there is always room to grow.

Table 3: Awareness of Higher Self/ Ego self

Level 1	Can communicate understanding of the nature of Ego Self-including its origin and the purpose it serves in spiritual development
2	Demonstrates ability to observe personal Ego in operation and comment on what seems to trigger Ego eruptions
3	Demonstrates awareness of and ability to periodically "Listen to" Spirit or Higher self as a separate voice from Ego self
4	Hears the voice of Spirit or Higher Self clearly and understands the "multiple voices" that Ego self can have. Gives authority to voice of Higher self in important decisions
Highest Level 5	Spirit or Higher Self voice is clear and consistent. Ego self is present and is a joyful advisor to Higher Self. There is no longer a struggle between the two voices. Rather there is a sense of only "one voice"... the Higher Self (Authentic Self, Spirit) voice

Source - Cindy Wiggleworth (2016). Spiritual Intelligence and why it matters

Main Features of Spiritual Intelligence:

Griffiths R.(2018) figure out ten main points of interest associated with spiritual intelligence.

1. **Secular Spirituality:** As an innate dimension of intelligence, SQ represents a secular form of spirituality that everyone can access. SQ methodology is a faith-neutral form of spiritual practice that is consistent with contemporary secular culture, while still being compatible with religious belief.

2. **Emotional Balance:** Spiritual intelligence pre-empts and remedies emotional reactivity, and restores emotional balance. By activating the qualities and capabilities of the higher self (or the soul), spiritual intelligence prevents emotional reactions from taking over. SQ thus restores equanimity.

3. **Fulfilment:** Spiritual intelligence brings to life a deeper sense of meaning and purpose, by virtue of the qualities and capabilities of the soul, in the form of wisdom, compassion, integrity, joy, love, creativity, and peace. Consequently spiritual intelligence is the means of personal and professional success and fulfilment.

4. **High Performance:** It's important to note that SQ increases EQ and improves IQ performance. In addition, SQ activates whole-brain capabilities that exceed the sum of the part-brain capabilities represented by IQ and EQ. Spiritual intelligence therefore results in high performance.

5. **Productivity Growth:** Spiritual intelligence introduces the next evolution in corporate training. High performers draw from a deeper source of meaning and purpose, beyond the traditional rewards of money, status and power. As a contemporary means of deploying spiritual capabilities, SQ training therefore represents the next step-up in productivity growth.

6. **Human Rights:** The twin poles of attention represent the basic operating system of human awareness. Knowing how to navigate between the twin poles of attention, from ego to soul, is essential for quality of life. Consequently, SQ represents necessary knowledge for everybody. Education in spiritual intelligence is therefore a fundamental human right.

7. **Scientific Foundations:** The evidence for spiritual intelligence is well established. The evidence is derived from two sources: firstly, direct personal experience; and secondly, findings in multiple scientific fields. With the addition of recent evidence from neuroscience, spiritual intelligence has now been corroborated by findings in four

independent fields of scientific research.

8. **Ancient and Modern:** The SQ paradigm redefines traditional forms of spirituality in secular evidence-based terms, as confirmed by findings in contemporary scientific research. SQ therefore represents the meeting of ancient wisdom and modern science.

9. **Global Sustainability**: The shared exercise of SQ is the foundation of social justice and environmental responsibility. The sustainability of the world community therefore depends on our individual and collective spiritual intelligence. Consequently, education in spiritual intelligence is a global imperative.

10. **Third Millennium Paradigm:** The emergence of secular spirituality based on spiritual intelligence represents a new paradigm that supersedes the first millennium paradigm (theism) and the second millennium paradigm (materialism). As the nextstage in the evolution of collective consciousness, SQ therefore represents the new paradigm of the third millennium.

SQ and the Brain

Neurologically SQ is distinct from IQ and EQ. Whereas IQ and EQ are localized in opposite hemispheres, SQ is associated with hemispheric synchronization and whole-brain activation. The capability for SQ is hard-wired in the brain, but conscious intention is required to activate it. The processing mode for different Qs is different. IQ is processed in serial mode, EQ in parallel mode, and SQ is processed in synchronous mode. Bowell, Richard A. (2005) reinforces the studies bringing out that IQ is highly linear. One brain cell firing to another to form a neural tract is called synaptic transmission and is the basis for the formal logic of IQ. EQ is different to IQ. It weaves associative patterns. Context, memory, comparison, appropriateness- these are EQ skills. Why is a process

of engaging our self with the unlimited fields of intelligence that we call SQ.?

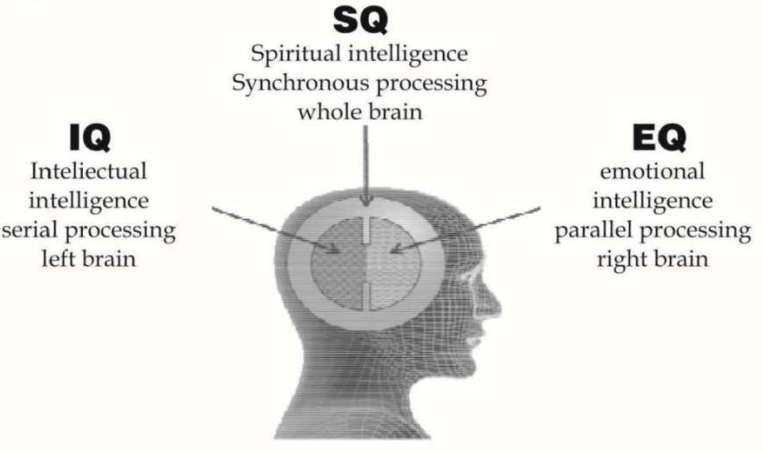


Fig 1: The Brain and 3 Dimensions of Intelligence
Source :- R. Griffiths (2008). Psychology of Spiritual Intelligence

Working of IQ, EQ and SQ

Ideally, all the three Qs should work together and support one another and the brains are designed so. Each Q has its own area of strength, and they can function separately. A person need not be high or low in all Qs simultaneously. While one person may be high in IQ but low in EQ and SQ, another may be high in EQ but low IQ and SQ. There are many combinations with varying degrees.

Spiritual intelligence in practical, day-to-day life

Spiritual intelligence expands our capacity to understand others at the deepest level.Spiritual understanding allows us to discern both the 'true cause'of behaviour without judgement, and serve the 'true needs' of others until they themselves learn to meet their own needs. This capacity is developed by first learning to free our self from attachment and neediness and being able to meet our own inner needs. Attachment and neediness are the opposite of being

spiritually intelligent.

Personal Life: Spiritual intelligence frees us from neediness and clinginess in your personal relationships. When we realise we already have within us what we seek from others love, happiness, peace) we are then free to act and interact without any 'agenda'. In effect, we act from an authenticitythat desires nothing of another, but serves only to give. Paradoxically this frees both parties to 'be themselves', which is the deepest foundation for anyopen, healthy and harmonious relationship built on the twin spiritual values of trust and respect.

Family Life: The culture of family life can easily revolve around too much 'familiarity'. This results in behaviours which can swing from rejection,resistance and avoidance one moment, to attachment, dependency and clinginess the next. Being spiritually intelligent in a family context allowsindividuals to find a more mature way to relate, free of emotional dependency, and able to embrace 'the other' regardless of their behaviour or theiremotional state.

Working Life: When spiritual intelligence is brought into the workplace work ceases to become a daily chore in order to earn money, and becomes acreative process of service and contribution. Others are seen and treated as people and not objects/resources to get a jobdone, and individuals have anopportunity to learn the inner, invisible and subtle skills of building and sustaining relationships in any area of life. These abilities include building trust,acting with integrity, empathising at a level beyond emotion, and the leadership of others through a consistently proactive attitude and positive vision.

Development of Intelligences

We are born with basic wiring for each of these three intelligences. While rational intelligence is innate, EI and SI need to be developed through training. Though we are born with wiring for emotions and

spirituality, we are not emotionally and spiritually intelligent. In majority of the people, EQ and SQ are strongly correlated with age, meaning these intelligences tend to increase as the person grows older. But there is nothing guaranteed about EQ or SQ development. Not everyone gets better at these intelligences with age. People do have the capacity to enhance EQ and SQ with age but it does not occur by itself and it needs efforts to increase these intelligences.

In most cases, SQ takes the longest to develop? One needs to be conscious and dwell on awareness to commence the journey to enhance SQ. As SQ begins to develop, EQ also grows, which in turn supports enhancement of SQ. A certain degree of EQ is necessary for SQ to develop. SQ boosts EQ and a virtual cycle is formed.

People with high SQ feel more fulfilled, finding deeper meaning and purpose of their lives. They operate from positivism, put in their best efforts, deriving joy in helping others and improving the society by using a higher dimension of intelligence. Since they are able to employ their IQ and EQ better, they are creative, adding value to own others' lives.

Ways to Improve Spiritual Intelligence (SQ)

There are certain methods to unlearn the illusions and misperceptions which stop you seeing who you are and being true to yourself. The more thesemethods are practiced the faster the realisation and the deeper the development of the spiritual intelligence.

- **Meditation:** Meditation is the cultivation of self-awareness. In the meditative process we learn about our self. Meditation will also help us restore the ability to control our thoughts and feelings, sharpen our ability to discern truth from illusion, and thereby make more intelligent choices.
- **Detached Observation:** This is the ability to disengage from the world of action and interaction outside our self, and to disengage from the world of thoughts and feelings within your consciousness. It is not avoidance of either world, but a way to see more clearly and therefore understand more

deeply what is actually happening. This practice is also essential in order not to 'waste' energy at mental and emotional levels, where much of your tiredness has its origins.

- **Reflection:** This involves taking time out on a daily basis to review and re-assess past experiences of the interactions with others. This allows the self/soul to build awareness of the connection between inner world of thoughts and feelings and the outer world of action and the consequences of those actions.
- **Connecting:** There is a higher source of spiritual power and it is possible to connect with that source and empower oneself. This accelerates the developmental process increasing both the depth and breadth of our spiritual intelligence. Energy absorbed from the Supreme Source is essential to clearing the inner clutter and to focus our consciousness.
- **Practice:** New learning, new insights, new realisations are only theories and have no power to change our life unless they are brought into action, allowed to shape new behaviours, and then perfected in the process of expression. Practical action is essential to sustaining the momentum of developing spiritual intelligence.

Signs that shows high level of spiritual intelligence

Zohar's principles of spiritual intelligence can help us to measure the level of our spiritual intelligence. These are:

1. **Self-awareness:** Knowing what I believe in and value, and what deeply motivates me.
2. **Spontaneity:** Living in and being responsive to the moment.
3. **Being vision and valued:** Acting from principles and deep beliefs, and living accordingly.
4. **Holism:** Seeing larger patterns, relationships, and connections; having a sense of belonging.

5. **Compassion:** Having the quality of "feeling-with" and deep empathy.
6. **Celebration of diversity:** Valuing other people for their differences, not despite them.
7. **Field independence:** Standing against the crowd and having one's own convictions.
8. **Humility:** Having the sense of being a player in a larger drama, of one's true place in the world.
9. **Tendency to ask fundamental "Why?" questions:** Needs to understand things and get to the bottom of them.
10. **Ability to reframe:** Standing back from a situation or problem and seeing the bigger picture or wider context.
11. **Positive use of adversity:** Learning and growing from mistakes, setbacks, and suffering.
12. **Sense of vocation:** Feeling called upon to serve, to give something back.

Conclusion:

In conclusion, we can say that studies mentioned so far indicate that, today the field of psychology has shown the tendency towards the innate dimension of intelligence that is spiritual dimensions and has widen the horizon for extended research that can reflect the profound influence of spiritual forces on the human body and mind, and makes clear the importance of Spiritual Intelligence. The important key idea here is that individuals need to have a meaning and value in their life and work. Meaning and value depends on the beliefs and values that motivates and drives our behaviour. So, the deepest level of intelligence is Spiritual Intelligence which has nothing to do with religion or any rigid belief system. SQ is a process of personal insight and experience, not a package of beliefs. Reviewing the concepts of spiritual intelligence, the author believes that this sort of intelligence can be improved with training.

Finally, the development of SQ will not only benefit individuals, it will also benefit their families, communities, and the companies they work for. We are alike in our suffering, our hopes and our joys. We

are all striving to reach thesame goals: peace and love. Perhaps with a more SQ we can see ourcommonality and work together towards getting there.

References

Bowell, R. A. (2005). The seven steps of spiritual intelligence. Nichola Brealey Publishing, London.

Brewer, M. (2008). *What is your spiritual quotient?* Destiny Image Publishers, Inc, USA.

Brewer, M. (2008). *Knowing Your SQ.* Availabe:http://www1.cbn.com/700club/dr-mark-brewer-knowing- your-sq. Accessed July 3 , 2018.

Buzan, T. (2001). *The power of spiritual intelligence.* Collins Publishers, London.

Draper, B. (2009). *Spiritual intelligence – a new way of being.* Lion Hudson plc, England.

Emmons, R.A. (2000). Is spirituality intelligence? *The International Journal for the Psychology of Religion..*

Goleman, D. (1998). *Working with emotional intelligence.* Bantam Books.

Griffiths R. (2018). *Top ten features of spiritual intelligence.* Avilabe:https://sqi.co/top-ten-features-spiritual-intelligence. Accessed: 5 July 2018.Sponville, A. C. 2006. Atheist spirituality. Bantom Books, London.

McKnight, R. (1984). Spirituality in the Workplace. In *Transforming Work: A Collection of Organizational Transformation Readings,* ed. JD Adams. Alexandria, VA: Miles River Press.

Shivani, B. (2011). *What is spiritual Intelligence.* Availabe:https://timesofindia.indiatimes.com/What-is-spiritual-intelligence/articleshow/5343214.cms. Accessed 5 July 2018.

Steele, R. (2010). *Spiritual intelligence at work – improving integrity, creativity and productivity.* University of Kwazulu Natal, Graduate School of Business.

Switzer, B. (2011). Thriving with spiritual intelligence. Library of cataloguing - in - publishing data, USA.

Zohar, D. & Marshall I. (2000.) *Spiritual intelligence - the ultimate intelligence.* Bloomsbury Publishing. London.

Wigglesworth, C. (2012). *The twenty one skills of spiritual intelligence.* Selectbooks, Inc, New York.

●●●

Construction and Validation of Prospective Teachers' Attitude Scale towards ICT Awareness in Teaching

Deep Kumar

Abstract

Information and Communication Technology (ICT) has influenced all aspects of life. Processing the knowledge of ICT is really the need of the hour. The present study was undertaken to construct and validate an attitude scale to measure the attitude of prospective teachers' towards the role of ICT awareness in their approach to teaching. At first, a pool of items were framed by reviewing related literatures, which was later given to experts for analyzing the content. After the preliminary try out on 94 participants item analysis was done. The items with 't' value of above 2.77 were retained for the final form of the scale. The final form of the scale consists of 26 items. Meanwhile content validity and face validity was also ascertained. The reliability of the scale was ascertained by Karl Pearson split-half method and Cronbach Alpha and it was found to be relatively high. Norms were also established for the interpretation of the obtained scores.

Key words: Prospective Teachers', Attitude, Awareness, ICT

Introduction

The need of providing quality education had been felt for quite a long period of time. The last few years saw several efforts being made towards focusing more on the needs of the students and trying to make education more relevant to the students and to encourage them to learn from their own experience, to think more and to apply what they experience outside the school to classroom learning. One of the theories

which explain this important concept is the theory of Constructivism. This theory believes that human generates knowledge and understanding as a result of their ideas and experiences. The basic principle of constructivism is that the learners construct or build their own knowledge and meaning rather than being taught to them by someone else. It requires the teachers to play a different role from that of being the only authoritative source of knowledge in the classroom. The only way to help them shift their views about the constructivist approach is to change their attitude towards it. ICT has a major role to play in teachers way of teaching and learning and thus it is the need of the hour that teachers should try to use and appreciate ICT as far as possible in their teaching learning process. Therefore, having a right attitude is the first step that will help the teachers to embrace this approach.

Tools of Research In Education

Research software and research tools enable researchers and modellers to construct theories and system models. They typically support capturing hypotheses, inferring mechanisms, and formulating experimental results within the same framework. As we all know that research can be classified into qualitative and quantitative methods the tools to be used can be also categorised on the basis of it as follows.

Types of Data Collection Tools

Quantitative data can be collected using four main types of surveys:

Census	data collection about every unit in a group or population, e.g. if a VET provider collects data about the age of trainees in a class, that would be considered a "class census"
Sample Survey:	the only part of the population is approached for data, e.g. if a VET provider collects data about the age of female trainees in a programme, that would be considered a "sample survey of the programme"
Administrative data:	collected as a result of an organization's day-to-day operations, e.g. data on enrolment
Tracer studies:	usage of a) a regular survey as the core tool b) combining it with in-depth discussions with a sample of those surveyed and c) interviewing key informants on particular key issues

Qualitative data can be gathered in a variety of ways, for example:

Questionnaires:	Series of questions and other prompts for the purpose of gathering information from respondents, i.e. VET stakeholders
Interviews:	The conversation between two or more people where questions are asked by the interviewer to obtain information from the interviewee(s)
Focus groups:	A group of people is asked about their attitude towards a product, service, concept, an idea
Observation:	A group or single learners are asked to perform a specific task or action. Observations are then made of behaviours, processes, workflows etc, in a real-life situation (e.g. the workplace)
Case study:	Often used to provide context to otherdata (such as outcome data), offering a complete picture of what happenedand why

Source - Ihab Shoully (2017). Data collection tools . Youth Resource Centre.

Construction of Standardized Tests

Standardised tests are carefully constructed tests with a uniform procedure of scoring, administering and interpreting the test results. They consist of items of high quality. The items

are pretested and selected on the basis of difficulty value, discrimination power, and relationship to clearly defined objectives in behavioural terms. Any person can administer the test as the directions for administering, time -limits and scores are given. These are norm-based tests. Norms are age, grade, sex etc. Reliability and validity of a test are established beforehand. A manual is supplied which explains purposes and uses of the test.

Steps for Construction of A Standardised Test
1. Planning the test.
2. Preparing the test.
3. Try out of the test.
4. Reliability of the final test.
5. The validity of the final test.
6. Preparation of norms for the final test.
7. Preparation of manual and reproduction of test.

1. Planning

For standardized test a systematic and satisfactory planning is necessary. For this test constructor should carefully fix up the objectives of the test. He should determine the nature of the content or topics and item types like the long answer, short answer, very- short answer type and the types of instructions like knowledge, understanding, application, skill have to be included. A Blueprint should be prepared. The method of sampling, a detailed arrangement for the preliminary administration and the final administration should be determined. A probable length of the test, number of questions and time limit of test completion should also be determined. A clear-cut instruction for test scoring and its administrative procedure should also be determined.

2. Writing the items of the test

Writing the items of the test is a creative art. It depends on the item writer's intuition, imagination, experience, and practice. Requirements for writing the items are-

Complete mastery over the subject-matter.In order to write correct items test, constructer must be fully acquainted with all facts, fallacies, principles, and misconceptions of the subject-matter.

Test writer must be aware of the ability and intelligence level of the persons for whom the test is meant.

The item writer must have a large vocabulary so that confusion in writing items may be avoided. The vocabulary used in the items should be simple enough to be understood by all.

After test items are written they must be arranged properly and assembled into a test. Items should be arranged from easy to difficult.

Test constructor should give clear-cut instruction about the purpose of the test, time limit, the procedure for recording the answers.

After writing down the items, they must be submitted to a group of experts of language, subject.

3. Preliminary Administration

After the modification of items according to suggestions of experts, the test is ready for an experimental try–out to find out the major weaknesses and inadequacies of the item.It helps in finding out the ambiguous items, non –functioning distractors in multiple-choice questions, very difficult or very easy items. It also helps in determining the reasonable time limit, a number of items to be included in the final test, to avoid overlapping and identifying any vagueness in the instructions.

Try-out is done in three stages

i. Preliminary try-out
Based on the feedback from the experts, some of the 39 statements were modified before they were arranged according to the four components. There are 27 positive statements and 12 negative statements altogether. The tool was then administered to 94 prospective teachers of St. Xavier's College of Education, Patna to determine the level of understanding of the appropriateness of the dimensions and the items of the Scale. It is done individually to improve and modify the language difficulty and ambiguity of items.

ii. Item analysis – For the present study the method as suggested by A.L. Edwards (1957) was used for item analysis. On the basis of rejecting statements the frequency distribution of the scores based upon the responses to all the statements were taken. Edwards suggested that 25% or some other percentage of the subjects with the highest total scores and lowest total scores must be taken. However, for the purpose of item analysis of this study the top 27% as well as the bottom 27% of the scores were taken aside. The t-values for the significance of differences between the mean attitude scores of the top and bottom 27% group of respondents, that was indicative of their difficulty and discrimination values, were calculated for all the 39 statements. A test should neither be too easy nor too difficult, each item should discriminate validity among high and low achievers. After item analysis, only good items with appropriate difficulty level and satisfactory discriminating power are retained and form the final test. Desired numbers of items are selected according to blueprint and arranged in order of difficulty in the final draft. The time

limit is set.

iii. Final try-out

Final try-out is done on a large sample of individuals for estimating the reliability and validity of the test. This final try out indicates how effective the test really will be when it would be administered on the sample for which is really intended.

4. The validity of the Final Test

Validity refers what the test measures and how well it measures. If a test measures a trait that it intends to measure well then the test can be said valid one. It is a correlation of test with some outside independent criterion.

5. Reliability of the Test

When the test is finally composed, the final test is again administered on a fresh sample in order to compute the reliability coefficient. This time also sample should not be less than 100. Reliability is calculated through Test-retest method, split-half method, and the equivalent-form method. Reliability shows the consistency of test scores.

6. Norms of the Final Test

Test constructor also prepares norms of the test. Norms are defined as an average performance. They are prepared to meaningfully interpret the scores obtained on the test for. The obtained scores on test themselves convey no meaning regarding the ability or trait being measured. But when these are compared with norms, a meaningful inference can be immediately drawn. The norms may be age norms, grade norms etc. Similar norms cannot be used for all tests.

7. Preparation of Manual and Reproduction of the Test

Preparation of manual is the last step in test construction in which psychometric properties of the test norms and references are reported. It gives a clear indication regarding the procedures of the test administration, the scoring methods, and time limits. It also includes instructions regarding the test. The standardized test assesses the rate of development of student's ability. It helps in diagnosing the learning difficulties of the students. It also helps the teacher to assess the effectiveness of his teaching and school instructional programme.

ICT Awareness and its Use

It is the gaining knowledge, education, and consciousness as much as a user perceived to be sufficient to learn and use ICT and realize its overall characteristics, strategic functionality, and competitive advantage.

Information and Communications Technology (ICT) can impact student learning when teachers are digitally literate and understand how to integrate it into the curriculum. Teachers Training Institutions use a diverse set of ICT tools to communicate, create, disseminate, store, and manage information. In some contexts, ICT has also become integral to the teaching-learning interaction, through such approaches as replacing chalkboards with interactive digital whiteboards, using students' own smartphones or other devices for learning during class time, and the "flipped classroom" model where students watch lectures at home on the computer and use classroom time for more interactive exercises.

When teachers are digitally literate and trained to use ICT,

these approaches can lead to higher order thinking skills, provide creative and individualized options for students to express their understandings, and leave students better prepared to deal with ongoing technological change in society and the workplace.

ICT issues planners must consider include: considering the total cost-benefit equation, supplying and maintaining the requisite infrastructure, and ensuring investments are matched with teacher support and other policies aimed at effective ICT use.

Preparation of attitude scale towards ICT awareness in teaching

Drafting of The Tool

The investigator referred many books, journals and downloaded materials from the websites to design an appropriate tool for the study. The framework of standards used for teacher appraisal focuses on professional values, knowledge, practices, and relationships, and includes an expectation that teachers analyze and reflect on evidence to improve their teaching practice. The investigator had in mind the following dimensions: ICT Skill Awareness, ICT Conceptual Awareness, ICT Learning Environment Awareness, and ICT Application awareness (such as contribution to curriculum leadership, school-wide planning, school goals, the effective operation of the school as a whole, pastoral activities and student counseling, and community relationships). Teaching acceptance, Teaching Acceptability, Technology in Use, Technology use Self-Perception (such as planning and preparation, teaching techniques, classroom

management, classroom environment, curriculum knowledge, and student assessment).

At the initial stage, there were 43 items. These items were given to a group of five experts for the opinions and comments. These were also discussed with six teachers and two principals of teacher training institutions. In view of the criticism and comments offered by experts and teachers and principals of teacher training institutions, 4 items were altogether rejected while others were modified. These items showed 100 percent agreement judges as related to ICT Awareness. Later the researcher translated the tool into Hindi for the sake of Hindi medium prospective teachers.

Table 1: Distribution of items for the final scale consisting of 39 items

Sr. No.	Components	Positive Statements	Negative Statements	Item Number
1	ICT Skill Awareness	6	4	1,2,3,6,17,18, 21,28,33,38
2	ICT Connectional Awareness	6	3	4,5,7,25,26,27,30, 34,39
3	ICT Learning Environment Awareness	7	3	8,9,11,12,13,14,19, 24,29,32
4	ICT Application Awareness	8	2	10,15,16,20,22,23, 31,35,36,37
	Total	27	12	39

Establishing Validity

The validity of a tool has been established by making use of different methods. For the sake of the present study, the investigator established content validity. In order to establish content validity, the statements were given out to experts from the field of education. After incorporating the suggestions

given by experts in this field, 4 statements were rejected and 39 were modified according to their suggestions. Thus the content validity of the tool was established.

Item Analysis

For the sake of doing item analysis, the tool was given to randomly select 94 prospective teachers of St. Xavier's College of Education, Patna. The responses collected from the teachers were scored by the investigator. Thus, the item-total correlation was found. The items which had value more than 0.4 were selected and the rest were rejected. Based on the item analysis, 13 questions were rejected and the final tool now consists of 26 statements of four major dimensions namely, ICT Skill Awareness; ICT Connectional Awareness, ICT Learning Environment Awareness; and ICT Application Awareness.

Establishing Reliability

The investigator used test-retest method to establish the reliability of the performance appraisal Scale. The investigator randomly selected 94 Prospective Teachers from St. Xavier's College of Education, Patna. It was emphatic no item should be omitted and there was nothing right wrong with these questions. They were encouraged to answer each item according to their personal agreement or disagreement. It was assured that their replies would be kept confidential. No time limit was assigned.

Scoring of responses on Items.

After administering the scale, the next task was to score the scale according to the predetermined scoring key. The key for

scoring the scale the scale is as under. In case of the Items which depicts a positive opinion, the scoring was done as shown below:
Strongly Agree = 5 Score
Agree = 4 Score
Undecided = 3 Score
Disagree = 2 Score
Strongly Disagree = 1 Score
While in case of the Items depicting negative opinion the scoring was done in a reverse order that is:
Strongly Agree = 1 Score
Agree = 2 Score
Undecided = 3 Score
Disagree = 4 Score
Strongly Disagree = 5 Score

In this way, the Items which were depicting positive opinion would score 5 to 1 and the negative opinion scored 1 to 5. This data was utilized for the purpose of item analysis.

Administration of the tool
The investigator visited the schools with prior permission from the head of the institutions. The school teachers were briefed about the purpose of the work. The tool was printed and bound together as a single questionnaire for the purpose of smooth execution. The respondents were free to use their time and hand over the tool to the investigator as soon as the questionnaire was completed.

Tabulation of the Responses
When the questionnaires were with the investigator, the investigator numbered them serially and bound them together

for the sake of keeping a proper record and to avoid duplication. The investigator divided the questionnaire according to different dimensions and began calculation. It was done manually in the beginning and then the scores were later fed into the computer and stored on the pen drive.

Interpretation of the Score

For the interpretation of the scores, the investigator, first of all, converted the raw scores into t-scores. Then the mean and standard deviation of the scores of each variable was found. Based on these find findings the norm was established. Scores below Mean -1 Standard Deviation was considered low level, scores between Mean ± Standard Deviation were considered the average level and scores above Mean +1 Standard Deviation were considered a high level for each dimension.

Then taking all the dimensions together the total score was found. Once again the scores below Mean and -1 Standard Deviation were considered to be having low level of performance appraisal effectiveness, scores between Mean ± 1 Standard Deviation were considered to be having average level of performance appraisal effectiveness and scores above Mean and +1 Standard Deviation were considered to be having high level of performance appraisal effectiveness.

Conclusion

This study was done to construct and validate an attitude scale for prospective teachers to find out their attitude towards ICT Awareness in teaching. This scale has been found to be reliable and valid in terms of face and content validity. Moreover, norms have been established which serves as a frame of reference for interpreting the obtained scores. Therefore, this

test is reliable and valid which can be used by Teacher Training Institutes, Teacher Educators or individuals who are interested in finding out the attitude of teachers towards ICT Awareness in teaching.

References

Best, W., John and Kahn, V.J. (2006). Research in Education. PHI Learning Private Limited, India

Brooks, J.G. and Brooks, M.G. (1993). In search of understanding: The case of constructivist classrooms. Alexandria, V.A: Association for Supervision and Development.

Edwards and Allen, L. (1957). Techniques of Attitude Scale Construction. Prentice-Hall, Inc., New Jersey.

Evrekl, E., İnel, D., Balim, G.A. and Esercioğlu, T. (2009). An Opinion Scale of Constructivist Approach for Prospective Science Teachers: A Study of Validity and Reliability, Journal of Turkish Science Education, 6(2). Retrieved on 07/12/2017 from http://www.academia.edu/

Garrett, H.E. and Woodworth, S.R. (1966). Statistics in Psychology and Education. David McKay Company. Inc, New York.

Koul, L. (2009). The methodology of Educational Research. Vikas Publishing House Pvt. Ltd., India.

NCERT. (2005). National Curriculum framework-2005.Publishing department, New Delhi: NCERT.

Rainer, Julie, D. (2002). Reframing Teacher Education-

Dimensions of Constructivist Approach. Kendall/Hunt Publishing Company, United States of America.

●●●

Science and Technology Teachers' Views of Primary School Science and Technology Curriculum

Dr. Shadma Shahin

Abstract

This phenomenographic study attempts to explicit science and technology teachers' views of primary school science and technology curriculum. Participants of the study were selected through opportunistic sampling and consisted of 30 science and technology teachers teaching in primary schools in Patna. Data were collected through an open-ended question form, and content analyzed. The reliability was computed as 97%. Findings revealed that there are four themes generated; "a glance at the goals of primary school science and technology curriculum", "a glance at the content of primary school science and technology curriculum", "a glance at the teaching-learning process of primary school science and technology curriculum" and "a glance at the evaluation process of primary school science and technology curriculum". Participants' views were discussed under these themes.

Key words: Constructivism, Primary school science, technology curriculum, Science and technology teachers.

Introduction

The school is considered to be the second social establishment after the family became of its effects on the child. It prepares him for his future life by discovering his abilities and offering him scientific, educational program to evolve those abilities and, provides for the individual self and social security, as it

was capable of understanding the condition of scientific technology evolution and educational innovations. It offers knowledge, the modern scientific method, as well as being capable of evolving the sociable level to the point that made it the central to the social and psychology radiator. (Al-Hayani 1989). A need of developing 21st century's manpower skills requires students to gain experience through activities, experiments, and research. Therefore, science classrooms should provide students learning environments that contribute to their development of life skills. Science teachers should provide opportunities for their students to make them adapt to others' works and ideas, solve problems, cope with works assigned, think through technical terms, and share their results (Bybee, 2010). All these can be achieved through development of contemporary curricula. Therefore, many countries have begun to consider more contemporary teaching-learning approaches such as constructivism, multiple-intelligence theory, etc., and have changed their education systems.

The elements of a curriculum are goals, content, teaching-learning process, and evaluation, and all these elements are interrelated (Varış, 1998; Demirel, 2007).

The purpose of this study is to locate difference between the opinions of primary teachers on new science and technology curriculum, in terms of planning, applying and evaluating the curriculum. In accordance with this aim, the questions below were tried to be answered:

1. What are science and technology teachers' views of congruence between goals of primary school science

and technology course and the new curriculum?

2. What are science and technology teachers' views of changes in the teaching-learning process proposed by the new curriculum?

3. What are science and technology teachers' views of changes in the evaluation process proposed by the new curriculum?

Method

Phenomenography method was employed in this study. Phenomenography is an empirical technique used in educational research that aims at uncovering the individual ways of experiences, conceptualizations, perceptions and understandings about different events (Marton and Booth, 1997). The individual or the object, which is the subject of the research, is tried to be defined within its own conditions and just like the way it is. No effort is made to change them in no way. There is a thing which needs to be known and it is there. What matters is to observe and determine it in the most appropriate way (Karasar, 2009). Since the purpose of the study is to reveal the opinions of primary school teachers relating science and technology curriculum, this method was chosen. The study was conducted with class teachers and branch teachers who work in primary schools 2016 and 2017. Participation was based on voluntariness and opinions of 30 science and technology teachers (21 females and 9 males) teaching in primary schools in Patna, Bihar. Data were collected through an open-ended question form developed by the researcher. In order to establish internal consistency of the question form, four field experts reviewed the form. Items in the form were rearranged based on their evaluation, and the

number of items was limited to three. These items are as follows:

1. How do you make connections between the goals of primary school science and technology course and the new curriculum?
2. What are proposed changes in the teaching-learning process of the new curriculum?
3. What are proposed changes in the evaluation process of the new curriculum?

Expert opinions relating the prepared question forms were taken and its validation was provided with the reliability of the form was found as 97%.

In this study, the question forms filled by the participants were numbered from one to thirty. Then, each form was reviewed and participants' responses were coded. In the coding process, another expert was also involved . Next, coding of the researcher and of independent coder were compared. At the final stage of the analysis, four themes were generated as follows: "a glance at the goals of primary school science and technology curriculum", "a glance at the content of primary school science and technology curriculum", "a glance at the teaching-learning process of primary school science and technology curriculum" and "a glance at the evaluation process of primary school science and technology curriculum". Findings were presented under these headings with direct quotes indicated by numbers assigned to the related participants. (For instance, T_1 and T_5)

Findings

The themes, sub-themes and related categories developed as a result of the analysis are given in Table 1.

Table 1. Participants' overall views of primary school science and technology curriculum

Themes	Sub-themes	Categories
Goals of the science and technology curriculum	Living beings and life Matter and change Physical events Earth and universe Scientific process skills Science-Technology-Society-Environment Attitudes and values	Living beings and natural events Nature and universe Higher order thinking skills Scientific psychomotor skills Connections between daily life and science Science and technology literacy Environmental awareness Science-related occupations Creativity Curiosity Sensitivity Empathy Self-knowledge
Contents of the science and technology curriculum		Connections between daily life and science Activity-based topics Encouraging thinking and reasoning Presentations free from rote memorizatior
Teaching-learning process of the science and technology curriculum	Advantages Disadvantages	Student-centered Novice methods and techniques Positive attitudes towards the course Joyful and entertaining courses for both learners and teachers Hard to use when prior knowledge of students is not enough Needs time to make it conventional Does not sensitive to cultural differences
Evaluation process of the science and technology curriculum	Advantages Disadvantages	Objective Process evaluation Variety of measurement tools Time consuming Demanding Crowded classes Difficult to use when students' background knowledge is not enough Students and parents are not aware of the significance of alternative evaluation approaches Insufficient introduction of methods and techniques

Findings Related to the "goals of the science and technology curriculum"

As seen in Table 1, participants' views regarding the first theme, namely *goals of the science and technology curriculum*, was grouped under four sub-themes: *Living beings and life, Matter and change, Physical events, Earth and universe, scientific process skills, Science-Technology-Society-Environment, and Attitudes and values.*

Table 2. Sub-themes and categories under the theme, "goals of the science and technology curriculum"

Sub-themes	Categories	f
Living beings and life	Living beings and natural events	1
Matter and change	Nature and universe	1
Physical events		
Earth and univers		
Scientific Process Skills	Higher order thinking skills	13
	Scientific psychomotor skills	5
Science-Technology-Society Environment	Connections between daily life and science	12
	Science and technology literacy	8
	Environmental awareness	5
	Science-related occupations	4
Attitudes and Values	Creativity	7
	Curiosity	2
	Sensitivity	1
	Empathy	1
	Self-knowledge	1

It was found that intended learning outcomes related to the sub-themes, Living beings and life, Matter and change, Physical events, and Earth and universe were less addressed by the participants.

Findings Related to the "Content of the science and technology curriculum"

Table 3. Categories under the theme, content of the science and technology curriculum

Categories	f
Connections between daily life and science	7
Activity-based topics	5
Encouraging thinking and reasoning	5
Presentations free from rote memoriza	3

The participants reported that science and technology curriculum involves connections between science and daily life activities. The participants stated that primary school science and technology curriculum provides students opportunities to take part in many activities. They argued that such activities are important and useful in delivering the content. While talking about the content of the new curriculum, the participants stated that it encourages students' thinking and reasoning.

Findings Related to the "Teaching-learning process of the science and technology curriculum"

Table 4. Sub-themes and categories under the theme, teaching-learning process of the science and technology curriculum

Sub-themes	Categories	f
Positive aspects	Student-cantered	11
	Joyful and entertaining courses for learners	9
	Positive attitudes towards the course	5
	Joyful and entertaining courses for both teachers	5
	Novice methods and techniques	3
Negative aspects	Hard to use when prior knowledge of students is not enough	4
	Needing time to make it conventional	2
	Does not sensitive to cultural differences	2

The participants pointed out that there are many positive aspects of the teaching-learning process of the new curriculum. They also stated that novice learning methods and techniques should be used in order to implement the curriculum better. The participants also mentioned that courses have become joyful and attractive for both teachers and their students after the implementation of the curriculum, and that students have developed more positive attitudes towards the course.

On the other hand, the participants stated several negative aspects of the new curriculum regarding the teaching-learning process.

Findings Related to the "Evaluation process of the science and technology curriculum"

Table 5. Sub-themes and categories under the theme, evaluation process of the science and technology curriculum

Sub-themes	Categories	f
Positive aspects	Objective	9
	Process evaluation	5
	Variety of measurement tools	4
Negative aspects	Time consuming	7
	Demanding	7
	Students and parents are not aware of the significance of alternative evaluation approach	7
	Insufficient introduction of methods and techniques	5
	Hard to use in crowded classes	2

Participants stated that there are many positive aspects of the evaluation process of the new curriculum. More specifically, they argued that students, by means of rubrics, are informed about how their learning will be evaluated that makes the evaluation process more objective. In addition, participants pointed out that the evaluation process of the new curriculum deals with the learning process rather than learning outcomes. Participants also regarded the use of various measurement tools in the evaluation process of the new curriculum as a positive change. On the other hand, participants stated several negative aspects of the new curriculum regarding the evaluation process. Participants frequently argued that the use of the evaluation process is demanding and time consuming since classrooms are crowded.

Results and Conclusion

The study deals with the views of science and technology teachers of the new primary school science and technology curriculum. Their views are categorized under four themes: "a glance at the goals of primary school science and technology curriculum", "a glance at the content of primary school science and technology curriculum", "a glance at the teaching-learning process of primary school science and technology curriculum" and "a glance at the evaluation process of primary school science and technology curriculum".

Science and technology teachers taking part in the study were generally pleased with the goals and content of the curriculum while interestingly; they had some concerns about the teaching-learning process and evaluation process of the curriculum. It is seen that negative views were about teaching practice and that participants were in a need of professional help. This finding is consistent with that of previous studies, including Ponte et al. (1994), Manouchehri (1998) and Labate (2007). Although the curriculum is effective for some years, there are still problems experienced by teachers. The reason for such problems may be that mostly theoretical courses are given to the teachers rather than practice-oriented ones during their in-service training, and that teachers have some prejudices against the curriculum. Roehrig and Kruse (2005) also had similar arguments in their study.

In conclusion, the goals of the curriculum, participants commonly argued that intended learning outcomes stated in the curriculum, particularly those related to skills and attitudes, are appropriate for students' developmental stage. They further stated that the curriculum supports scientific

process skills of the students, their understanding about the relationships between scientific topics and daily-life activities, and science and technology literacy. However, they also argued that the curriculum cannot be easily developed if the prior knowledge of students is not sufficient, and hence the curriculum does not address all students with different cultural backgrounds. The characteristics of the evaluation process of the curriculum, namely more objective measurement, evaluation of the learning process, and use of various measurement tools are regarded as positive by the participants. On the other hand, the following points are regarded by the participants as negative: use of alternative measurement tools is time consuming, demanding and hard if the classroom is overcrowded. Furthermore, participants were found to have complaints about not being fully informed about use of alternative measurement methods and techniques.

Recommendations

Considering the results of this study; the attitudes of teachers and administrators towards curriculums should be positively developed in order to plan and apply the curriculums more efficiently. The arrangement of more effective and long-term science and technology courses can be recommended as a solution. Giving applied examples in the arranged science and technology courses both for applying alternative measurement and introducing assessment-evaluation methods and techniques may be helpful in making teachers more familiar with the curriculum and adopting it as a result. These kinds of difficulties which are encountered in conducting science and technology courses can be eliminated via in-service training activities that are prepared in

accordance with the purpose.

References

Al-Hayati,A. (1989). Educational and Psychological Counselling. Dar-Alkotob, Mosel,Iraq.(Arabic Texe

Bybee, R. W. (2010). *The teaching of science: 21st century perspectives.* Virginia: NSTA Press.

Labate, H. (2007). Science education: a (pending) chapter in the curriculum transformation in Argentina. *Prospects, 37*,469-488.

Manouchehri, A. (1998). Mathematics curriculum reform and teachers: what are the dilemmas?. *Journal of teacher education, 49*(4), 276-286.

Marton, F., & Booth, S. (1997). *Learning and Awareness*. New Jersey: Lawerence Erlbaum Associates. Karasar, N., (2009), *Scientific Research Method* (20rd et), Ankara (Chapter 2).

Ponte, J. P., Matos, J. F., Guimarães, H. M., Leal, L. C., & Canavarro, A. P. (1994). Teachers' and students' views and attitudes towards a new mathematics curriculum: A case study. *Educational Studies in Mathematics, 26*(4), 347-365.

Roehrig, G. H. & Kruse, R. A. (2005). The Role of Teachers' Beliefs and Knowledge in the Adoption of a Reform-Based Curriculum. *School Science and Mathematics, 105*(8), 412-422.

●●●

EMOTIONAL INTELLIGENCE AND SCHOOL ADJUSTMENT OF HO TRIBE HIGH SCHOOL STUDENTS OF JHARKHAND

Dr. (Fr.) P. Anthony Raj SJ

Abstract

Emotional intelligence skill is malleable and adaptable. Adjustment depends on various learnt skills in the familial and social context. School going tribal children gets adjusted with cross-cultural and ethnic situation because they bring it with them as they enter the school premises. The Ho tribe children are very simple and they love to see the complex reality in simpler fashion. In this paper, it is examined whether there exists any significant differences in their emotional intelligence as well as in their school adjustment with respect to their sex, class and medium of studies as to help parents, teachers and public to understand the world of Ho tribe school children to guide and help them. The finding shows that there is no significant difference in the school adjustment and emotional intelligence with respect to their sex ,class or medium of study.

Key Words: Emotional Intelligence, School Adjustment, Ho tribe

INTRODUCTION

In our fast changing landscape of education, it is the relationship that matters, so as to determine success story of a person irrespective of his/her given academic capabilities. Relationship requires soft life coping skills as well as emotional intelligence skills. Emotional intelligence skill is malleable and adaptable. The adaptable quality of species is the historical theses of Charles Darwin. Animal adopts and

human beings adjust. At times, adjustment is synonymously used with adaptation and accommodation. But, the Psychologists disagree to take this concept in the way we mistakenly use.

As human being, we adjust to the demands of the environment. This adjustable skill is tested in and through one's emotional intelligence skills. Lack of good intra and inter personal skills could either build up or break down social skills of an individual. An individual's adjustment skill begins from womb and ends in tomb. No doubt, the home yard and school yard gives an individual the optimal space and pace to grow and develop, but aAlso fine tune and sharpen his social skills – such as relationship, communication, decision making and networking.

Adjustment depends on various learnt skills in the familial and social context. School going tribal children gets adjusted with cross-cultural and ethnic situation because they bring it with them as they enter the school premises. The Ho tribe children are very simple and they love to see the complex reality in simpler fashion. The group cohesiveness and bonding among themselves help them a lot to adjust. Though the studies show that there isn't a significant correlation between emotional intelligence and school adjustment, their very nature of being simple and innocent help them to easily situate themselves and adjust.

In this paper, it is examined whether there direct relationship exist between these two important skills – emotional intelligence skills and school adjustment skill – or not in reference to the Ho Tribe Students in Jharkhand as to help

parents, teachers and public to understand the world of Ho tribe school children to guide and help them.

SIGNIFICANCE OF THE STUDY:

Of all given social groups, it is the school children, who go through several changes as they move up from one grade to another. This adjustment challenges spring from their new set of teachers, new classrooms, set of class rules, academic performance expectations, peer groups and workload. The ability to negotiate these changes predicts one's success. School adjustment has been construed historically in terms of children's academic progress or achievement (Birch & Ladd, 1996). A well adjustment student will be having a happy experience. For this, he/she needs to resort to his/her inner emotional intelligence. Hence, school adjustment is directly related to one's emotional intelligence. But, this skill has to be developed and nurtured through out schooling and beyond. This brings forth bonding between school and to the individual. Thus this study here has tried to study the emotional intelligence and adjustment of the student belonging to Ho tribe for the better understanding of their psychology and for taking measures for improving their teaching learning situation.

REVIEW OF RELATED LITERATURE

Deep & Mathur (2017) have conducted a study on Emotional Intelligence, Adjustment and Quality of Interpersonal Relationship among Young Adults. Results and Implications: The empirical results showed that there is a significant relationship between Emotional intelligence and Interpersonal Relationship. People with high EI will possess

high IPR i.e. they are more emotionally stable which further helps to have positive relationships with others, on the other hand, statistically a significant correlation could not be found between emotional intelligence and adjustment.

Amin, Patel, Payal and Srivastava (2016) did a study on finding out the levels of emotional intelligence and adjustment among adolescents. The results reveal that insignificant difference was found between emotional intelligence scores of boys and girls while as significant difference was found between adjustment scores of the same group. Also insignificant difference was found between emotional intelligence scores & adjustment scores of HSES and LSES students.

Chen, Lin & Tu (2006) studied on emotional intelligence and life adjustment of senior high school students. In the process of educating adolescents, good emotional development and the life adjustment are two significant factors for teachers to know. Significant differences were found between those students in Taiwan and Anhui province in China concerning emotional intelligence (EI) and life adjustment (LA). Also, with different background variables, senior high school students in Taiwan did not show significant differences in EI, but their parenting style revealed significant differences for LA. Furthermore, with different background variables, only the factor of parents' marital status was not significantly different in the EI of senior high school students in Anhui. Birth order showed no significant difference in those students' EI. A positive and modest correlation was found between the EI and LA scores for students in both Taiwan and Anhui. Finally, from the findings of this study, the researchers provide some

recommendations for educators to refer to. It can be concluded that such a survey should be made available to all students in order to enhance their performance in the fields of EI and LA.

Sharma, Prabhakar and Madnavat (2013) did a study on a study of relationship between emotional maturity & adjustment for school students. The findings were: 1. Boys and Girls are equal in adjustment and emotional Maturity: Findings of the present investigation are that the boys and girls studying in secondary classes were not significantly differing in their adjustment and emotional maturity. Findings reveal that there was no significant correlation among adjustment and emotional maturity of students studying in secondary classes.

STATEMENT OF THE PROBLEM:

Emotional Intelligence and School Adjustment of Ho tribe High School students of Jharkhand

SPECIFIC OBJECTIVES OF THE STUDY:

1. To find out whether there is any significant difference between Boys and Girls of Ho tribal students in their adjustment score.
2. To find out whether there is any significant difference between Boys and Girls of Ho tribal students in their emotional intelligence score.
3. To find out whether there is any significant difference between Class IX and Class X Ho tribal students in their adjustment score.
4. To find out whether there is any significant difference between Class IX and Class X Ho tribal students in their

emotional intelligence.

5. To find out whether there is any significant difference between Hindi medium and English medium Ho tribal students in their adjustment score.
6. To find out whether there is any significant difference between Hindi medium and English medium Ho tribal students in their emotional intelligence.

NULL HYPOTHESES:

1. There is no significant difference between Boys and Girls Ho tribal students in their adjustment score.
2. There is no significant difference between Boys and Girls Ho tribal students in their emotional intelligence score.
3. There is no significant difference between Class IX and Class X Ho tribal students in their adjustment score.
4. There is no significant difference between Class IX and Class X Ho tribal students in their emotional intelligence.
5. There is no significant difference between Hindi medium and English medium Ho tribal students in their adjustment score.
6. There is no significant difference between Hindi medium and English medium Ho tribal students in their emotional intelligence.

METHOD ADOPTED:

In any investigation, the method employed is dependent upon the nature of the problem. Since the nature of the problem selected for the present study in concerned with survey type, so the investigator adopted the survey method for the study.

POPULATION:

The population is the School going High School children of Hindi and English Medium Schools geographically located in East Sighbhum district of Jharkhand. The study is made among Ho tribe children, whose domicile is limited to this district alone.

SAMPLE:

There are many governments, private and missionary schools in East Sighbhum district of Jharkand, out of which the investigator has randomly selected schools. The investigator has randomly selected 440 students from these schools. These samples were categorized on the basis of sex, medium, and type of the school.

TOOLS USED IN THE STUDY:

Following tools were used:

I. Personal data sheet
II. A standardized tool to measure School Adjustment score by Prof. A.K.P. Sinha (Patna) and Prof. R.P. Singh (Patna).
III. A standardized tool to measure Emotional Intelligence score by Dr. Arun Kumar Singh (Patna) & Dr. Shruti Narain (Patna)

STATISTICAL TREATMENT:

The data were collected and analyzed by using mean, standard deviation and t-test.

LIMITATIONS OF THE STUDY:

i) The present study was limited to East Singbhum district of Kolhan division.

ii) The data collection was done on 440 Ho tribe students for the study.

iii) The study has been limited to two variables: Emotional intelligence and School Adjustment of Ho tribe students.

RESULTS AND DISCUSSION

H_1 - There is no significant difference between Boys and Girls Ho tribal students in their adjustment score.

Table-1

Gender	N	Mean	S.D.	t-value	Remarks
Boys	273	18.88	5.65	0.07	NS
Girls	167	18.92	5.75		

(NS* means not significant)

It is inferred from the table 1 that the t-value is 0.07 which is less than the table value 1.96 at 0.05 level of significance. Hence the null hypothesis is accepted. It means there is no significant difference in mean scores between Boys and Girls Ho tribal students in their adjustment.

H_2 - There is no significant difference between Boys and Girls

Ho tribal students in their emotional intelligence score.

Table-2

Gender	N	Mean	S.D.	t-value	Remarks
Boys	273	22.34	5.23	1.91	NS
Girls	167	21.44	4.51		

(NS* means not significant)

It is inferred from the table 2 that the t-value is 1.91 which is less than the table value 1.96 at 0.05 level of significance. Hence the null hypothesis is accepted. It means there is no significant difference in mean scores between Boys and Girls Ho tribal students in their emotional intelligence .

H_3-There no significant difference between Class IX and Class X Ho tribal students in their adjustment score.

Table-3

CLASS	N	Mean	S.D.	t-value	Remarks
Class IX	230	18.8	5.38	0.375	NS
Class X	210	19.004	6.01		

(NS* means not significant)

It is inferred from the table 3 that the t-value is 0.375

which is less than the table value 1.96 at 0.05 level of significance. Hence the null hypothesis is accepted. It means there is no significant difference in mean scores between Class IX and Class X Ho tribal students in their adjustment.

H_4-There is no significant difference between Class IX and Class X Ho tribal students in their emotional intelligence.

Table-4

CLASS	N	Mean	S.D.	t-value	Remarks
Class IX	230	21.74	4.79	1.12	NS
Class X	210	22.28	5.17		

(NS* means not significant)

It is inferred from the table 4 that the t-value is 1.12 which is less than the table value 1.96 at 0.05 level of significance. Hence the null hypothesis is accepted. It means there is no significant difference in mean scores between Class IX and Class X Ho tribal students in their emotional intelligence.

H_5-There is no significant difference between Hindi medium and English medium Ho tribal students in their adjustment score.

Table-5

MEDIUM	N	Mean	S.D.	t-value	Remarks
HINDI	361	18.7	5.35	1.34	NS
ENGLISH	79	19.82	6.99		

(NS* means not significant)

It is inferred from the table 5 that the t-value is 1.34 which is less than the table value 1.96 at 0.05 level of significance. Hence the null hypothesis is accepted. It means there is no significant difference in mean scores between Hindi medium and English medium Ho tribal students in their adjustment.

$\mathbf{H_6}$ -There is no significant difference between Hindi medium and English medium Ho tribal students in their emotional intelligence

Table-6

MEDIUM	N	Mean	S.D.	t-value	Remarks
HINDI	361	22.08	4.96	0.73	NS
ENGLISH	79	21.62	5.06		

(NS* means not significant)

It is inferred from the table 6 that the t-value is 0.73 which is less than the table value 1.96 at 0.05 level of significance. Hence the null hypothesis is accepted. It means there is no significant difference in mean scores between Hindi medium and English

medium Ho tribal students in their emotional intelligence.

FINDINGS AND CONCLUSION:

1. The findings show that there is no difference between Ho tribe boys and girls with regard to their 1. School adjustment, 2. Emotional Intelligence. Studies conducted by Gakhar (2003), Meenakshi & Saurashtra (2003) and Kaur (2001) found no significant difference in the emotional maturity of boys and girls. Sharma (1982) and Sharma, Prabhakar and Madnavat (2013) found that boys and girls did not differ significantly on adjustment scores.

2. The finding shows that there is no difference between Ho tribe students of class IX and class X with regard to their mean score. However, the class X students are slightly better adjusted than class IX students. This is due to their number of years they have spend in school.

3. The analysis shows that there there is no significant difference in mean scores between Class IX and Class X tribal students in their emotional intelligence. However, the class X students' emotional intelligence is slightly better than class IX students. This could be attributed on account of their maturity in processing emotional content of information

4. The result shows that there is no significant difference in mean scores between Hindi medium and English medium tribal students in their adjustment. However, it indicates that English medium Ho tribe students are

better adjusted than their counter parts in Hindi Medium Schools.

5. The finding shows that there is no significant difference in mean scores between Hindi medium and English medium tribal students in their emotional intelligence. However, the Hindi School Ho tribe students show higher emotional intelligence ability than their counterparts. This may be due to their hard challenges faced in their surrounding and they have well adapted to such tough situation.

References

Amin, Patel, Payal and Srivastava, A.K. (2016). *Emotional Intelligence and Adjustment among Adolescents. EPRA International Journal of Multidisciplinary Research, Vol 1 Issue 2 Feb 2016. Retrieved from https://www.researchgate .net/publication/313287555*

Appadurai, A. (1996). *Modernity at large: Cultural Dimensions of Globalization*, New Delhi: Oxford University Press.

Bhushan, A. & et al. (1999). *The Tribal Scene in Jharkhand*, Patna.

Bar-On, R., & Parker, J.D.A. (Eds). (2000). *The Handbook of Emotional Intelligence*, San Francisco: Jossy-bass.

Bhandari, J.S. & et al. (1997). Tribes *and Government Policies*, India: Cosmo Publications.

Biman K., & et al. (1984). *Tribal Education in India*, Calcutta: Anthropological survey of India.

Bisht, B.S. (1994). *Tribes of India,* Nepal, Tibet Borderland, a study of cultural transformation, New Delhi: Gyan Publishing House.

Charurasia, B.P. (1990). *Scheduled castes and Scheduled Tribes in India,*

Chatterjee, A. & et al. (1927). *The Hos of Seraikella*, Calcutta: University of Calcutta.

Chirstoph, V.F. & et al (1985). *Tribes of India, the struggle for survival*, New Delhi: Oxford University Press.

Doongdoong, A. (2007). *The Kherias: Identity and Modernity*, Ranchi: Satya Bharati.

Deep, M. & Mathur, A. (2017). Emotional Intelligence, Adjustment and Quality of Interpersonal Relationship among Young Adults. International Journal of Indian Psychology, Vol. 5, (1), DIP: 18.01.111/20170501, DOI: 10.25215/0501.111

Farn Shing Chen, Ying Ming Lin & Chia An Tu. (2006). *A study of the emotional intelligence and life adjustment of senior high school students.* World Transactions on Engineering and Technology Education, retrieved from http://www.wiete.com.au/journals/WTE&TE/Pages/Vol.5,%20No.3%20(2006)/22_Chen37.pdf

Goleman, D. (1996). *Emotional Intelligence*, New York: Bantam Books.

Goleman, D. (1998). *Working with Emotional Intelligence*, New York: Bantam Books.

Goleman, D. (2001). *Emotional Intelligence*: Issues in Paradigm Building: Cherniss & Goleman, D (Eds), San Francisco: Jossy-Brass.

Goleman, D. (2006). *Social Intelligence*,Godavari, Parulekar. (1975). *Adivasis Revolt*, Calcutta: National Book Agency.

Gupta, J. P. (1993). *Determinants of Academic Achievement*, New Delhi: International Publishing House.

John, L. (2007). *Tribal Culture*, Ranchi: Catholic Press.

New York: Bantam Books.John, Mundu. (2003). *The Ho Christian Community towards a new understanding as Communion*, New Delhi: Media House.

Panda, B.N. (1996). *Tribal Education*, New Delhi: A.P.H. Publishing Corporation.

Saxena, A. (2002). *Dynamics of Tribal Education*, New Delhi: Rajat Publications, Allahabad: Chugh Publications.

Singh, A.K. & et al. (1995). *Tribals in India*, New Delhi: Har-Anand Publications.

Shukla, A. (2005). *Indian Tribes, A Psycho-Social Perspectives*, New Delhi: Kanishka Publishers.

Singh, B. (1995). *Tribal Education in India*, New Delhi: Inter-India Publications.

Sharma, R., Prabhakar, K. and A. V. S. Madnavat (2013) *A Study of Relationship between Emotional Maturity & Adjustment for School Students.* The International Journal of Indian Psychology ISSN 2348-5396 (e) | ISSN: 2349-3429 (p) Volume 1, Issue 1, Special Issue, DIP: 18.01.S01/20130101

WEBSITES:

www.krepublishers.com/.../JP-02-2-083-11-072-Punia-S-Tt.pdf

www.redalyc.org/pdf/2931/293121927004.pdf

shodhganga.inflibnet.ac.in/handle/10603/8345

iji.cgpublisher.com/product/pub.88/prod.892

www.academia.edu/.../The_Effectiveness_of_Emotional_Intelligence_Tr...

www.wiete.com.au/journals/WTE&TE/Pages/Vol.5.../22_Chen37.pdf

www.ccsenet.org/journal/index.php/ijps/article/viewFile/13338/9205

www.tarj.in/images/.../8.1,%20PROF.%20SUSHIL%20KUMAR.pdf

●●●

चौबीस गुरूओं से प्राप्त जीवन शिक्षा

विजय श्री

सार (Abstract)

जे. कृष्णमूर्ति के अनुसार शिक्षा वही है जो हमें जीना सिखाए। इसलिए सच्चा शिक्षक वही है जो हमें जीवन जीने की कला सिखाए। उदाहरणस्वरूप श्रीकृष्ण ने जीवन–मरण के महाभारत युद्ध में अपने शिष्य अर्जुन को गीता रूपी ज्ञान दिया और जीवन संग्राम में जीने की कला सिखायी। आदर्श गुरूओं के जीवन का अनुकरण कर शिष्य हमेशा ही अपने जीवन के लक्ष्य को प्राप्त करते हैं। परम तेजस्वी अवधूत दत्तात्रेय जी ने अपने चौबीस गुरूओं – पृथ्वी, वायु, आकाश, जल, अग्नि, चंद्रमा, सूर्य, कबूतर, अजगर, समुद्र, पतिंगा, भौंरा या मधुमक्खी, हाथी, शहद निकालने वाला, हरिन, मछली, पिंगला वेश्या, कुररपक्षी, बालक, कुँआरी कन्या, बाण बनानेवाला, साँप, मकड़ी और भृंगी कीट; से प्राप्त नैतिक शिक्षाओं के माध्यम से मानव कल्याण का मार्ग दिखाया है।

मूल शब्द (Key words) : शिक्षा, जीवन जीने की कला, चौबीस गुरू।

विश्व प्रसिद्ध दार्शनिक तथा आध्यात्मिक शिक्षक जे० कृष्णमूर्ति ने 'शिक्षा उसे ही माना है जो हमें जीना सिखाए।' आमतौर पर हम शिक्षा का सामान्य अर्थ स्कूल जाने, पढ़ना–लिखना सीखने, परीक्षाएँ पास करने, छोटी–मोटी डिग्री हासिल करने आदि से लेते हैं। इसी तरह सामान्य रूप से जीने का अर्थ हम नौकरी पा लेने, बच्चे पैदा करने, परिवार का पालन–पोषण करने, समाचार पत्रों एवं पत्रिकाओं को पढ़ने, बढ़–चढ़कर बातें कर सकने, सारी सुख सुविधाएँ जुटाने, मनोरंजन प्राप्त करने आदि से लगाते हैं। इसलिए जे० कृष्णमूर्ति ने अपनी पुस्तक 'शिक्षा क्या है' के माध्यम से सम्यक शिक्षा उसे कहा है जो विद्यार्थी की इस जीवन का सामना करने में मदद करे,

ताकि वह जीवन को समझ सके, उससे हार न मान ले, उसके बोझ तले न दबकर आगे बढ़े और कुछ नया करने में सक्षम हो सके। इसलिए वास्तविक शिक्षा वही है जो जीना सिखाए। जो व्यक्ति हमें शिक्षा के इस वास्तविक रूप से परिचित होकर प्रेरित करे वही शिक्षक कहलाने योग्य है।

हमारे भारतवर्ष में एक से बढ़कर एक महान गुरू और शिक्षक हुए हैं। जिन्होंने शिक्षा देने का पुनीत कार्य किया है। इसी क्रम में जगतगुरू कृष्ण (कृष्णं वन्दे जगतगुरूं) से लेकर वर्तमान काल के कई नए विचारधारा से प्रेरित होकर शिक्षण कार्य करने वाले नवीन शिक्षकों का नाम लिया जा सकता है। मानव के व्यक्तित्व के विकास तथा मानव निर्माण के कार्य को पूर्ण करने में शिक्षकों का ही हाथ रहा है। शिक्षकों ने नैतिक शिक्षा के माध्यम से शांति के लक्ष्य को पाने का हर संभव प्रयास किया है। महाभारत काल में भी श्रीकृष्ण ने शांतिदूत बनकर कौरव और पाण्डव के बीच के युद्ध को टालने का हरसंभव प्रयास किया था। लेकिन जब युद्ध आरंभ होने का समय आया और उनके प्रिय सखा अर्जुन को समझ में नहीं आ रहा था कि वे क्या करें ? उस समय भी श्रीकृष्ण ने गुरू बनकर अर्जुन रूपी शिष्य को गीता रूपी ज्ञान प्रदान किया। गीता के महात्मय में गीता की उपमा दूध से देते हुए वर्णित है कि–सारी उननिषदें गाय के समान है, गोपालनंदन श्रीकृष्ण उस गाय को दुहने वाले गोपालक हैं, अर्जुन गाय के बछड़े के समान है, महान गीतामृत ही उस गाय का दूध है जिसे शुद्ध बुद्धि वाला व्यक्ति ही ग्रहण करता हैः

सर्वोपनिषदो गावो दोग्धा गोपालनंदनः।
पार्थो वत्सः सुधीःभोक्ता दुग्धं गीतामृतं महत्।।

वर्तमान समय में जब भी हम क्या करें?क्या न करें?वाली स्थिति में होते हैं तो हमें गीता के माध्यम से सही मार्गदर्शन प्राप्त होता है। इसमें न केवल आध्यात्मिक शिक्षा, नैतिक शिक्षा आदि दी हुई है बल्कि मानव निर्माण की भी शिक्षा दी गई है। राज योग, ज्ञान योग, कर्मयोग, भक्तियोग आदि के माध्यम से विभिन्न रास्ते दिखाए गए हैं जिनपर अपनी पसंद के अनुसार चलकर मानव अपने जीवन लक्ष्य को प्राप्त कर सकता है। गीता में जीवन प्रबंधन के गुणों की चर्चा होने के कारण ही उच्च प्रबंधन संस्थानों में भी

गीता को पाठ्यक्रम में रखा गया है।

दर्शनशास्त्र की विभिन्न विचारधाराओं में से आदर्शवाद में गुरू को ईश्वर से भी बड़ा माना गया है क्योंकि ईश्वर का ज्ञान तो गुरू के ही माध्यम से शिष्य को प्राप्त होता है। इस संबंध में कबीर जी का दोहा विश्व प्रसिद्ध है–

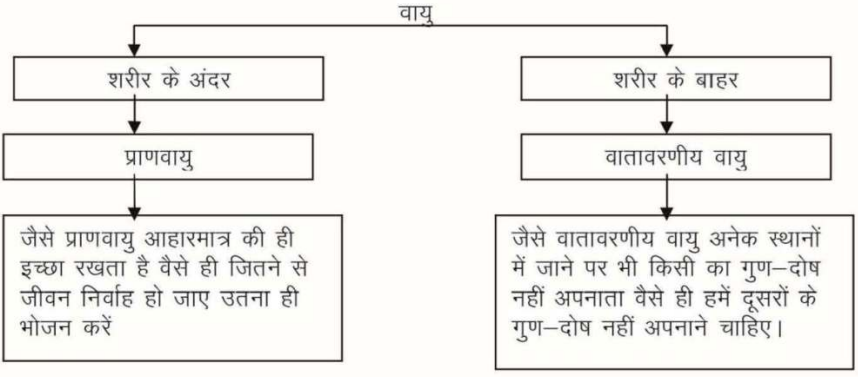
गुरू गोविंद दोऊ खड़े काके लागू पाय।
बलिहारी गुरू आपने जिन गोविंद दियो बताय।।

अर्थात् शिष्य के सामने उसके गुरू और गोविंद (ईश्वर) जब दोनो खड़े हो जाते हैं तो शिष्य दुविधा में पड़ जाता है कि सबसे पहले किसे प्रणाम करें?ऐसे में गोविंद उसे बताते हैं कि पहले गुरू को प्रणाम करो क्योंकि मेरा ज्ञान कराने वाले वे ही हैं। इस तरह से अपने गुरू के आदर्शो का अनुकरण कर शिष्य उत्तम मानवीय गुणों से युक्त होकर मानव सेवा के माध्यम से ईश्वर सेवा कर अपने मानव जीवन को सफल बनाता था।

दर्शनशास्त्र की प्रकृतिवादी विचारधारा के अनुसार प्रकृति ही महान् शिक्षक है। यदि कोई सीखने को तैयार हो तो प्रकृति के कण–कण से जीवन मूल्यों को सीख सकता है। इस संबंध में श्रीमद्भागवत के एकादश स्कन्ध में वर्णित दत्तात्रेय जी और उनके चौबीस गुरूओं की कथा उल्लेखनीय है। दत्तात्रेय जी ने जिन चौबीस गुरूओं से शिक्षा ग्रहण की उनके नाम और उनसे ग्रहण की हुई शिक्षा निम्नलिखित हैः

1. **पृथ्वी**– पृथ्वी से उसके धैर्य और क्षमा की शिक्षा ली। लोग पृथ्वी पर कितना आघात और क्या–क्या उत्पात नहीं करते पर वह किसी से न तो बदला लेती है और न रोती चिल्लाती है। वैसे ही मनुष्य को अपने कार्य करते हुए अपना धैर्य बनाए रखना चाहिए और किसी से बदले की भावना न रखते हुए क्षमादान कर शांति बनाए रखना चाहिए। पृथ्वी से उत्पन्न पर्वत और पेड़ के समान ही सदा परोपकार करना चाहिए।

2. **वायु**– वायु दो तरह की होती है:



3. **आकाश**– जैसे आकाश एक और अखण्ड ही है वैसे ही अनेक शरीर में आत्मारूप से ब्रह्म एक और अखण्ड है। इसलिए हमें आत्मा की आकाशरूपता की भावना करनी चाहिए।

4. **जल**– जैसे जल अपने स्वभाव से ही स्वच्छ, चिकना, मधुर और पवित्र करने वाला होता है वैसे ही व्यक्ति को भी स्वभाव से ही शुद्ध, सरल, मधुरभाषी और लोकपावन होना चाहिए। जैसे गंगा, यमुना, आदि पवित्र नदियों के नाम लेने, दर्शन करने, छूने, पीने आदि से लोग पवित्र हो जाते हैं वैसे ही जल के गुण को ग्रहण करने वाले व्यक्ति के नाम, दर्शन, स्पर्श तथा विचार को ग्रहण कर उसके अनुसार जीवन जीने से अन्य लोग भी पवित्र हो जाते हैं।

5. **अग्नि**– जैसे अग्नि तेजस्वी और ज्योतिर्मय होती है, जिसे कोई दूसरा अपने तेज से दबा नहीं सकता, वह सबकुछ खा–पीकर अपने पेट में रख लेती है पर विभिन्न वस्तुओं का गुण–दोष नहीं लेती। वैसे ही व्यक्ति को परम तेजस्वी, तपस्या से कांतिमान, मन और इन्द्रियों को वश में रखते हुए किसी का गुण–दोष अपने में नहीं आने देना चाहिए।

6. **चंद्रमा**– जिस प्रकार चंद्रमा की कलाओं के घटने–बढ़ने से चंद्रमा में

कोई अंतर नहीं पड़ता उसी प्रकार मानव जन्म से लेकर मृत्यु तक विभिन्न अवस्थाओं से गुजरता है पर उसकी आत्मा में कोई अंतर नहीं आता। मानव चंद्रमा से यह सीख लेकर अपनी आत्मा की शांति व शीतलता का हर पल अनुभव व आनंद ले सकता है ।

7. **सूर्य**– जैसे सूर्य अपनी किरणों से पृथ्वी का जल लेकर समय पर उसे बरसा देते हैं वैसे ही व्यक्ति को इन्द्रियों द्वारा विषयों का ग्रहण कर समय आने पर उसका त्याग अथवा उसका दान दूसरे को कर देना चाहिए। आत्मा सूर्य के समान है इसलिए सबमें अपनी आत्मा को देखते हुए तथा अपनी आत्मा में सबको देखते हुए अच्छा व्यवहार करना चाहिए ।

8. **कबूतर**– जिस प्रकार कबूतर अपनी घर–गृहस्थी में अत्यंत आसक्त होकर अंत में बहेलिए की जाल में बच्चे, पत्नी के साथ खुद भी जान गँवा देता है। उसी प्रकार मनुष्य को कहीं किसी के साथ अत्यंत स्नेह व आसक्ति नहीं करनी चाहिए। जो अपने परिवार में आसक्त होकर उनके भरण–पोषण में ही सारी सुध–बुध खो बैठता है, उसे कबूतर की तरह कभी शांति नहीं मिल सकती। यह मनुष्य शरीर मुक्ति का खुला हुआ द्वार है। इसलिए मानव शरीर पाकर केवल अपनी घर–गृहस्थी के जाल में ही नहीं फँसना चाहिए बल्कि, जन्म–मृत्यु के चक्र से बाहर आने का भी प्रयास करना चाहिए।

9. **अजगर**– जिस प्रकार अजगर को भोजन मिले या न मिले तो भी वह संतुष्ट रहता है उसी प्रकार बुद्धिमान मनुष्य को चाहे जैसा भी रूखा–सूखा, स्वादिष्ट, थोड़ा–अधिक आदि भोजन या कर्मफल मिले उसमें संतुष्ट रहना चाहिए।

10. **समुद्र**– जिस प्रकार ज्वार–भाटे और तरंगों से रहित समुद्र शांत रहता है, न तो नदियों के बाढ़ से बढ़ता है, न ही गर्मी से घटता है। उसी प्रकार व्यक्ति को हमेशा प्रसन्न, गंभीर और शांत रहना चाहिए,

सांसारिक पदार्थों के बढ़ने या घटने से प्रभावित न होते हुए अपनी मर्यादा का हमेशा पालन करना चाहिए। मानव को अपना भाव समुद्र के समान ही अथाह, अपार और असीम रखना चाहिए। जैसे समुद्र अपने पास कुछ न रखकर लहरों से किनारे पर वस्तुओं को ला देता है वैसे ही मानव को अपनी वस्तुओं व क्षमताओं से संसार के लोगों का भला करना चाहिए।

11. **पतिंगा**– जिस प्रकार पतिंगा रूप पर मोहित होकर आग में जल मरता है उसी प्रकार मानव को किसी के रूप पर मोहित होकर, अपनी विवेकबुद्धि खोकर पतिंगे की तरह नष्ट नहीं होना चाहिए बल्कि इन्द्रियों को वश में रखने का प्रयास करना चाहिए।

12. **भौंरा या मधुमक्खी**– जिस प्रकार मधुमक्खी या भौंरा विभिन्न फूलों से सार संग्रह करता है उसी प्रकार मानव को विभिन्न ग्रंथों, शास्त्रों आदि से सार बातें ग्रहण करनी चाहिए। मधुमक्खी से यह शिक्षा लेनी चाहिए कि संन्यासी को कभी संग्रह नहीं करना चाहिए नहीं तो वह मधुमक्खियों के समान अपने संग्रह के साथ ही जीवन भी गँवा बैठेगा।

13. **हाथी**– जैसे हथिनी के अंग–संग से हाथी बंध जाता है वैसे मनुष्य को कभी भी विषयों (काम, क्रोध, मद, लोभ व मोह) से नहीं बंधना चाहिए।

14. **शहद निकालनेवाला**– जैसे शहद निकालने वाला व्यक्ति, मधुमक्खियों द्वारा संचित रस को निकाल ले जाता है वैसे ही संसार के लोभी व्यक्ति जो बड़ी कठिनाई से अपने धन का संचय तो करते रहते हैं पर दान व स्वयं उपभोग नहीं करते उनका संचित धन दूसरे धन के लोभी व्यक्ति ठग कर ले जाते हैं।
15. **हरिन**– जिस प्रकार हरिन व्याध के गीत से मोहित होकर बंध जाता है और फिर अंत में मारा जाता है उसी प्रकार मनुष्य को विषय–संबंधी गीत नहीं सुनना चाहिए नहीं तो वह विषय भोगों के बंधन में बंधकर अपना जीवन नष्ट कर देगा।

16. **मछली**– जैसे मछली काँटे में लगे हुए माँस के टुकड़े के लोभ से अपने प्राण गँवा देती है, वैसे ही स्वाद का लोभी मनुष्य अपनी जीभ के वश में होकर मारा जाता है। इसलिए मनुष्य को अपनी रसना–इन्द्रिय को वश में रखने का प्रयास करना चाहिए। यदि किसी मनुष्य ने रसनेन्द्रिय को वश में कर लिया तब अन्य सभी इन्द्रियाँ स्वतः ही उसके वश में हो जाती है और वह जितेन्द्रिय कहलाता है।

17. **पिंगला वेश्या**– जिस प्रकार पिंगला वेश्या ने वैराग्य द्वारा अपने शरीर, रूप, धन आदि की आसक्ति को त्यागकर अपने आत्मस्वरूप हृदयेश्वर परमात्मा से प्रेम कर परमानंद तथा शांति को प्राप्त किया। उसी प्रकार मनुष्य को वैराग्य के द्वारा ही अपने शरीर, रूप, अहंकार, घर, पद, काम, क्रोध, मद, लोभ, मोह आदि के सब बंधनों को काटकर अपने हृदय में उपस्थित परमेश्वर से प्रेम करना चाहिए। इससे उसे परमात्मप्रेम, आनंद तथा शांति की प्राप्ति होती है।

18. **कुररपक्षी**– एक कुररपक्षी मांस का टुकड़ा लिए उड़ रहा था जिसे उससे छीनने के लिए अन्य बलवान पक्षी उसे घेरकर चोंच मारने लगे। जैसे ही कुररपक्षी ने अपनी चोंच से मांस का टुकड़ा फेंक दिया तो दूसरे पक्षी ने उठा लिया तब अन्य सभी पक्षी उस दूसरे पक्षी के पीछे पड़ गए और कुररपक्षी ने विश्राम कर सुख–शांति प्राप्त की। इस कुररपक्षी से मनुष्य को यह सीख लेनी चाहिए कि सांसारिक भोगों को त्याग कर ही सुख मिलता है। जो वस्तुएँ अत्यन्त प्रिय लगती हैं, उन्हें इकट्ठा करना ही मनुष्य के दुःख का कारण है जिसे त्यागकर ही उसे सुख–शांति मिल सकती है।

19. **बालक**– जिस प्रकार छोटा सा बालक इस संसार में मौज से रहता है उसी प्रकार मनुष्य को मान–अपमान, सुख–दुख, घर–परिवार की चिंता आदि को छोड़कर अपनी आत्मा में ही रमते हुए अपने साथ ही खेल में मग्न रहना चाहिए। इस संसार में दो ही प्रकार के व्यक्ति

निश्चिन्त और परमानंद में मग्न रहते हैं– एक तो भोलाभाला नन्हा सा बालक और दूसरा गुणातीत (सत्व, रज और तम से रहित) व्यक्ति।

20. **कुँआरी कन्या**– जिस प्रकार कुमारी कन्या ने अपनी एक–एक कर शोर करने वाली सारी चूड़ियाँ तोड़ दी और केवल एक–एक चूड़ी ही रहने दी जिससे घर के कार्य करने में सुविधा हो। उसी प्रकार व्यक्ति को कुमारी कन्या की चूड़ी के समान अकेले ही साधना करनी चाहिए तभी वह अपने लक्ष्य को प्राप्त करेगा। जब बहुत लोग एक साथ रहते हैं तब कलह होता है और दो आदमी साथ रहते हैं तब भी बातचीत तो होती ही है। इसलिए व्यक्ति को एकांत साधना करनी चाहिए।

21. **बाण बनानेवाला**– जिस प्रकार बाण बनानेवाला कारीगर बाण बनाने में इतना तन्मय हो गया कि उसके पास से ही राजा की सवारी निकल गयी और उसे पता तक नहीं चला। उसी प्रकार मनुष्य को अपना हर काम पूरी तन्मयता के साथ करना चाहिए। अपने ध्यान को पूरी तरह लक्ष्य प्राप्ति की ओर रखना चाहिए।

22. **साँप**– जिस प्रकार साँप दूसरों के बनाए घर में घुसकर बड़े आराम से अपना समय बिताता है उसी प्रकार संन्यासी को अकेले ही विचरण करना चाहिए। उसे मंडली, मठ आदि नहीं बनाना चाहिए। वह एक स्थान में न रहते हुए अकेले विचरण करता रहे। उसे प्राकृतिक गुफा में रहकर एकांत साधना करनी चाहिए। उसे किसी से सहायता नहीं लेनी चाहिए बल्कि दूसरों की सहायता हो सके तो कर देनी चाहिए। उसे फालतू बातें न करते हुए बहुत कम बोलना चाहिए।

23. **मकड़ी**– जिस प्रकार मकड़ी अपने अंदर से मुँह के द्वारा जाला फैलाती है, उसी में विहार करती है और फिर उसे निगल जाती है। उसी प्रकार परमात्मा भी इस संसार को अपने में से उत्पन्न करते हैं, उसमें जीव रूप से विहार करते हैं और फिर उसे अपने में लीन कर लेते हैं। इस रहस्य को जानकर मनुष्य को सबके अंदर और पूरे संसार

या प्रकृति में उसी परमात्मा का दर्शन कर सबकी सेवा करनी चाहिए।

24. **भृंगी कीट (बिलनी)**– जिस प्रकार भृंगी कीट के द्वारा किसी कीड़े को दीवार में बंद करने पर बंदी कीड़ा भृंगी कीट के बारे में सोचते–सोचते खुद भृंगी कीट बन जाता है। उसी प्रकार यदि कोई व्यक्ति प्रेम, द्वेष अथवा भय आदि से भी जानबूझकर एकाग्ररूप से अपना मन किसी में लगा दे या एक ही विचार बार–बार करता रहे तो वह वैसा ही बन जाता है। इसलिए मनुष्य को हमेशा अच्छा और सकारात्मक सोचना चाहिए। मनुष्य जैसा सोचेगा वह वैसा ही बन जाएगा।

उपर्युक्त चौबीस गुरूओं के अलावा दत्तात्रेय जी ने अपने शरीर को भी अपना गुरू मानते हुए उससे विवेक और वैराग्य की शिक्षा ग्रहण की है। वैसे तो भगवान ने अपनी माया से चौरासी लाख योनियों की रचना की जिसमें से मनुष्य शरीर की रचना करके वे बहुत आनंदित हुए। यह मनुष्य शरीर अत्यंत ही दुर्लभ है। इसलिए दत्तात्रेय जी अपने शरीर से यह सीखते हैं कि मरना और जीना तो इस शरीर के साथ लगा ही रहता है। पर बुद्धिमान मनुष्य वही है जो अपनी विवेक बुद्धि को प्रयोग कर जन्म–मृत्यु के चक्र में फँसाने वाले विषय भोगों से वैराग्य लेकर शीघ्र–से–शीघ्र मरने से पहले मुक्त हो जाए। इस मानव जीवन का मुख्य उद्देश्य मोक्ष ही है। विषय भोग तो सभी योनियों में प्राप्त हो सकते हैं इसलिए उनके संग्रह और भोग में यह अमूल्य मानव जीवन नहीं खोना चाहिए। इस प्रकार दत्तात्रेय जी ने अपने गुरूओं के माध्यम से मानव के कल्याण हेतु नैतिक व आध्यात्मिक शिक्षा देते हुए एक प्रेरक गुरू की भूमिका निभाई है। इससे शिक्षा के वास्तविक लक्ष्य को प्राप्त करना भी संभव हो सकता है क्योंकि सच्ची शिक्षा वही है जो हमें मुक्त करे (सा विद्या या विमुक्तये)।

वर्तमान समय में जब मानव क्या करें ?क्या न करें ?, क्या सही है ?, क्या गलत है ?आदि द्वन्द्व में सही राह नहीं देख पाता। ऐसे में चौबीस गुरूओं से वह सही मार्गदर्शन प्राप्त कर एक सच्चा मानव बन सकता है। इसलिए

चौबीस गुरूओं की सीख मानव के निर्माण और विकास के लिए अत्यंत महत्वपूर्ण है । यदि मनुष्य वास्तव में सीखने को तैयार हो तो प्रकृति के चौबीस गुरूओं के अलावा भी असंख्य गुरूओं से सीख सकता है । उदाहरणस्वरूप हम सभी बालगीत के रूप में 'फूलों' से नित हँसना सीखो' पढ़ते हैं पर पढ़कर भूल जाते हैं। यदि हम उसकी सीख को अपने दैनिक जीवन में व्यवहार में लाए तो हम जीवन में फूलों की तरह हमेशा हँसते मुस्कुराते और खिले–खिले रहेंगे। हम पृथ्वी की तरह सहनशील व क्षमाशील बनेंगे, हवा की तरह कोमल भाव से बहेंगे, पेड़ों की तरह फल पाकर झुक जाएँगे आदि। इस प्रकार हम जीवन जीने की सच्ची कला सीख जाएँगे।

निष्कर्ष (Conclusion)

प्रकृति के कण–कण में व्याप्त शिक्षा को निरीक्षण और आत्मसात कर हम प्रकृति के समान ही सारी सृष्टि के लिए कल्याणकारी साबित हो सकते हैं। प्रकृति के प्रति संवेदनशीलता अपने अंदर विकसित कर हम मानवोचित शिक्षक बनने की ओर अग्रसर हो सकते हैं जो अध्यापक शिक्षा हेतु राष्ट्रीय पाठ्यचर्या की रूपरेखा 2010 में भी वर्णित है और जिसका अहम उद्देश्य पेशेवर और मानवोचित शिक्षक बनाना है। आज यदि शिक्षक अपने वास्तविक व प्राकृतिक स्वरूप का अनुभव कर प्रकृति के समान ही परोपकारी बनेंगे तो वह दिन दूर नहीं जब शिक्षा मानव–निर्माण की शिक्षा बनेगी जिसका सपना स्वामी विवेकानंद ने भी देखा था। उनके द्वारा प्रसारित मानव निर्माण की शिक्षा (Man-making education) के स्वपन को साकार करने का कार्य शिक्षक ही कर सकते हैं। यदि हम स्वामी विवेकानंद के जन्मदिन (12 जनवरी) को वास्तव में युवा दिवस के रूप में मनाना चाहते हैं तो देश के हर व्यक्ति को दिल से युवा बनते हुए देश के भविष्य बच्चों की सरलता, पवित्रता और बचपन को बचाते हुए उन्हें संपूर्ण मानव बनाने में एक शिक्षक के रूप में अपना योगदान देना होगा।

संदर्भ ग्रंथ

अध्यापक शिक्षा हेतु राष्ट्रीय पाठ्यचर्या की रूपरेखा 2010, राष्ट्रीय अध्यापक शिक्षा परिषद्, नई दिल्ली

कृष्णमूर्ति, शिक्षा वही जो जीना सिखाए, शिक्षा क्या है, अहा! जिंदगी, रविवार अंक–31.12.2017 दैनिक भास्कर

विवेकानंद (1995) शिक्षा, चौदहवां संस्करण, रामकृष्ण मठ नागपुर

वेदव्यास, श्रीमद्भागवतमहापुराण, द्वितीय खण्ड, एकादश स्कन्ध, अध्याय–7,8 व 9, इकतालीसवां संस्करण, सं० 2058, गोविन्द भवन–कार्यालय, गीता प्रेस, गोरखपुर, उ०प्र०

श्रीमद्भगवद् गीता, उनचासवाँ संस्करण सं 2052, गोविन्द भवन कार्यालय, गीताप्रेस, गोरखपुर, उ०प्र०

●●●

LIST OF CONTRIBUTORS

1. Dr. (Fr.) P. Anthony Raj SJ, Principal, Loyola College of Education, Jamshedpur, Jharkhand

2. Mr. Deep Kumar, Assistant Professor, St. Xavier's College of Education, Patna, Bihar

3. Mr. Poulastya Mahananda, Lecture in Education,Panchayat College,Bargarh,Odisha

4. Dr. R K Mohalik, Associate Professor in Education, RIE Bhubaneswar, Odisha

5. Dr. Shadma Shahin, Asst. Professor, DRPSPM, Bihar Vidyapeeth, Sadaquat Ashram, Patna, Bihar

6. Mr. Suresh Kumar, Research Scholar, School of Educational Training & Research, AKU, Patna,Bihar

7. Ms. Vijay Shree, Assistant Professor, St. Xavier's College of Education, Patna, Bihar

8. Dr. Vikramjit Singh, Assistant Professor, St. Xavier's College of Education, Patna, Bihar

GUIDELINES FOR SUBMISSION OF MANUSCRIPTS

Authors should carefully read the entire submission guidelines before submitting the manuscript for publication in *Journal of Research in Education* (ISSN 2347-5676). Authors must ensure that manuscripts are free of grammatical, spelling and punctuation errors. These must be thoroughly edited before submission. It is not the responsibility of editors to correct the article grammatically and improve the language of the paper. The manuscripts not prepared according to guidelines may be rejected.

- ❖ Research paper is to be submitted to the Principal (Chief Editor JRE) by post to the address St. Xavier's College of Education, Digha Ghat, Patna-800011, Bihar and in soft copy to jresxcep@gmail.com.

Authors should adopt following guidelines for preparation of the article to be submitted by them:

1. The first page should mention title of the article and author(s) detail. The title of the article should be bold, centered and typed in capital letters in 14 point Times New Roman Font in English or in 16 point Kruti Dev 010 Font in Hindi. The author(s)' Name(s) only should be below the title their designation and association should be in the form of footnotes.
2. All manuscripts must be accompanied by a brief abstract. Abstract including key words must not exceed 150 words. It should be in fully justified and italicized text.
3. **MANUSCRIPT:** It should be typed in 12 Point-Times New Roman Font in English or in 13 Point - Kruti Dev 010 Font in Hindi with a single space and single column with 1" margin on a standard A4 size paper. The text should be fully justified. The research article/paper should preferably not exceed 2400 words or 4-5 pages in all.

3.1. All headings must be bold-faced, aligned left and fully capitalized. The text matter must be in 12 Point-Times New Roman Font in English or in 13 Point - Kruti Dev 010 Font in Hindi and single spaced.

3.2. The sub-heading must be bold typed, fully capitalized and left aligned. The text matter must be in 12 Point-Times New Roman Font in English or in 13 Point - Kruti Dev 010 Font in Hindi and single spaced.

3.3. FIGURES AND TABLES: The titles must be above the table and below the figures and sources of data should be mentioned below the table. Figures and tables should be centered and separately numbered.

3.3 REFERENCES: The authors should list all references alphabetically at end of the paper following strictly the APA guidelines of referencing.

DISCLAIMER

The accountability of the article published in the journal is entirely of the author(s) concerned and not of the publisher/editor. The view expressed in the articles of the journal is those of the contributors, and it does not essentially correspond to the views of the publisher/editor. It is responsibility of the authors to seek copyright clearance for any part of the content of the articles. The papers must not have been published earlier or sent elsewhere for publication and must be the original work of the contributors.

(EDITORIAL BOARD)

ISSN No: 2347-5676

JOURNAL OF RESEARCH IN EDUCATION

ST. XAVIER'S COLLEGE OF EDUCATION
DIGHA, PATNA-800011

APPLICATION FOR YEARLY SUBSCRIPTION

INSTITUTION Rs. 500/- **INDIVIDUAL Rs. 300/-**

Mode of Payment (Please Tick)- Cash ( ) Demand Draft ( )

Draft to be drawn in favor of - The Principal, St. Xavier's College of Education, Digha Ghat, Patna and Payable at Patna.

DD No:.....Date:.....

Bank:.....Place:.....

CUT HERE

INDIVIDUAL / INSTITUTION DETAILS

Name (in Block Letters) :.....

Sex:..... Mobile No:.....E-mail:.....

Designation:..... Institution:.....

Tel. Office:.....Fax:.....

Correspondence Address:.....

.....

.....PIN:.....

Full Signature of the Applicant

- Duly filled in Membership Form and DD/Cash Deposit receipt copy to be sent/deposited to The Principal, St. Xavier's College of Education, Digha Ghat, Bihar, Patna-800011.

Printed At : ***Lovely Printers****, Digha Haat, Patna # 9939711961, 8987089791*