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Editor's Note

ARTICLES

Mridula Seth Aparna Khanna	Lifelong Learning and Life Skills for Self-Development	5
Sridhar Chimalakonda Kesav V. Nori	A Pattern for Modeling Instructional Process for Design of eLearning Systems-Quality, Scale and Variety	18
B.P.Sahu	Psycho Social Intervention for rehabilitation of Intellectually Disabled Children	30
Faisal Ali Khan	Sustainable Development: A Gradual Learning Process of Lifelong and Environmental Law	49
Sakti Pada Mandal	Iswar Chandra Vidyasagar: The Lonely Prometheus of Lifelong Learning in Bengal	58
R.Anjaneyulu M.V.Ramana	Lifelong Learning: A Tool for Quality Improvement in Teacher Education	67
A. R. Supriya	Lifelong Learning in Higher Education – Role of Universities	73
Rashid Hussain	Skill Development Opportunities in Lifelong Learning	81

Shalini Pandey	Challenges Related to Quality of Teacher Education	93
Contributors		99

Editor's Note

Recently there was a news item in one of the national dailies that as per the latest survey conducted by Kelly Global Workforce Insights (KGWI) globally around 60% of the candidates in technical sectors lack right balance of hard and soft skills. As per the managers of professional/technical sectors ability to listen and team work as key soft skills they look for in potential candidates. The most important five hard skills referred in the survey are analytical thinking, communication, evaluation/analysis/accuracy/trouble shooting, technical including systems/computers/software and complex problem solving. It has also been mentioned that team work is even more critical for engineering talent. This is an important information that needs to be given due care both by the institutions which impart education and training in the technical and vocational sector but also for the students/trainees participating in the programmes.

When the traditional educational system failed to enable the students to compete in the employment market for jobs, the system turned to the need for imparting vocational skills. Hence, today the world countries including India give a lot of importance to vocationalization of education so that there is a trained manpower available for getting suitable employment. But this will be proved negative if the above said soft skills are not known to the candidates appearing in the interview as the managers are interested to pick and choose the candidates for different jobs based on both hard and soft skills. so, the vocational training and technical educational institutions should broad base the curriculum which includes both hard and soft skills so that trainees/students are not only aware of this but also practice during the academic sessions.

The career guiding institutions which enroll persons in search of jobs for further training also need to give specialized training in the soft skills – both theory and practice so that they are able to perform well in the interview before the managers who hire the manpower.

Candidates should be open to interning or taking temporary positions either in the beginning or in the middle of their career to build experience. Starting as a temporary employee or completing an internship gives talent and edge with professional/technical hiring managers, especially for the engineering candidates.

The survey also reveals that relationships play the most important role in personal branding and it is changing the way people network. Even the freelancers tap their personal and professional network to find jobs via word-of-mouth and reference. Here also the skills possessed by the freelancers have given them reputation.

Dr.V.Mohankumar

Lifelong Learning and Life Skills for Self-Development

**Mridula Seth
Aparna Khanna**

Writing this paper was an opportunity for self-reflection to ask myself if I am a lifelong learner. I tried to recall faces of people whom I have known or read about and their joys in continuing to learn through different phases of their lives. What is it that they have in common? What is Lifelong learning? What are Life skills? Why is it important to be a lifelong learner? How does an enhancing life skill contribute to personal and professional development? What are some of the insights gained over a period of over four decades that reflect being a learner engaged in improving my own life skills?

Part 1: Conceptual framework

1.1. Lifelong Learning

Lifelong learning (LLL) is the voluntary act of learning throughout one's life. It encompasses learning at all ages and subsumes formal, non-formal and informal learning. Lifelong learning has emerged as one of the keys to improving the quality of life in the 21st century. Providing opportunities to learn throughout is a crucial factor in the struggle to eradicate poverty and to educate for sustainable development. Adopting the principle of lifelong learning does demand a new vision, one that shifts the emphasis from education to learning; one that moves to a more seamless and user-friendly system; one that recognizes the diversity of ways in which knowledge and skills can be acquired in the information age outside of the formal system (Power & Maclean, 2011).

Two ground-breaking reports on lifelong learning by UNESCO (Faure Report, 1972; Delors Report, 1996) articulated fundamental principles of lifelong learning. Main and common principle of LLL is that education and organized learning should no longer be limited to a person's youth, nor should education be exclusive domain of educational institutions. The Belém Framework for Action (2011) also affirms the role of lifelong learning in addressing global educational issues and development challenges. UNESCO Institute for Lifelong Learning has organized a wide range of activities along strategic areas of action on advocacy, research, capacity-building and partnership. After the Faure Report, the term 'lifelong education' was replaced by 'lifelong learning'. In 1996, UNESCO's Delors Report acknowledged the need to rethink and update the concept of lifelong education so as to reconcile three forces: competition, which provides incentives; co-operation which gives strength; and solidarity, which unites.

The four pillars of education for lifelong learning identified by UNESCO (1972) are - Learning to know, learning to do, Learning to live together, and Learning to be. It is a kind of education contributing to a person's complete development including mind and body, intelligence, sensitivity, aesthetic appreciation and spirituality. Thus, lifelong learning contributes to one's personal and professional development. It builds life skills that go well beyond professional development to make a wholesome person living in this chaotic world to find spaces for experiencing happiness and satisfaction within the given constraints by being involved and yet detached. Although lifelong learning is being increasingly cited as one of the key principles in the fields of education and development, shared understanding of the term's usage at the global level is lacking.

1.2.Life skills

Life skills have been defined by the WHO (1994) as 'the abilities for adaptive and positive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life'. From this perspective, life skills are essentially those abilities that help to promote mental well-being and competency in young people as they face the realities of life. At times also referred to as Living Skills, they denote the personal competencies that enable persons to confront and deal effectively with life's everyday challenges and demands (Yarham, et al., 1999). Life skills, even though focused on children, youth and people with special needs, are actually needed by all. The socio-cultural environment in today's world continues to change rapidly in different phases of life demanding physical and mental adjustments. Professionals need to be mentally alert and stable to cope with work pressures affecting their performance at work and personal lives. Building their life skills through lifelong learning can be productive for themselves and others.

Information is important to make sound and wise decisions in life. However, we need skills to transfer that information or knowledge (what one knows) and attitudes or values (what one believes and feels) into actions (what to do and how to do it). Life skills enable us to translate knowledge into action. Life skills can be considered as a synthesis of thinking, social and emotional or self-management skills (Seth, 2000; 2012). Thinking skills are a set of basic and advanced skills that govern a person's mental processes. These include knowledge; comprehension; application; analysis; synthesis; and evaluation. Social skills are skills that enable a person to establish and build relationships with others. These include interpersonal relationships; communicating effectively; cooperation & teamwork; and empathy. Emotional skills are skills that are related to controlling emotions and feelings. These include self-management skills (managing feelings/emotions, resisting peer/family pressure); assertiveness towards consensus building; and advocacy skills. Each one of us has ample scope for improving our life skills through lifelong learning to lead a life of fulfillment for personal and societal development.

1.3. Self-Development

Self-development is a lifelong process. It's a way for people to assess their skills and qualities, consider their aims in life and set goals in order to realise and maximise their potential.

According to Maslow (1970), all individuals have the need to see themselves as competent and autonomous and every person has limitless room for growth. Self-actualisation refers to the desire that everybody has to become everything that they are capable of becoming. In other words, it refers to self-fulfilment and the need to reach full potential as a unique human being. For Maslow, the path to self-actualisation involves being in touch with your feelings, experiencing life fully and with total concentration. Self-development includes personal and professional development.

Continuing Professional Development (CPD) refers to the process of tracking and documenting the skills, knowledge and experience that you gain both formally and informally as you work, beyond any initial training. The CPD process helps you manage your own development on an ongoing basis. through recording, reviewing and reflecting on one's learning. Development is often informal and has a wider application, giving you the tools to do a range of things and relating to capability and competency. It involves progression from basic know-how to more advanced, mature or complex understanding. Alternatively, it can be about widening your range of transferable skills like leadership, managing projects or organising information.

For professional development, the basic assumptions of andragogy explained by Dr. Malcolm Knowles are very relevant: adults are independent learners, they carry with them a lifetime of experiences, adults must see an immediate application of the learning, and they are more driven by an internal as opposed to an external need to learn (Knowles, 1980). Applying Knowles' principles, this can be achieved through self-directed learning: Assumption #1 (Self-Concept) - create learning experiences that offer minimum instruction and maximum autonomy; Assumption #2 (Adult Learner Experience) - seek a wide range of instructional design models and theories to appeal to your varied experiences and background; Assumption #3 (Readiness to Learn) - utilize all resources, social media and online collaboration tools to learn; Assumption #4 (Orientation to Learning) – prioritize and select subject matters to solve problems encountered and further your interests; Assumption #5 (Motivation to Learn) - find a valid reason for the activity.

While few educators would argue against the need for and the importance of professional development, specific programmes and learning opportunities may be criticized or debated for any number of reasons, especially if the professional development is poorly designed, executed, scheduled, or facilitated. However, Lifelong learners equipped with life skills seek or create opportunities for experiencing happiness and satisfaction in their personal and professional lives.

1.4. Importance of Lifelong learning

One of the reasons why lifelong learning has become so important is the acceleration of scientific and technological progress. Despite the increased duration of primary, secondary and university education, the knowledge and skills acquired there are usually not sufficient for a professional career spanning more than three or four decades.

Lifelong learners are information literate people who have learned how to learn. They know how to learn because they know how knowledge is organized, how to find information, and how to use information in such a way that others can learn from them. (American Library Association, 1989). Information literacy is a survival skill in the Information Age. Instead of drowning in the abundance of information that floods their lives, information literate people know how to find, evaluate, and use information effectively to solve a particular problem or make a decision—whether the information they select comes from a computer, a book, a government agency, a film, or any number of other possible resources.

Technology has an enormous impact on how we learn. Professionals can regularly update their knowledge and skills to remain updated in their own areas of interests. With internet technology like e-learning / distance learning, Cloud Storage (such as Google Drive), network file sharing, etc, it has become easier to continue learning using opportunities at any time. In today's information society, the most important learning outcome for all students and professionals is their being able to function as independent lifelong learners. The essential enabler to reach that goal is information literacy. Information literacy forms the basis for lifelong learning. It is common to all disciplines, all learning environments, and to all levels of education. It enables learners to master content and extend their investigations, become more self-directed, and assume greater control over their own learning.

In the global world of today, the growth of the knowledge-based economy recognizes the importance of knowledge and innovation along with reliance on technology and demand for both, traditional skills and new competencies. People therefore, need access to learning on an on-going, continuous, and lifelong basis. Understanding the scope of 'new media' can be useful for professionals engaged in development work. New media refers to those digital media that are interactive, incorporate two-way communication, and involve some form of computing as opposed to 'old media' such as telephones, radio and TV (Logan, 2010). New media have different forms of production and reception as compared to older media. New media are categorized by interactivity (Narayan & Narayanan, 2016). Professionals in all fields need to feel comfortable using new media optimizing their efforts and demonstrating impact of their interventions.

A wider participation in lifelong learning can be expected to enable people to become more aware and knowledgeable about environmental issues and the ways

in which they might lead a more sustainable lifestyle. Increased levels of knowledge and skills are the means of developing innovative solutions to the problems of sustainable development. Lifelong learning contributes to the development of society through the achievement of other social goals such as civic participation, sustainable development, improved health and wellbeing, reduced crime and greater social cohesion.

Part 2: Characteristics of Lifelong Learners

The qualities of a learner identified in a UNESCO report (2001) titled “Revisiting Lifelong Learning for the 21st Century” are: an active and creative explorer of the world; a reflexive agent; a self-actualizing agent; and an integrator of learning. The challenge for the lifelong learner is the so-called integration of thinking, feeling and action.

The attitude, skills and behaviour of lifelong learners differentiate them from others as they accept challenges and never give up. In fact, lifelong learners thrive in challenging situations. They find opportunities for experiential learning to build their own life skills experiencing happiness and fulfillment. In working towards their goals, they seldom complain of boredom and lack of opportunities.

2.1. Attitude

Attitude is a predisposition or a tendency to respond positively or negatively towards a certain idea, object, person, or situation. Attitude influences an individual's choice of action, and responses to challenges, incentives, and rewards:

- Attitude toward self – a positive self-image and self-esteem are important characteristics of a lifelong learner. LLL recognizes and accepts own strengths and weaknesses and is aware of the opportunities and threats within the given environmental constraints.
- Attitude towards others – others are perceived as important for interacting with them in his own life journey. Criticism by them is not taken negatively and LLL avoids being judgmental even when views are different.
- Attitude towards issues – an open mind is pre-requisite for being a lifelong learner. Readiness to learn helps understand the pros and cons related to issues for making informed choices.
- Attitude towards technology – making optimum use of available technologies to be updated requires positive attitude towards learning new technologies - simple or complex - and not feeling shy seeking help from others.
- Attitude towards participatory methodologies –using participatory methodologies requiring transparency and accountability can be threatening for a person who lacks self-confidence, creativity and self-esteem.
- Attitude towards accepting challenges –some people just like to face or create challenges in their lives for the simple thrill that it gives them. Lifelong learners belong to that category who thrive in challenging situations!

- Attitude of gratitude – a feeling of being blessed and gratitude to the Almighty gives serenity and graciousness. Acknowledging the contribution of others in self-achievement also promotes an attitude of helping others and mentoring some.

2.2. Skills

Skills are abilities and capacities acquired through deliberate, systematic, and sustained effort to smoothly and adaptively carryout complex activities or job functions in personal or professional lives:

- Skills related to understanding self - self-awareness is an important thinking or cognitive skill. By doing SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis of themselves, lifelong learners are able to accept their limitations and make realistic plans.
- Skills related to problem solving and decision making – it is jokingly said for some people that they “create problems for themselves”. It is because lifelong learners enjoy the process of solving problems, using creativity and testing the outcomes of their interventions.
- Skills related to planning and goal setting –an understanding of the available resources, human and material, provides insights for effective planning and goal setting.
- Skills related to inter-personal relationships –social interactions are considered important therefore, efforts are made to establish and maintain smooth relationships.
- Skills related to effective communication –the usefulness of diverse communication channels - personal, impersonal, electronic – is well understood by a lifelong learner.
- Skills related to advocacy – being an advocate on specific issues or programmes requires passion and commitment indicated by spending time, energy and money by the LLL.
- Skills related to controlling emotions – being in control of one’s anger and emotions are crucial for being a lifelong learner.

2.3. Behaviour

Behaviour is a response of an individual to an action, environment, person, or stimulus:

- Assertive behaviour- assertive people are truthful with high self-esteem. They value others and have empathy and compassion for them. Additionally, respect is completely reciprocal. As a consequence, their interactions tend to be comparatively devoid of serious conflict. Lifelong learners tend to be assertive rather than aggressive or passive.

- Un-learning to learn- lifelong learners have a propensity to un-learn discarding the old to create space for new. This attitude reflects in their behaviour of being keen observers to learn from every situation and experience.
- Role model - lifelong learners can serve as role models as they guide people in the right direction for making life decisions, providing inspiration and showing how to live a fulfilling, happy life.
- Humility—even though knowledgeable, lifelong learners do not have the feeling of “I know it all”. There is humility in learning from others, even younger and people with different views and abilities.
- Persistence – not giving up an idea in spite of obstacles is a unique quality of a lifelong learner. ‘Finding a reason to do and not an excuse for not doing’ characterizes an LLL.

The characteristics of a learner are beautifully described in a UNESCO report (UNESCO, 2001) “the adult with a capacity for true maturity is one who has grown out of childhood without losing childhood’s best traits. He has retained the basic emotional strengths of infancy, the stubborn autonomy of toddlerhood, the capacity for wonder and pleasure and playfulness of the pre-school years, and the idealism and passion of adolescence. He has incorporated these into a new pattern of simplicity dominated by adult stability, wisdom, knowledge, sensitivity to other people, responsibility, strength and purposiveness (Stone and Church, 1973, p. 499).

Part 3: Sharing Insights

Writing this paper was an opportunity for self-reflection to trace my journey through different stages of life and how I have retained my enthusiasm to be a learner – young in spirit - feeling blessed to be able to put my experience and new ideas into action. In this paper, I am only sharing my experiences of the past five years of active volunteering with drug abusing adolescent boys in conflict with law. The learning of the past four decades are contributing to make my journey exciting and meaningful, enriching me to grow professionally and spiritually.

Professional development is empowering oneself through building one’s life skills to achieve excellence in work and improving one’s quality of personal and professional life. Dr Malcolm Knowles’s assumptions of andragogy are relevant in the context of my journey: first, the feeling of being an independent learner without any constraint; second, carrying lifetime of rich experience; third, seeing immediate application of the learning; and fourth, driven by an internal as opposed to an external need to learn. Maslow’s theory seems to be applicable having reached a stage in life that has been blessed and basic needs fulfilled over a period of time.

3.1 Background

Literacy, Library and Life skills (3Ls) were incorporated in the Juvenile Drug De-addiction and Rehabilitation Centre managed by the Society for Promotion of Youth

and Masses (SPYM) through a pilot intervention project taken up in 2012 for empowering drug abusing adolescent boys in conflict with law. The purpose of starting the literacy cum library project "*Padai Ka Maza*" (PKM) was to impart functional literacy skills to non-literate adolescents; sustain and improve the literacy skills of neo-literates; and enhance their life skills. The activities after admission and detoxification include the 12-step programme as a set of guiding principles recommended by the Alcoholics Anonymous (AA) and Narcotics Anonymous (NA). These include Yoga and meditation, 'Just For Today', Child parliament, Counselling, Sports, and Vocational training. After three years of completion, the PKM project incorporating literacy, library and life Skills education has become an integral part of the SPYM programme. Halfway Home provides opportunity for those boys who continue to stay on after completing their mandatory 3-month period in the rehab till such time that they feel confident to face the world outside. Some even return after a gap to serve as Volunteers. Majority of them are in the age group 15 to 18 years, belong to lower socio economic group and are school dropouts or have never been to school. The drugs most commonly used are Cannabis, Opium and Inhalants. The most pressing reason for indulging in drugs is peer pressure. At the time of admission, half of the boys had a family drug history and more than half of them started taking drugs from the age of 10 to 14 years. Amount of money spent on purchasing drugs every day ranged from Rs. 100 to Rs. 2000. More than half of them were involved in anti-social activities to meet the expenses. Most of the boys were caught in the charge of theft followed by robbery and murder.

The library programme offers lively engagement, generating awareness and inspiring to seek knowledge, character building, self-expression, and academic support. The boys find art and craft therapeutic. Empowering them through enhancing their life skills is a vital component of the PKM programme. A very intensive, participatory and transparent methodology was used for development and field testing modules that are now ready to be shared with a wider group of field functionaries working with adolescents. Stories of change narrated by the boys have been published in Talking Comics "*Meri Bhi Suno*" Part 1, 2 and 3. These are being used as reading materials to strengthen literacy skills and discuss implications of drug abuse and conflict with law. Success stories of boys have been printed in a booklet "*Badli Soch*" (Changed Thinking). These have also been made as one-minute animation films by students of the Lady Irwin College. The films can be seen on computer, television and also on Mobile Phone screens. All the reading materials and games developed have been shared in Aseem's Libraries in Shelter Homes run by NGOs in Delhi.

3.2 Key lessons learnt

Building Literacy skills

- Majority of the boys are not literate. They are either school dropouts or have never been to school. *Motivating them and sustaining their interest for literacy* is not easy. Their association with books and learning is unpleasant because

- of their experience in school. The family and social environment also does not make them appreciate the relevance of literacy. Creating an environment to make learning as a fun activity is a big challenge.
- The boys are in the centre only for a *limited period of three months*. This duration is very inadequate for bringing about change in their attitudes and behaviour. In the first few weeks, they are disoriented due to drug effects and it takes them time to get interested in the activities.
 - The *group composition* changes with newcomers every day posing challenges for the staff working with them. While some boys get motivated to use this period of detention as opportunity to improve their literacy skills and pursue further education, many of the non-interested ones simply distract them and cause disturbance. Forming functional groups is very challenging. For the non-interested boys, keeping them engaged so that others can learn becomes the prime focus of working with them.
 - *Assessing literacy status* at the time of admission and release is an important indicator of progress made by everyone. *Giving visibility* to progress made by the learners is very important. *Recognition* of boys who show progress sustains their motivation to continue learning while inspiring others. Many of them do not feel confident that they can learn. During the weekly sharing meeting, new learners are provided opportunity to share the books read by them, showcasing their skills and instilling confidence in them.

Improving Life skills

- The boys have several unanswered queries related to sexual and reproductive health. They do not have access to authentic sources of information and need scientific information and skills for making informed choices. *Question box* activity is very popular in eliciting queries of the boys especially related to sexual and reproductive health. Anonymous chits put in the question box are answered by a resource person.
- *Gender sensitivity* has been incorporated as an important component in the materials developed. Some issues related to the process of growing up in girls and understanding of their body parts are of interest to the boys. The female staffs are generally hesitant in transacting these issues. It was found that a peer educator, after being trained by a female staff one-to-one, was very effective in conducting a session on growing up in adolescence using flip charts.
- Building *life skills of the volunteers* is crucial for them to avoid relapse and gain self-confidence. The idea of developing them as peer educators has been accepted in principle but in practice it is difficult to follow. The challenge is to convince the management to spare time for them to be involved in training and actual transaction. It is also difficult to retain the volunteers.
- While progress in literacy skills is easy to assess, it is difficult to *assess the life skills* improvement in the boys because of absence of readily available tools and methodology for assessment.

- The processes for development of communication materials by the boys, of the boys, and for the boys have been very *innovative, participatory and transparent*.

Capacity building of field level functionaries

- It is difficult to get trained and sensitive staff to work with juveniles. Their skills need to be upgraded and they also need mentoring.
- Teaching in a multi-grade class poses several challenges that are difficult to handle by the staff who are not very competent and require hand holding and guidance. The group composition varies in terms of level of literacy skills and interest in learning.
- All the boys are school dropouts. Their stories reveal the insensitivity of the school teachers. It is very important to sensitize the teachers and educational authorities to the problem of drug abuse; identifying vulnerable boys; and taking timely action to avoid their getting addicted to drugs.

Vocational skills training

- Building vocational skills for livelihood is important. However, since juvenile drug addicts are making easy money through anti-social activities, it is not easy for them to appreciate the value of hard work and honest living. The fear of police is overcome when they openly talk about corruption in the police force. Problems faced are considered to be because of poverty. "Just For Today (JFT)" activity focusing on introspection/meditation and spirituality does enable them to a higher goal in life and is one of the most liked activity in the centre.
- Illiteracy is a big handicap for vocational training. Most of the vocational courses available have a minimum eligibility of 8th standard for certification by the Industrial Training Institutes (ITIs).
- Teaching-learning materials for non-literate boys are not available.
- Very few boys after vocational training take their jobs seriously. Need for discipline and punctuality is just not appreciated. Even the family environment for most of them is not encouraging.
- Placement agencies are not ready to take them because of the stigma of being drug addict boys in conflict with law.

Research and documentation

- Advocacy is needed for issues related to substance abuse in youth as well as showing the impact of treatment and rehab interventions. For evidence based advocacy, research of relevance is required.
- NGOs neither have the resources nor the technical competency to invest in quality research. Within the given constraints, best results can be achieved if faculty members and postgraduate students of academic institutions

- collaborate to conduct meaningful research that can be useful at the grassroots level.
- For assessing the impact of project interventions, 'Most Significant Change' (MSC) technique as a participatory monitoring and evaluating tool has been used. It is a qualitative technique that captures the nuances and multi-directional aspects of change that cannot be captured through quantitative processes. Since it brings out data in the form of stories written by people, it provides detailed insights not only about the significant change but also the various process factors which facilitate the change. MSC technique involves the collection of stories at different levels of the intervention (for example programme staff, vulnerable youth and interns) and collectively deciding on the most significant change stories based on the selected themes (called domains). In fact, reporting 'most significant remembrances' of the month by each person has become a regular feature of the PKM review meetings.

Follow-up of the Boys in-recovery

- After a period of three months, when the boys are discharged, there is need for follow up with the boys in-recovery. This is an intensive process. Due to resource limitation, this is carried out only through telephone which is not very effective. However, SPYM "Parivar Milan" (family reunion) or contact programmes are now being organized on a regular basis twice a year.
- Most of the boys have dysfunctional families. Contact with families of the boys during and after three months is limited. On discharge from the centre, they go back to the same environment that pushes them back into drug abuse. Families are not supportive and many disown them due to their behavior. Boys do not have role models at home. Most of their fathers are also drug abusers. The boys are witness to gender violence at home.
- *Halfway home* for the boys in-recovery is a very useful stepping stone especially for those who do not feel confident to face the world outside and resist peer pressure. These boys volunteer to stay on in the centre and even get a token honorarium for their services rendered in managing the centre. In fact, this unique arrangement differentiates the SPYM-JDC from other juvenile centres where one sees security guards. It makes them appreciate the value of honesty and hard work.

Conclusion

As the debate on lifelong learning resonates throughout the world, there needs to be more discussion on how this concept will be put into practice. The rhetoric on lifelong learning must be matched with evidence of how it works and how it will contribute to creating more humane societies (UNESCO, 2001). Lifelong learners equipped with life skills seek or create spaces for experiencing happiness and satisfaction in their personal and professional lives. They have a positive attitude and

flexibility to adapt themselves to different situations and thrive in challenging situations finding opportunities for experiential learning. Lifelong learners can find reasons to be optimistic and happy rather than finding excuses for grumbling. They work towards achieving excellence in whatever they do – even in self-created difficult situations – without complaining of boredom and lack of opportunities. While lifelong learning facilitates improving one's life skills, it is also true that a person with life skills is a lifelong learner. Life skills empower a person for personal and professional development.

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A Pattern for Modeling Instructional Process for Design of eLearning Systems-Quality, Scale and Variety

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The world has undergone a rapid transformation into digital age with over an estimated 7 billion mobile users and around 2.4 billion Internet users worldwide (Sanou, 2014). However, the same world has an estimated 775 million young people and adults who are unable to read or write even in the digital era (UNESCO, 2014). More surprisingly, India itself has around 37% of them, who are beyond the age of schooling, speak their language, but cannot read or write and spread across 22 Indian Languages (UNESCO, 2014).

In addition, according to reports from Government of India, the present average of adult illiterates taught by instructors is around 10, whereas even assuming 200 adult illiterates per year for 5 years would still need a dedicated force of 287,000 instructors. The National Literacy Mission (NLM) of Government of India (GoI) has been striving to address this challenge since 1988 and has created a uniform methodology for teaching adult illiterates across India (NLM, 2016). In the literature, there were several efforts of using technologies like radio, television and even mobiles to reach adult illiterates (Patel, 2002)(Wagner & Kozma, 2005)(Dighe, 2010)(Abraham & Dubey, 2013).

A technology initiative by Tata Consultancy Services (TCS), an Indian Software Consultancy Services firm, as part of their Corporate Social Responsibility program consists of 9 eLearning Systems for 9 Indian Languages and has made around 120,000 people literate (TCS, 2016). While these experiments have yielded good results, the instructional design was constant and the eLearning Systems are monolithic in nature making their customization a hard task, which is a dire need for adult literacy challenge in India. We summarized our research on design of educational technologies from a software engineering perspective in (Chimalakonda & Nori, 2013).

How to facilitate design of eLearning Systems to teach Reading, wRiting and basic aRithmetic to 287 million adult illiterates in India spread across 22 Indian Languages with varying instructional designs (varying goals, processes and content)?

In this paper, we propose a pattern to systematically model instructional process such that it can be varied for multiple contexts both from pedagogy as well technology perspective.

Theoretical Basis

Literacy is one of the key factors in defining socio-economic progress of a country. According to NLM, literacy is defined as “acquiring the skills of reading, writing and arithmetic and the ability to apply them to one’s day-to-day life” and more specifically the focus has been on functional literacy that includes:

- Self-reliance in 3 R’s (Reading, wRiting, aRithmetic)
- Becoming aware of the causes of deprivation and moving towards amelioration of their condition by participating in the process of development
- Acquiring skills to improve their economics status and general well-being

Improved Pace and Content of Learning (IPCL) is a well-established approach and a methodology for teaching 3Rs to adult illiterates in India (DAE, 2003). It was designed with the intent of providing a base of instructional design for official Indian Languages and allows content creators to adapt it for varied contexts across India. In this paper, we consider instructional design as an underlying structure consisting of different aspects of instruction like goals, process, and content aimed at (i) providing a base for quality of instruction and (ii) facilitating design of educational technologies.

Instructional process is one of the critical aspects of instructional design as it facilitates the fulfillment of goals through a systematic process. However, most of the times it is not explicitly modeled by making it difficult for design of educational technologies. In this section, we will look at a commonly accepted way of teaching in the context of adult literacy in India based on IPCL methodology (DAE, 2003) and present a structure for organizing this knowledge into a pattern. We discuss the instructional process in detail along with teaching philosophy as it forms the basis for a pattern that could be instantiated thousands of times for all Indian languages and dialects.

Teaching is a process to help the student move from known (cognitive foundations) to build the understanding of, or the derivation of, the previously unknown in a stable and confident manner. Processes are best organized when they have clearly articulated goals. The overall goal for literacy is the ability to read and write so as to fulfill normal (functional) tasks in day-to-day living in an informed and enabled manner. This needs social awareness of regional and national identity, the needs of a civil and healthy society, and aspirations of the individual, the family, the village, the local region and the country as a whole. The first step towards achieving these goals is to focus on 3Rs and use that as the foundation to slowly learn the rest by reading more material and through other sources of learning. For adult learners, literacy instruction can be facilitated by choosing to deploy a socially or functionally relevant theme to provide the corpus for teaching the 3Rs. This theme is only a vehicle to carry the instruction of the 3Rs, that is, what are learnt is the 3Rs, with the side-effect that a meaningful social awareness is also created. The theme provides us with familiar words and

phrases which provide the cognitive foundations on which we build further understanding. The end goal of this whole instruction is to understand the real foundations of language (for the purposes of reading and writing) that underlie the cognitive foundations arising from everyday experience, the fundamental sounds depicted by the alphabet, their associated visual representation through script, the sound formation rules that build complex sounds of syllables from the basic or pure sounds of the alphabet along with script formation rules, juxtaposition of syllables to form words, and juxtaposition.

However, connecting this teaching philosophy to eLearning or multimedia space requires a deeper understanding. One of the basic gaps between textbooks and teachers are time and space elements. Teaching happens in time, and teachers make use of the space available on the blackboard, whereas textbooks do not have any notion of time to understand the intrinsic logic embedded in the ideas presented therein, appealing to the rationality in the learners, and therefore do not have any dynamics of presentation of ideas (traditionally through the use of the blackboard). Multimedia is suitable for *teaching*; multimedia instruction material must make effective use of teaching-time, and can use the screen as a substitute for the blackboard. In addition, it can use animation and speech to visually as well as aurally present dynamics in the presented ideas. It is said that the human mind is much better at appreciating static structure, spatial organization, and not so good at the dynamics within such spatial organization. Multimedia presents a medium to cope with cognition through dynamics. Tinkering, trying things out, by their very nature of articulation as verbs, involve action and therefore change. Multimedia can depict the change as it happens and therefore is a good teaching medium.

In the next section, we discuss the state of art from adult literacy and technology design perspective followed by the proposed *Process Pattern* and its application.

State-of-the-Art

The UNESCO CONFITEA at an international level (UNESCO, 2010) and NLM at national level have devised several initiatives to battle the challenge of adult literacy in India in the past several decades (NLM, 2016). India has a long history of using ICTs for adult literacy (Patel, 2002)(Wagner & Kozma, 2005)(Dighe, 2010)(Abraham & Dubey, 2013). A radio forum to reach adult learners was experimented as early as 1976 and satellite televisions are used in (Patel, 2002) with computer and laptop based solutions for literacy in (TCS, 2016) and (Akshar+, 2016) respectively. TCS, an Indian Software Consultancy Services Company has developed eLearning Systems for 9 Indian Languages and also for languages like Urdu, Moore, Spanish and Arabic (TCS, 2016). An approach based on same language subtitling for songs delivered on television increased motivation of learners (Kothari, 2008)(Kothari & Bandyopadhyay, 2010) but focused only on reading skills and is not interactive. The Bridges to the Future Initiative (BFI), is a multinational effort that aimed at improving literacy using technology (Wagner, et al., 2010) but the focus was on children rather than adult

literacy population. It was designed only for one South Indian language (Telugu) because of resource constraints (Wagner, et al., 2010). Hole-in-the-Wall project is another successful initiative based on minimal invasive education but was aimed at children (Mitra & Rana, 2001).

To harness the emergence of mobiles in developing countries for literacy, a few approaches based on mobile-tablets have been proposed mainly to impart reading skills (Wagner, 2013). A landscape research review of mobiles for reading outlines the need for extensive further research to validate the effectiveness of mobile technologies (Wagner, 2013)(Wagner, et al., 2014). A study focusing on adult literacy using mobile phones shows promises as well as several challenges(Chudgar, 2014), mainly in terms of developing the mobile apps for varied languages. Visibility of alphabets on low-end mobile phones is another issue with use of mobile phones in the context of adult literacy even though it can be addressed if smart phones are available at lower cost in the future. Initiatives like “Edu Tab” device focus on facilitating adult literacy in India (Megalingam, et al., 2012), but their effectiveness from pedagogy perspective is unknown as they use their own instructional process and material. A review of tablet software for improving adult literacy suggests the use of games for increasing learner engagement (Browne, et al., 2014) but the tablet software is designed for English and requires significant development effort if it has to be designed for the scale and variety goal of this thesis. A report from Indian journal of adult education summarizes the use of ICTs for adult literacy and their inadequacy for mass scale of India (Dighe, 2010).

A study from 2011 census data emphasizes the inadequacy of current programmes for adult literacy in India and anticipates that it might take 2050 to achieve 100% literacy rate using current approaches (Motkuri, 2013). A research agenda post-2015 for learning and literacy lists 10 key priorities emphasizing the need for technology to be available in the local language of instruction particularly in developing countries (Wagner, 2014). The article also underlines the need for basis of pedagogy for ICT-based solutions for improving quality of instruction in literacy(Wagner, 2014), which is severely lacking in most of the current technologies (Wagner, 2014).On the other hand, an analysis of the literature on technologies for adult literacy alleviates the following key concerns relevant to this paper:

- Teaching adult illiterates requires a different pedagogy (DAE, 2003)(Dighe, 2005)
- Lack of pedagogical basis for ICTs dents quality of instruction (Goodyear, 2002)
- Existing work focuses on designing educational technologies based on a fixed instructional design and process and is not designed for the scale of 22 Indian Languages and variants

How to adapt the instructional process for varied contexts including different kinds of teachers (mentor, trainer, coach, assessor) and learners (visual, auditory, read-write, kinesthetic)?

Process Pattern - A Structural Pattern for Modeling Instructional Process

The main structure for *Process Pattern* stems from instructional process of IPCL for adult literacy (DAE, 2003), which consists of:

- Three sets of primers (instructional material), each primer being an improvement on the other in terms of progression
- Each primer is an integrated one in the sense that it combines workbook, exercise book, tools of evaluation of learning outcome, certification, etc
- The primers are prepared through workshops involving creative thinkers, writers, linguists and artists, pretested and their suitability affirmed before actual application
- There are exercises at the end of every lesson and three tests in each primer
- The entire exercise is based on the principle of self-evaluation and confidence (rather than competition) oriented evaluation. The tests are intended to be simple, nonthreatening and participative
- Every learner is free to attain the desired level according to his/her leisure and convenience. It is, however, expected that a learner should be able to complete all the three primers within the overall duration of 200 hours spread over 68 months.

These high-level goals are gradually broken down into simpler sub-goals that all add up. The initial pace of learning is very slow, because the learners consciously understand that there is substructure below the cognitive foundations that come from everyday experience, and the learners are also subconsciously being exposed to a systematic method of discovering this substructure in a reasoned manner. The pace of learning can be speeded up after this basic approach is assimilated. Before we start the instruction for any goal, there should be a motivating prelude that provides an inspiration, so that the need to learn is 'bought' by the learners. The prelude need not be philosophical or lofty, but could come from role models within their own community, thereby giving cognitive credence to the served goal. After the instruction, there could be a postlude that summarizes what has been learnt, so as to keep the focus clear and sharp all through.

We consider a subject is a set of topics. The subject and each of the topics have learning goals and respective prerequisites. A set of lectures focus on a topic. Topics could have sub-topics with respective learning goals and prerequisites. This goes down recursively till there are basic instructions to be provided to elucidate the fundamentals of the subject or topic. Basic instructions have no further prerequisites, from within, though they could well have such prerequisites for the course as a whole or depend on knowledge presumed to be known to students. Basic instructions are elemental, or atomic in relation to teaching; as are fundamentals of the subject atomic with respect to learning. Basic instructions are delivered from first principles as it were; fundamentals form the first principles for reasoning in the subject.

This systematic method of pedagogy for adult literacy starts with what is already known through adult illiterate's use of language, segmenting the known words and cognizing the newly uncovered (syllable) structure, learning to recognize the new in all contexts and situations through play, and moving on to previously unknown but now cognized, rationalized, known and internalized entities or ideas. On an average, from our experience of analyzing IPCL approach, existing eLearning Systems for Hindi, Telugu, Urdu and Kannada; each one of them has about 20,000 visual components, 2,500 aural components, and 750 instructions arising from 24 to 28 lessons based on primers from SRCs and NLM. These can be organized better in the following way:

- Each *lesson* is treated as a play or a drama
- Each *play* consists of a sequence of acts
- Each *act* consists of a sequence of scenes
- Each *scene* consists of a sequence of instructions
- An *instruction* is where the work of teaching is undertaken. *Plays*, acts, and scenes are conceptual organizational structures. They provide convenient points in teaching for conveying motivation to learn, inspirational messages, putting forth exemplary role models amongst learners who have gone on to achieve.

Each *play*, *act*, *scene* and *instruction* has defined instructional goal and there are, on an average 750 instructions in a given eLearning System based on adult literacy primers.

The detailed instructional process is as follows:

- The process starts from common known words to speakers of a language, segments the words phonetically into syllables, then segments the syllables into simple sounds, which are then identified as alphabets of the language
- The visual pattern of the word as a whole is presented again and again till it is cognized with no conscious effort
- Aural segmentation is carefully orchestrated by the instructor, so that the phonetic alphabet is discovered Simultaneous visual segmentation of the word into syllables builds the correspondence between the sounds of the syllables and their scripted visual form. Again this is repeated till it sticks in the memory of all students, leading to learner paced instruction
- The teacher identifies the alphabets as new facts derived from known words and support activities are required to make these discoveries stick in the memory of learners
- Comparing words amounts to comparing syllables in previously seen words. Syllables that have similar sounds in them are then segmented based on the similarities; this exposes the dissimilarities, as well as leading to the discovery of phonetic alphabets due to the similarities
- Abduction is used to identify the cause that leads to dissimilarities

- Concatenation of sounds provides a basis for phonetic composition. These rules are inferred from examples. Concurrent rules are inferred for visual composition of scripted sounds to form syllables
- The set of phonetic alphabets discovered so far, and the set of rules for composition of sounds to form syllables and words, both in the visual and aural forms, form a relatively complete world of all words that can be deductively derived from them
- The complete alphabet of the language is known at the end of the Literacy instruction. Similarly, the complete set of rules for composition of sounds and their scripted forms are also known at the end. It is this completeness that allows induction to be the basis for their confidence that they can read or write anything expressed in their language. Inference and induction lead to deduction as a means for a complete approach to understanding the cause-effect relationships between phonetic alphabet and their scripted representation, and composition thereof.

Quality and Technology Perspectives

One of the fundamental factors affecting the quality of instruction during design of eLearning Systems is the lack of instructional basis (Goodyear, 2002). The proposed *Process Pattern* provides a goal-driven structure for modeling instructional process, however it does not include a strong philosophical attitude of instructional design. It is here we analyzed the literature in instructional design and realized that there are several ways of modeling instructional processes based on different instructional design theories or methodologies (Reigeluth, 2013). To improve the quality of instruction, we mapped *Process Pattern* to Merrill's first principles of instruction. Merrill has analyzed existing instructional design models and proposed that the following fundamental principles are critical to any instructional design (Merrill, 2012).

- Activation principle - reaching out to what students know
- Application principle - exercising their new knowledge
- Integration principle - accumulating or integrating what they have learnt recently with what was learnt in the past
- Demonstration principle - showing how this new knowledge can be used
- Task Orientation principle - getting students to solve problems

Each of these principles (activities) are repeatedly used in a specific order in the instructional process to fulfill goals. In addition to these principles, Merrill also proposed a deeper sub-cycle structure—guidance—coaching—reflection that strengthens these activities. For example a structure has to be provided for the learner as part of instruction while applying activation principle and necessary guidance has to be given to the learners during a demonstration activity. Generally, the *Process Pattern* involves some or all of these principles at different levels of granularity but the application of these principles becomes explicit for tasks at instruction level.

Figure-1 shows organizational structure of a lesson using the *Process Pattern*. The instructional process can be customized in terms of the number and order of the plays, acts, scenes, instructions as per varied requirements. For example, the first play, act and scene focus on providing motivation to the learner and the last instruction might be a summary of what has been learnt so far in a particular lesson. Again, this motivation can be an audio or video based on local context. Typically, we have figured out that a local folk song could be used for this purpose which can be a *Bojhpuri* song for *Hindi* belt or a *Bathukamma* song for *Telangana* region. This allows the learners to tightly bond with the technology and be able to sustain their motivation levels. Another most commonly used scenario with this pattern is to use the words that are familiar to learners like their names, names of their family members or relatives or names of their villages and use them to introduce alphabets. *Process Pattern* allows this customization of these structures *Variation points*

Fig. 1. Structure of instructional process with variation points
both at instructional process and technology level.

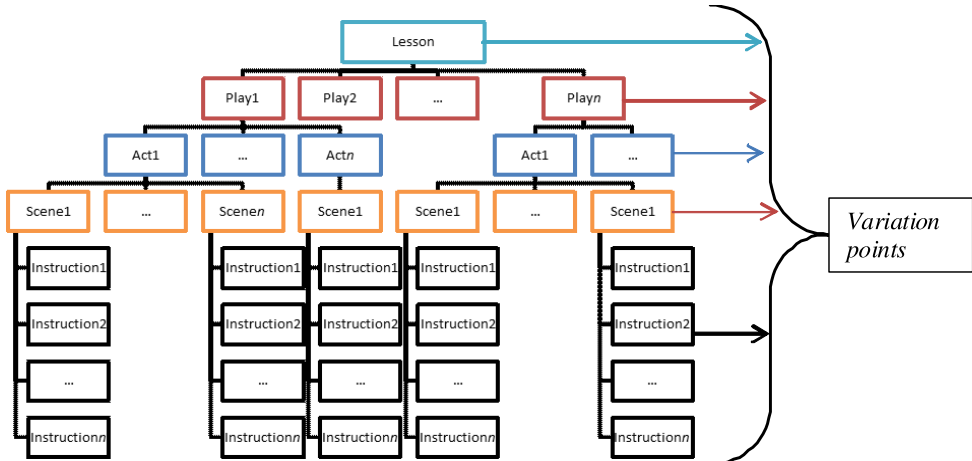


Fig. 1. Structure of instructional process with variation points

Figure-2 and Figure-3 show a fractional part of an example play based on this pattern for *Hindi* and *Telugu* languages respectively. In this example, there are several acts each having its respective goals, and consisting of specific scenes and further instructions. Each of these plays, acts, scenes, instructions act as placeholders for different kinds of instructions for multiple languages. This structure allows devising tools which can process them and generate customized eLearning Systems. In addition, these acts are generally mapped to Merrill's principles providing a theoretical basis. For example, Scene1 of Act2 introduces words that familiar to the learners essentially involving activation principle whereas learners have to use application principle in Scene2 of Act5 to form new words from existing syllables. Similarly, other instructions in the instructional process can be mapped to principles. While the number of lessons might vary, we discovered that the following types of standard acts in IPCL methodology:

- To introduce new sounds
- Use these new sounds to form words, both familiar and new
- Recapitulate sounds that have been learnt in previous lectures
- Combine previously learnt sounds with newly introduced sounds in this lesson to form words, both familiar and new
- Compare previously learned sounds with similar new sounds to cognize the difference
- Learn to create new sounds from old sounds from the above experience
- Combine newly created sounds with sounds learnt so far, including this lesson, to create words, both familiar and new
- Exercises, through jumbled words, and reading words not covered so far, but using only the sounds learnt so far

- **Play1 – learners should be able to recognize and read three syllables (म, क, न), matra (ः) and their sounds**
 - Act1 – Motivating Act with audio/video
 - Act2 – Introduces new sounds and syllables
 - Scene1 – introducing familiar words or phrases (मकान)
 - Instruction1 – Decompose syllables (म, क, न) into phonemes / sounds
 - Instruction2 – Repeat till cognized and remembered
 - Act3 – Compare Act
 - Scene1 – Compare previously learned sounds with similar new sounds to cognize the difference
 - Act4 – Forming new words from syllables
 - Scene1 – show how a new word नमक is made from न, म, क
 - Scene2 – show how a new word काका is made from क, ा
 - Act5 – Learn Rules Act
 - Scene1 – repeatedly show forming of new words and introduce the rules
 - Scene2 – apply the rule and show forming of new words
 - Act6- Exercises
 - Scene1 – Reading Exercises
 - Instruction1 – Identification at syllable level (ब,ह,ग,क,ज,ल,म,क,र,न,प)
 - Instruction2 – Identification at word level (Identify म and क in कमरा?)
 - Act7 – Summary of the play
 - Scene1 – Summarize the goals of this and briefly repeat the syllables and sounds learnt in this play

Fig. 2. Part of an example play in Hindi language based on *ProcessPattern*

- **Play1 – learners should be able to recognize and read three syllables (మ, న, ఊ, ర), matra (:) and their sounds**
 - Act1 – Motivating Act with audio/video
 - Act2 – Introduces new sounds and syllables
 - Scene1 – introducing familiar words or phrases (మనశుడు)
 - Instruction1 – Decompose syllables (మ, న, ఊ, ర) into phonemes / sounds
 - Instruction2 – Repeat till cognized and remembered
 - Act3 – Compare Act
 - Scene1 – Compare previously learned sounds with similar new sounds to cognize the difference
 - Act4 – Forming new words from syllables
 - Scene1 – show how a new word మర is made from మ, ర
 - Scene2 – show how a new word నరము is made from న, ర, మ, ఊ
 - Act5 – Learn Rules Act
 - Scene1 – repeatedly show forming of new words and introduce the rules
 - Scene2 – apply the rule and show forming of new words
 - Act6- Exercises
 - Scene1 – Reading Exercises
 - Instruction1 – Identification at syllable level (క, ఖ, ఘ, మ, ట, న, ప, స, ఊ, ల, వ)
 - Instruction2 – Identification at word level (Identify మ and న in మనశుడు?)
 - Instruction3 – Identification at sentence level (Identify మ and న in మన మంచి శురు)
 - Act7 – Summary of the play
 - Scene1 – Summarize the goals of this and briefly repeat the syllables and sounds learnt in this play

Fig. 3. Part of an example play in Telugu language based on *ProcessPattern*

Each of these acts can be standardized and at the same time customized for multiple languages and varied requirements. An act which introduces new sounds could start with a *motivating scene* and end with a *summary scene*. In between, there should be *scenes* that accomplish the teaching goal for the complex act. The scenes in this act, besides the enveloping motivating scene and the summary scene are:

- Introducing familiar words or phrases from the (Social Awareness) Theme;
- Identifying the new sounds and associating them with their scripted visual representation.

Similarly, an act to form words from known sounds, both familiar and new may be used several times in a lesson. The teaching goal for this act is to discover several short (two and three syllable) words that students may already know but now can recognize the scripted syllables that can be concatenated (brought together or joined in a prescribed order) to visually depict them. It may also extend their vocabulary, as all may not know these words.

Implementation

Based on the *Process Pattern* discussed in this paper and our approach to design of educational technologies for scale and variety, we have semi-automatically generated eLearning Systems for adult literacy in India and made them publicly available for broader impact:

- The prototype software developed based on our approach is available at <http://rice.iiit.ac.in>. This software can be used to generate customized eLearning Systems for adult literacy
- The mobile version of the generated eLearning System for Telugu Language is deployed on Google Play Store and is available at <https://play.google.com/store/apps/details?id=iiit.rice.al.telugu>
- The eLearning System is listed in the official websites of Department of Adult Education of Government of Telangana at <http://tslma.nic.in> and State Resource Center, Government of Telangana at <http://srctelangana.com>

Conclusion

The challenge of developing eLearning Systems for 22 languages and dialects in the context of adult literacy is hardened by the demand for customization of these systems for varied instructional processes. In this paper, we presented *Process Pattern* as a way for systematic modeling of instructional process based on well-established learning methodology of IPCL from National Literacy Mission. This *Process Pattern* provided the structure for customization of instructional process at

multiple levels (play, act, scene, instruction) catering to diversified contexts. We also discussed how the pattern can be mapped to Merrill's first principles for quality of instruction. We then demonstrated the pattern for a couple of examples for *Hindi* and *Telugu* languages followed by a brief discussion on implementation of the technologies. We see this research to be a stepping stone for applying the notion of patterns in instructional design to facilitate scale and variety not just in the case of adult literacy but in general to different kinds of education.

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Psycho Social Intervention for rehabilitation of Intellectually Disabled Children

B.P.Sahu

Disability is the inability to perform a normal bodily or mental process. It could either be complete inability to do something such as walking or it can be partial inability to do something. A person is regarded as disabled, because of a difference in appearances or behavior or even both. In most instances, a disabled person has functional limitations which lead to specific reductions in bodily functions and activity restrictions. There are hundreds of different disabilities and there are as many causes for these disabilities. Some people are born with disabilities while others become disabled later on in their lives. Some disabilities exhibit themselves only periodically like fits and seizures; while others are constant conditions and are life-long. It may be total or partial impairment of senses and physical and intellectual capacities. Others may be a handicap or deviation of a social nature, injury or illness or incapacities to accomplish physiological functions. The severity of some stays the same, while others get progressively worse with muscular dystrophy and cystic fibrosis. Some are hidden and not obvious, can be controlled and cured while others still baffle the experts. Thus, finding a consensus on the different and frequently varying definitions of disabilities, whether sophisticated or practical, has never been easy. However any type of disability has individual, cultural, social, economical and environmental consequences. Further disabled people do not form a homogenous group. They can broadly be classified as Physical, Communication, Learning, Mental and Medical Disabilities (Priestly, 2001)

Persons with disabilities have diverse personal factors that determine their behavior associated with their gender, age, socioeconomic status, sexuality, ethnicity or cultural heritage. Even though disability correlates with disadvantage, not all people with disabilities are equally disadvantaged. Women with disabilities experience the combined disadvantages associated with gender as well as disability, and may be less likely to marry than non-disabled women. Also, according to the World Report of Disabilities 2011, people who experience mental health conditions or intellectual impairments appear to be more deprived in many settings than those who experience physical or sensory impairments.

Three major overlapping periods define the life of a human organism. The prenatal period is launched from the moment of conception and continues until the beginning of a labor. All but the first few days of this period are spent within the confines of the womb. The Perinatal period, which can overlap with the prenatal period, dawns at about the seventh month of pregnancy and extends until twenty- eight days after

birth. This phase is associated with the impending birth, the social and physical setting for delivery and the baby's first adjustments to his or her new world. Among the events included in the perinatal period are the medical and obstetrical practices associated with delivery, and the preparations and care provided by parents and others to assist in the transition from the womb to life outside. The postnatal period, which can overlap with the perinatal period, begins after birth. The child's environment now includes the broader physical and social world afforded by caregivers and others responsible for the infant's continued growth.

Prenatal factors account for about one third of all cases of retardation and they are especially prominent in more severe degrees of intellectual impairment. Although, the role of a number of adverse prenatal events in causing retardation is relatively well understood, their specific impact is complicated by the time period that may intervene between the precipitating event and its actual detection (alcohol consumption in the first trimester of pregnancy and some later postnatal manifestations of fetal alcohol syndrome), and a likely interplay of individually adverse effects (Masland, 1958). Prenatal infection interfering with the developmental process can lead to multiple defects. The immature brain lacks the ability to repair damage, remove abnormal cells, and compensate for missing tissue. Abortions, spontaneous or selective, are common outcomes during the first trimester. Fetal infection occurs in about half of the mothers who contract rubella and, of those fetuses affected during the first trimester. Rubella virus, having crossed the placenta from the maternal circulation, has an affinity for the developing brain and cardiovascular system (Graham, 1992). Rubella virus can create minor motor difficulties, such as feeding problems, learning deficits, and behaviour disorders (Hanshaw & Dudgeon, 1972).

Intellectual Disability (ID) is accompanied by emotional or behavioural problems. People with severe ID have behavioural problems like self-stimulation, self-injury and aggression (Singh, 1997). The young people with ID are highly disruptive, self-absorbed and anxious. They suffer from communication disturbance, attention deficit hyperactivity and depression. These high levels of disruptive behavior contribute to parental burden (Howlin, 1998). As noted from different studies, behavioural problems and psychiatric disorders are more common among low birth weight infants (Elgen, 2002). Preterm Infants are at increased risk of behavioral, emotional, and neurological problems (Butta, 2002, Hack ,et.al.,2004 ,Botting, 1997). It has been observed that behavioural disorders occur together with neurologic and cognitive deficits attributable to prematurity (Nadeau 2001). Kolko (1988) studied the Social Competence factors of behavior problem of 200 children in child psychiatric unit. Behavioural Problem such as Self-control, Adaptive behavior factor, Defiance, Inattention, Depression, Self-injury and Anxiety were found among these children. Aberrant Behaviour Checklist (ABC) is a behavior rating scale that was originally developed to assess treatment effects in people with mental retardation (Aman, Singh, & Field, 1985). The ABC has five subscales such as Irritability, Agitation, Crying, (II) Lethargy, Social Withdrawal, (III) Stereotypic Behaviour, (IV) Hyperactivity,

and (V) Inappropriate Speech. The scale been used extensively to study the problem behavior in children and adults afflicted with mental retardation. (Muller, 2011) study shows that paternal psychological well-being as a significant contributor of the behavioural development of preterm children. Disruptive behavior disorders are associated with sequel that may result in serious consequences for both the child and society, including legal trouble, school suspension, substance abuse, and physical injury. Further tells that adequate and timely psychosocial support from the both parents might prevent, or at least reduce behavioural problems at risk infants (Kaaresen, 2008).

International Scenario

International Disabled Foundation (1998) reported that more than half a billion disabled live in the world which accounted for approximately one tenth of the total population. International Labour Organisation (ILO) Press Release of 2001 states that there are approximately 610 million persons with disabilities, of whom 80 percent lived in developing countries, predominately in rural areas. Developed countries have more accurate data collection systems through their census and surveys. The data of some of these countries (Paciello, 2000) are given as follows: 8.5 million in United Kingdom, 52.6 million in United States of America, 37 million in European Union, and 4.2 million in Canada are living with disability. This number rose dramatically over the next twenty-five years, both in rich and poor countries. World Report on Disability (2011) reported that one billion people or 15 Percent of the World's population experiences some form of disability or the other. In India the number of disabled population as per 2011 census was 26,810,557.

Indian Scenario

In India first and foremost disability census was conducted in the year 1872. It covered both physical and mental disabilities including leprosy. Collection of such information continued till the 1931 census, but it was discontinued in the subsequent census from 1941 to 1971. In the year 1981 Census of India again started to collect data on disabilities, and it covered only three categories of disabilities such as totally dumb, totally blind and totally crippled. In the year 1991, disability data was not included in the Census. In the year 2001 census for the disabled was resumed in the wake of sustained pressures from organizations in the field of rights and welfare of the disabled. The 2001 Census covered five types of disabilities: Seeing, Speech, Hearing, Movement and Mental disabilities. According to the 2002 survey, the rate of occurrence of any disability was 69 per 100,000 populations. However Census 2011, generated the information on eight types of disability, listed in the table below.

According to Census 2011, there are more than 7.8 million children with disabilities, constituting approximately 2 per cent of the total child population. The majority of them (58 per cent) are in the 10+ age group. Out of the total number of children with disabilities (CWDs), approximately 8 per cent suffer from mental

retardation. A study carried out by Indian Council of Medical Research (2005) noted that the mental illness leading to disability frequently goes un-recorded. It also noted that services for mental illness, especially in rural areas are limited. It also noted that services for mental illness, especially in rural areas are limited. Approximately 36 percent children in the age group of 6-13 years suffering from mental disability (of any type) do not have access to any institutional service and are out of school (National Survey of out of School Children 014; MOHRD, SRI-IMRB).

Table 1.1: Magnitude of Disability on the basis of their types in India

Sl. No.	Type of Disability	Males	Females	Total
1	In Seeing	2,638,516	2,393,947	5,032,463
2	In Hearing	2,677,544	2,393,463	5,071,007
3	In Speech	1,122,896	875,639	1,998,535
4	Movement	3,370	2,066,230	5,436,604
5	Mental Retardation	870,708	634,916	1,505,624
6	Mental Illness	415,732	307,094	722,826
7	Multiple Disability	1,162,604	953,883	2,116,487
8	Any other	2,727,828	2,199,183	4,927,011
Total		14,986,202	11,824,355	26,810,557

Source: Table C-20, Census of India 2011

As seen from the above table out of a total 26,810,557 disabled population, the persons afflicted with mental retardation were 1,505,624 and with mental illness were 722,826. The total disabled population was 2.21 percent of the total population.

Table 1.2: Percentage of Disabled (Rural and Urban)

Sl.No	Percentage of Disabled to total population India, 2011			
	Residence	Persons (%)	Male (%)	Female (%)
1	Total	2.21	2.41	2.01
2	Rural	2.24	2.43	2.03
3	Urban	2.17	2.34	1.98

Source: Census of India - 2011

Present scenario of Inclusive Education in North East India

There are 2, 68, 10,557 persons with Disabilities (PWDs) in India as per census 2011, constituting 2.21 % of the total population. The table reveals that the percentages of males are more than the females. The rural areas are having more number of disabled population than the urban areas.

Table 1.3: The enrollment of CWSN in the mainstream schools of North Eastern Region

Sl. No	Name of the State	Age Group 5-9 years	Age Group 10-19 years	Number of schools for Inclusive Education	Enrollment of PWD by 2013-2014
1	Assam	35,211	76,681	1,256	5,030 (4.50%)
2	Arunachal Pradesh	2,082	5,026	92	598 (8.41%)
3	Nagaland	1,937	4,631	58	322 (4.90%)
4	Manipur	3,973	9,107	147	560 (4.28%)
5	Mizoram	988	2,2169	216	809 (3.49%)
6	Tripura	4,114	9,764	287	708 (5.10%)
7	Meghalaya	4,459	9,624	65	148 (1.05%)
8	Sikkim	716	2,014	34	68 (2.49%)
Total		53,840	139,016	2155	8243 (4.28%)

Source: Census Report 2011, Ministry of Human Resource Development, Government of India.

The table depicts that Persons with Disability enrolled in Inclusive School by the year 2013-14 in the North –Eastern States. The enrollment in Arunachal Pradesh was 8.41% followed by Tripura with 5.10% of children. In the States of Nagaland, Assam and Manipur, the enrollment of children in the inclusive schools was 4.9%, 4.50% and 4.28%. In the state of Meghalaya, there are 65 inclusive schools which provide education for the children with disability. It is alarming in the state of Meghalaya. In the age group of 5-19 years of only 148 children were enrolled in the reference year. It is only 1.04 % of the total disabled children who are going to school in the state of Meghalaya. Meghalaya has the least number of enrollments of children in the inclusive school. The situation is alarming as in all the north eastern states the enrollment in inclusive schools was only 4.28 percent.

Intellectual Disability

Mental disability, Mental retardation and Intellectual disability have same connotation. Intellectual disability, earlier known as mental retardation, means that a person's mental development is much less than peers. Intellectual disability is characterized by significant limitations in both **intellectual functioning** and in **adaptive behavior**, which covers many everyday social and practical skills. The

term used to describe this condition has gone under constant change over the years due to social and political compulsions. It was changed in 2010, as the term mental retardation seemed to have negative connotations. Diagnostic and Statistical Manual, 5th Revision (DSM-V) has replaced it with ID and also found its place in the eleventh revision of International Classification of Diseases. Currently the term ID is being used instead of mental retardation.

According to International Classification of Diseases (ICD), Mental Retardation can be classified into Mild Mental Retardation (IQ: 50-70, Mental Age 9 to under 12 years), Moderate Mental Retardation (IQ: 35-49, Mental Age 6 to under 9 years), Severe Mental Retardation (IQ 20-34, Mental Age 3 to under 6 years), and Profound Mental Retardation (IQ 19 and below, mental age under 3 years).

Intellectual disability occurs due to different types of causes. The causes are most conveniently grouped according to the time frame in which they occur in relation to the development of the embryo, such as genetic and chromosomal factors, prenatal factors, perinatal factors and postnatal factors. The Characteristics of ID children are manifested as delay in development, slow reaction, absence of clarity, inability to learn fast, Inability to understand quickly, Inability to decide, Inability to remember, Lack of concentration, Lack of motor coordination and Age inappropriate behavior.

There is a strong inter-linkage between disability and poverty when the additional cost of living with a disability is taken into account. This is particularly true in households with children with disabilities. Filmer (2008) argues that, among school-age children (6-17 years) across 13 developing countries, disability-based school participation deficits are often larger than those associated with characteristics such as gender, residence in rural areas or the household's economic standing. Among children with disabilities in India, girls receive less care and education than boys and are more likely to die as a consequence. Women with disabilities in India face double discrimination due to the prevalence of traditional gender roles and expectations.

Theoretical Framework

The child with intellectual disability affects the family and the family environment affects his/her development and behavior. Children with intellectual disabilities affect their families differently while they pass through different stages of development. To study these effects, it is needed to look at the various theoretical premises for developing a conceptual framework of study.

Urie Bronfenbrenner (1917) propounded the "Ecological Systems" theory. He labeled different aspects of environment that influence children's development. They are microsystem, mesosystem, exosystem, and the macro system. The micro system is the small, immediate environment the child lives in. Microsystems include any immediate relationships or organizations they interact with, such as their immediate

family or caregivers and their school environment. Mesosystem, describes how the different parts of a child's micro system work together for the sake of the child (For ex: family members and school environment moulding the child behavior). The exosystem level includes other people and places that the child may not interact with often but that still have a large affect on. Examples for the exo system level can be in terms of parents' workplaces, extended family members, the neighborhood, and so on. So the concept of environment affecting the child is relevant in the present study as it gets in-depth and matches with all systems that influence the children's environment. Further it covers all aspects like biological, psychological and social environment for the growth and development of the child. The final level is the macro system, which is the largest and most remote set of people and things to a child but which still has a great influence over the child. The macro system includes things such as the relative freedom permitted by the national government, cultural values, the economy, wars, and similar things. These can affect a child either positively or negatively.

Mike Oliver (1983) propounded the theory of "Social model of Disability". A fundamental aspect of the social model concerns equality. The struggles for equality are often compared to the struggles of other socially marginalized groups. Equal rights are said to give empowerment and the "ability" to make decisions and the opportunity to live life to the fullest. Social model of disability focuses on changes that are required in society. These might be in terms of: Attitudes, Behaviors, and Social support. Behaviors like not underestimating the potential quality of life of disabled people will create inferior complex in their minds of disabled persons. For example in the form of social support help dealing with barriers; resources, aids or positive discrimination to overcome them. Social model of disability implies that attempts to change, "fix" or "cure" individuals, especially when used against the wishes of the patient, can be discriminatory and prejudiced. This attitude, which may be seen as stemming from a medical model and a subjective value system, can harm the self-esteem and social inclusion.

The Cell-Assembly Theory was developed by Donald Hebb (1949). In this theory, he explains that perception may be understood in terms and functions of the central nervous system which correlates to stimulation. It involves the activity of collections of neurons from brain that takes place in such way as to form associations both sensory and sensory motor activity. In the central nervous system the neurons are main component. It has to be activated in right manner to the child. Brain is the most vital part of the human body. It has 3000 neurons and connected with cells. It is also called transmitter of feeling, and emotion of the child. The stimulation should be properly activated to perform better activity. In this study the stimulation towards the children by various people like teachers, parents and neighbors play vital role. So that child can learn things, easily and respond to the action quickly.

Cognitive behavioral therapy (CBT) was developed by Dr. Aaron T. Beck (1960),

a psychiatrist at the University of Pennsylvania. The theory is a form of psychotherapy. It was originally designed to treat depression, but is now used for a number of mental illnesses. It works to solve current problems and change unhelpful thinking and behavior. The name refers to behavior therapy, cognitive therapy, and therapy based upon a combination of basic behavioral and cognitive principles. Most therapists working with patients dealing with anxiety and depression use a blend of cognitive and behavioral therapy. This technique acknowledges that there may be behaviors that cannot be controlled through rational thought, but rather emerge based on prior conditioning from the environment and other external and/or internal stimuli. Thus CBT is "problem focused" and "action oriented". The Therapist tries to assist the client in selecting specific strategies to help address those problems, or directive in its therapeutic approach. It is different from the more traditional, psychoanalytical approach, where therapists look for the unconscious meaning behind the behaviors and then diagnose the patient. CBT has been shown to help with many different types of problems. These include: anxiety, depression, panic, phobias (including agoraphobia and social phobia), stress, bulimia, obsessive compulsive disorder, post-traumatic stress disorder, bipolar disorder and psychosis.

McCubbin and Patterson (1983) developed the Double ABC- X model of stress and coping. In this model, a parent's ability to cope with a stressful situation is determined by the interaction of the stressor event and subsequent life stressors, family resources, parental perceptions and coping strategies. Whether having child with disabilities leads to stress or adaption will depend upon the explanations made by the family, their understanding of occurrence of events and what existing coping strategies they may use to alleviate stress. The model enables the parents to adopt the coping strategies to decrease the level of stress from children.

Problem

Intellectual disability is characterised by significant limitations both in **intellectual functioning** (reasoning, learning, problem solving) and in **adaptive behavior**, which covers a range of everyday social and practical skills. The evaluation and classification of intellectual disability is a complex issue. There are three major criteria for intellectual disability: significant limitations in **intellectual functioning**, significant limitations in adaptive **behaviour** and onset **before the age of 18**. These skills are: 1. Conceptual skills-language and literacy; money, time, and number concepts; and self-direction. 2. Social skills-interpersonal skills, social responsibility, self-esteem, gullibility, social problem solving, and the ability to follow rules, obey laws, and avoid being victimized. 3. Practical skills-activities of daily living (personal care), occupational skills, healthcare, travel/transportation, schedules/routines, safety, use of money, and use of the telephone. There are a number of causes of this type of disability. The understanding of the causes of intellectual disability focuses on the types of risk factors (social, behavioral, and educational) and the timing of exposure (prenatal, perinatal, and postnatal) to those factors. The overarching reason for evaluating and

classifying children with intellectual disabilities is to tailor supports for each child, in the form of a set of strategies and services provided over a sustained period. The challenge for us, is to enhance their functioning within their own environment in order to lead a more successful and satisfying life.

The Preamble of the Charter of United Nations affirms the dignity and worth of every human being and gives primary importance to the promotion of social justice. Persons with disabilities are, de-facto, entitled to all the fundamental rights upheld by the Charter Article 25 of the Universal Declaration that states each person has the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in the circumstances beyond his control. The United Nations declared 1981 the International Year of Disabled Persons, and adopted the World Program of Action concerning Disabled Persons (1982). UN also declared the Decade (1983-1992) as decade of Disabled Persons. Since then, the attention towards the disabled people and the need to promote their welfare came into the forefront. The Asia Pacific Region was the first to follow up with a regional Decade of Disabled Persons in 1993 since approximately 400 million of the world's 600 million disabled people live in the region. A dominant problem in the disability field is the lack of access to education for both children and adults with disabilities. As education is a fundamental right for all, enshrined in the Universal Declaration of Human Rights, and protected through various international conventions, this is a very serious problem. In a majority of countries, there is a dramatic difference in the educational opportunities provided for disabled children and those provided for non-disabled children. It will simply not be possible to realize the goal of Education for All if we do not achieve a complete change in the situation (Benqt Lindquist, 2007).

Most women experience both pride and apprehension when they learn they are pregnant. The opportunity for human conception begins about the 14 days after the start of the menstrual period. At this time, a capsule- like follicle housing a primitive egg cell in one of the ovaries begins to mature. As it matures and changes position, the follicle eventually ruptures and discharges its valuable contents from the ovary. After being expelled, the egg cell or ovum is normally carried into the fallopian tube. This organ serves as a conduit for the egg, which moves toward the uterus at the leisurely rate of about one- sixteenth inch per hour. The fallopian tube provides a receptive environment for fertilization if sperm are present. If unfertilized, the ovum survives only about twenty hours. Sperm reach the fallopian tube by maneuvering from the vagina through the cervix and uterus. Sperm can migrate several inches an hour with the assistance of their tail-like appendages. With each ejaculation, 300 to 500 sperm typically negotiate the approximately ten- hour trip into the fallopian tube to reach the egg. These usually survive only about forty-eight hours. If an ovum is present the sperm, gets attracted to it, possibly because of scent- like chemical cues emitted by the egg (Spehr et al. 2003). The egg also prepares for fertilization in the presence of sperm Cells initially surrounding the ovum loosens their protective grip, permitting the egg to be penetrated. As soon as one sperm cell breaks through

the egg's protective linings enzymes rapidly transform its outer membrane to prevent others from invading (Moore & Persaud, 2008). Genetic material from egg and sperm quickly mix to establish a normal complete of 46 chromosomes. The egg, the body's largest cell, barely visible to the naked eye weighs about 100,000 times more than the sperm the body's smallest cell. Despite the enormous difference in size, both contribute equivalent amounts of genetic material to the Zygote.

In the typical nine months of confinement to the womb, the human organism indeed undergoes an epic journey. At no other time does growth take place so rapidly. Many physical changes occur in a matter of weeks days, and even hours. Although fetal growth proceeds in a highly protected environment, we are also discovering the ways in which drugs, diseases, and other factors affect prenatal development. We summarize our current understanding of these influences and then consider the birth process, another point at which the influences on development can be significant.

Three major overlapping periods define the life of a human organism. The prenatal period is launched from the moment of conception and continues until the beginning of a labor. All but the first few days of this period are spent within the confines of the womb. The Perinatal period, which can overlap with the prenatal period, dawns at about the seventh month of pregnancy and extends until twenty- eight days after birth. This phase is associated with the impending birth, the social and physical setting for delivery and the baby's first adjustments to his or her new world. Among the events included in the perinatal period are the medical and obstetrical practices associated with delivery, and the preparations and care provided by parents and others to assist in the transition from the womb to life outside. The postnatal period, which can overlap with the perinatal period, begins after birth. The child's environment now includes the broader physical and social world afforded by caregivers and others responsible for the infant's continued growth.

The prenatal period is itself typically divided into three stages. The germinal period also known as the period of the zygote, encompasses the first ten to fourteen days following conception. Germinal period is the period lasting about ten to fourteen days following conception before the fertilized egg becomes implanted in the uterine wall. This is also called period of the Zygote. Embryonic period is the period of prenatal development during which major biological organs and systems form. It begins about the tenth to fourteenth day after conception and ends about the eight week after conception. Fetal period is the period of prenatal development, from about the eight week after conception to birth. This is marked by rapid growth and preparation of body systems for functioning in the postnatal environment Cell division and migration of the newly fertilized egg, culminating with its implantation in the uterine wall, characterize the germinal period .The second stage, the embryonic period, continues from about two to eight weeks after conception. The formation of structures and organs associated with the nervous, circulatory, respiratory, and most other systems

marks the embryonic period. The final stage, the fetal period, lasts from about eight weeks after conception until birth. This period is distinguished by substantial brain and physical growth. Organs and systems are also further refined in preparation for functioning outside the womb.

After Fertilization, the zygote continues to migrate down the Fallopian tube, within 24 to 30 hours after conception, the single cell divides into two cells, the first of a series of mitotic divisions called cleavages. At roughly twelve to twenty hour intervals, these cells divide again to form four then eight, then sixteen cells. During the cleavages the zygote remains about the time the zygote is ready to enter the uterus, it has become a solid sphere of sixteen cells called a morula. Each cell is a like in its capacity to generate a spate, identical organism. About the fourth day after conception, however, the cells begin to segregate and carry out specific functions. One group forms a spherical outer cellular layer that eventually becomes various membranes providing nutritive support for the embryo, the label typically applied to the developing human organism from about two to eight weeks after conception. A second inner group of cells organizes into a mass that will develop into the embryo. This differentiated group of cells is now called a blastocyst (Sadler, 2004).

The Embryonic period begins with the implantation of the blastocyst in the uterine wall and continues until about the eighth week after conception, is marked by the rapid differentiation of cells to form most of the organs and system within the body. This differentiation known as organogenesis is achieved by the production and migration of specialized cells having distinctive functions.

In the fetal period there is change from embryo to fetus mass that will develop into the embryo. This differentiated group of cells is now called a blastocyst (Sadler, 2004). About the sixth day after conception, the blastocyst begins the process of attaching to the uterine wall to tap a critically new supply of nutrients. By about the tenth to fourteenth day after conception, the implantation process is completed. Embryo label typically applied to the developing organism from about two to eight weeks after conception.

Prenatal factors account for about one third of all cases of retardation (32%) and they are especially prominent in more severe degrees of intellectual impairment. Although, the role of a number of adverse prenatal events in causing retardation is relatively well understood, their specific impact is complicated by the time period that may intervene between the precipitating event and its actual detection (alcohol consumption in the first trimester of pregnancy and some later postnatal manifestations of fetal alcohol syndrome), and a likely interplay of individually adverse effects (Masland, 1958). The latter is illustrated in such conditions as hemorrhage during pregnancy and low birth weight (prematurity), each of which increases the risk for abnormality.

The Nongenetic biological causes of mental retardation during pre-natal period include Infection (caused by Rubella, Toxoplasmosis, Syphilis, Cytomegalovirus and HIV), Maternal–fetal blood incompatibilities (Rh and ABO), Drugs and alcohol (caused by Cocaine, Heroin, Methadone, Alcohol, & therapeutic drugs), Maternal–fetal irradiation, and chronic maternal health problems (caused by Hypertension and Diabetes).

The Perinatal Nongenetic biological causes may be attributed to prematurity, Asphyxia (caused by Intracranial hemorrhage), Head trauma (caused by Hemorrhage, infection) infection (HIV and herpes) and Kernicteris.

In the post-natal Non-genetic causes for mental retardation may be attributed to infection (caused by encephalitis, meningitis, brain abscess, post-immunization encephalopathy) Cerebral trauma (caused by head injury, cerebrovascular accidents, brain tumor, hemorrhage from coagulation defects, thromboses, ruptured aneurysm) Poisons and environmental toxins (caused by lead, and mercury) Anoxia (caused by cardiac arrest, hypoglycemia, respiratory distress syndrome) Metabolic (caused by hypernatremia, hypoglycemia) Epilepsy (caused by Severe malnutrition)

Research methodology

That universe of the study comprise of 4 special schools imparting education and training to intellectually disable children located in Shillong. The schools under the study were Jyoti Sroat School, Dwar Jingkyrmen, Asha School, and Marry Rice Centre. The total number of ID children enrolled in all the 4 schools belonging to mild and moderate category was 195 (Data from the schools: 2014). The total numbers of boys enrolled were 135 and the total numbers of girls were 60. 50 children afflicted with mild and moderately ID, their parents and all the teachers from the special schools constituted the sample of the study. Random sampling procedure was adopted to obtain the required sample. The study was a cross-sectional survey. The objective of the study was to correlate the socio demographic factors of the parents of the ID children, the prenatal & postnatal factors, and attitude of parents & teachers of the ID child. The data was collected from both the parents and all the teachers from the four schools through a questionnaire. The questionnaire was developed by the investigators. Statistical techniques like percentage, Chi square and multiple regressions were used for the study.

Result

1. The finding showed that approximately 76 % parents belonged to low socio economic status having ID children. The unemployed ratios of mothers were 42% as compared to fathers are 14%. The majority of both fathers (32%) and mothers (62 %) were unskilled workers. Family income of most of the children with intellectual disabilities (76%) was below Rs 10,000 per month. 52% children belong to nuclear

family and 48% children belong to joint family. The study also found that mothers of children with IDs were significantly less happy and had lower self-esteem and self – efficacy. Higher and middle income parents (24%) have greater marital quality thus predicting lower parenting stress and fewer depressive symptoms in relation to their socio- economic status. It was also found that parents (62%) had lower quality marriages. However 78% of the parents were getting support from spouse, relatives, friends and neighborhood.

2. The study revealed that several maternal care characteristics like late night sleep, irregular working schedule, taking other medicines other than prescribed, and being under stress during the pregnancy period affected the foetus. The study also found strong associations between mother's cognitive states and their parenting stress. 50% parents had positive impact in terms of patience, tolerance, empathy, sensitivity support and relationship. However there was no significant loss of support from spouse, family, in-laws, relatives, friends and neighborhood. The results also indicate that the parents are uniquely worried about the independent functioning of their child in the future. Similarly the mothers reported worries about the future associated conditions of the child. As compared to mothers, the fathers showed less stress. Physiological responses of parents of children with ID are crying, cold sweat, not eating, physical pain, and break down. It was also found that most of the parents are not using psychological services such as guidance, emotional support, physiotherapy services, speech therapy, and music to cope with the children. The teachers have developed the skill of tolerance for working with the ID children. They also emphasized on motivating the ID children to participate in co- curricular activities like Games, Yoga, and Arts to develop Gross Motor and Fine Motor skills among the children.

3. The study found that birth of children with behavioral problems in early pregnancy is associated with the emergence of behavioral problems, particularly hyperactivity and comportment problems. It also found that ID children were perceived by their teachers and parents as displaying less socio affective abilities. Children with Intellectual disability are less socially adjusted to environment and peer group. Again it was found that social cognition components had links with development of social skills in children with behavior disorder and Intellectual disabilities having internalizing as well as externalizing problems.

4. The low socio-economic status percentage of parents expressed the needs of family and social supports and also the necessity to understand their child condition is encouraging. From the study it was found that social environment is strongly related to the mental and social functioning of the mothers. Mother's physical health was not significantly associated with characteristics of the social environment. Non-significant difference was found in the areas of social embarrassment and financial implications in all groups of parents. Mothers spent significantly more time with their disabled children than their spouses in terms of hours per day. Further the finding of the study was that the father experienced less stress than mothers. Majority of parents reported that they were getting hurt by other people. They feel hopelessness

(62%), depression (72%), grief (52%), and anger (56%). In the social support most of the parents experienced loneliness (82%), isolation (78%), loss of friends and relatives (76%). The study found that parents showed the dissatisfaction with professional service people (Doctor and Psychologist). Again the parents expressed a variety of opinions about their coping strategies using proactive approach. Several parents turned to and seek the help of religious men and they visited religious place for help the children to cure. Further almost all the parents avoided difficult situations, for children taking to public places.

Rehabilitation mechanisms

Rehabilitation Council of India (RCI) was set up as a registered society in 1986. In September, 1992 the RCI Act was enacted by Parliament and it became a Statutory Body on 22 June 1993. The Act was amended by Parliament in 2000 to make it more broad based. The authorization given to RCI was to regulate and monitor services given to persons with disability, to standardize syllabus and to maintain a Central Rehabilitation Register of all qualified professionals and personnel working in the field of Rehabilitation and Special Education. The Act also prescribes disciplinary action against unqualified persons delivering services to persons with disability. RCI also was to meant to regulate the training policies and programmes in the field of rehabilitation of persons with disabilities; to bring about standardization of training courses for professionals dealing with persons with disabilities; to prescribe minimum standards of education and training of various categories of professionals personnel dealing with people with disabilities; to regulate these standards in all training institutions uniformly throughout the country; to promote research in Rehabilitation and Special Education; to maintain Central Rehabilitation Register for registration of professionals/ personnel; to recognize the national institutes and apex institutions on disability as manpower development centers and to register personnel working in national institutes and apex institutions on disability under the Ministry of Social Justice & Empowerment.

The establishment of Rehabilitation Council of India has been a major move for quality assurance in the education training and management of persons with disabilities. Persons with Disabilities (Equal opportunities, Protection of rights and Full participation) Act, 1995 fixes the responsibilities on central and state governments to provide services, create facilities and give support to the people with disabilities in order to enable them to have an equal opportunity in participating as well as for being productive. India also ratified the UN Convention on the Rights of Persons with Disabilities in 2007. The PWD Act of 1995 was the key central legislation that provided certain entitlements in the areas of education, employment and affirmative action, and other privileges in prevention and early detection of disabilities. Evidence of considerable variability at the state level in providing for people with disabilities is evident when one notes that some states have been pro-active in increasing awareness among people, with disabilities about commitments and entitlements (Tamil Nadu, Karnataka, New Delhi) whereas others have lagged in implementing

many of the basic entitlements enshrined in the PWD Act of 1995 (Bihar, Maharashtra, Orissa, Uttar Pradesh).

Family

Family is the oldest and most enduring of the human institutions .Family is considered as the basic unit of society, to meet the needs of individuals and those of other societal institutions. It is a link between continuity and change. Family provides a socially acceptable vehicle to bring children into the world. Parents of the mentally retarded are more directly concerned with the problem than anyone else. Parents are as important as any community member or professional in helping retarded in helping themselves. They very often suffer from diffidence and anxiety over the question of meeting their child's needs. Every activity of persons with mental retardation has a meaning in their life. Families have to play a key role to rehabilitate the child. They have to facilitate the child in different services such as Activities for Daily Living (ADL), Dependent of living skills, social activities, vocational and employment activities. This will help the children to bring into their normal life.

Institutional mechanisms

There are many types of educational opportunities available today for the retarded child. In most advanced countries there are special day schools, residential schools, and various rehabilitation and occupational programmes available for the retarded. In India, National Policy for Persons with Disabilities was announced by the Government of India in 2006. The emphasis was on bringing persons with disabilities into the mainstream of the society. It recognized that "persons with disabilities are valuable human resource for the country". Its focus was to create an environment that provides those equal opportunities, protection of their rights and full participation in society. National Policy also seeks to prevent the incidence of disabilities through programmes for prevention of diseases that bring about disabilities and for creation of awareness about measures for prevention of these disabilities. The rehabilitation measures include Physical rehabilitation through early detection, counseling and medical interventions, provision of aids and appliances and development of rehabilitation personnel, Educational rehabilitation through promotion of education and development of vocational skills and Economic rehabilitation through provision of opportunities and for employment in government, wage employment in private sector and self – employment. The policy also stresses on the special needs of women and children with disabilities, importance of creating barrier-free environment and social security, and the important role that can be played by the non- government organizations in services to the persons with disabilities. National Policy also calls for attention to the need for mainstreaming of the persons with disabilities in the general education system through Inclusive Education. The role of the existing programmes such as Sarva Shiksha Abhiyan (SSA) and the Integrated Education for Disabled Children (IEDC) Schemes are highlighted in the National Policy. The objective is to ensure

that every child with disability has access to appropriate pre-school, primary and secondary level education by 2020. National Curriculum Framework for School Education (NCFSE, 2000) brought out by the National Council of Educational Research and Training (NCERT), recommended all-encompassing schools for all without specific reference to pupils with SEN (Special Educational Needs) as a way of providing quality education to all learners.

District Rehabilitation Centers

Government of India has also launched the District Rehabilitation Center Scheme in early 1955, to provide comprehensive rehabilitation services to the rural disabled right at their door steps. The services provided under the scheme includes: Prevention and Early Detection, Medical Intervention and Surgical Correction, Fitment of Artificial Limbs, Aids and Appliances Therapeutic Services Training for acquiring Vocational Training, and Job Placement.

Community Based Rehabilitation (CBR)

Community Based Rehabilitation is a cost effective, individual need based and result oriented approach for promoting complete integration of the individual into his community. Once rehabilitated, individual should lead a more productive life. This approach calls for full and coordinated involvement of all levels of society, community and intermediate and national. It seeks the integration and intervention of all relevant sectors- education, health, legislative and vocational and aims at the full representation and empowerment of persons with disabilities.

Psycho-Social Intervention

The view on integration and rehabilitation of people with disabilities is moving away from a rigid interpretation of the medical model to social model. The Social model suggests that the person's impairment is not the cause of the restriction of activity, but rather it is the way society is organized that causes discrimination against the disabled community. The proponents of the social model think that, if society would accept and accommodate disabled people, both physically and in societal attitudes, disability as concept would be made redundant (Barnes, 2003).

Children with disabilities have the same rights as children with no disabilities as enshrined in the UN Convention on the Rights of Children (CRC) (article 2). UNICEF, 2005 Report found that violence against disabled children occurs at annual rates of at least 1.7 times greater than their able bodied peers. An example of the increased vulnerability of children with a disability to violence is found in a study on children with language impairment in Nebraska, U.S.A. These children were 3.4 times more likely to face sexual violence than other children (Sullivan & Knutson, 2000). Another study from the United Kingdom concludes that all disabled people are at twice the

risk of being physically or sexually abused, compared to their able bodied peers (Calder bank, 2000). Women's Commission for Refugee Women and Children (2008) conducted the study and found that the refugee women and disabled children were excluded from psychosocial support. Psychosocial well being is the state in which individuals, families, or communities have cognitive, emotional, and spiritual strengths combined with positive social relationships. This state of well being motivates the development of life skills which enables them to understand and engage with their environment, and make healthy choices which leads to hope for the future. Psychosocial support is a continuum of love, care and protection that enhances the cognitive, emotional and spiritual wellbeing of a person and strengthens their social and cultural connectedness. Effective psychosocial support enhances individual, family and community well being and it positively influences both the individual and the social environment in which people live. Skills and knowledge lead to competencies and capacities to cope with life's demands and stresses and to manage relationships well. This includes problem solving, planning and decision making, stress management, negotiation, assertiveness, using culturally appropriate coping mechanisms, and ability to assess strengths in relation to needs. Emotional wellbeing is an individual's capacity to live a full and creative life and the flexibility to deal with life's inevitable challenges. The intrapersonal area concerns the individual's ability to know and to manage him or herself. It determines how in touch with his or her feelings a person is, how a person feels about him or herself and what he or she represents or is doing in their life. This includes self-awareness and a sense of self-worth, control over behaviour, realistic beliefs, spiritual appreciation or belief in purpose, independence, feeling safe and happy, appreciation of others and hope for the future. The interpersonal area concerns the ability to interact and to get along with others. Social well being also refers to the extent and quality of social interactions of children and youth, families and communities. This includes relationships with family members and peer groups, developing social networks, sense of belonging to a community, ability to communicate, social responsibility, empathy and participation in social and cultural activities.

Suggestions

The study suggests that maintenance of family integration; co-operation and optimism were strongly associated with reduced stress relating to overall family cohesiveness. Community agencies and government should educate the general public about the disabilities and raising awareness of the difficulties for parents. It can be emphasized that social skills training and aggression regulating in the training to psycho- education leads to more understanding in parents and teachers to change their attitudes towards the ID child. The interventions to teach and improve social skills should be offered to individuals with ID regardless of their parenting status. Prenatal and parenting programs for parents with ID should specifically include the psychological well-being to access the social support and family centered Interventions. Mothers have a critical role at the time of pregnancy. They have to take healthy and nutritious food and at the same time go for regular term checkups.

Otherwise it leads to malnutrition, susceptibility to disease, and delivery complications contributing to the effects of stress in fetal development.

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Sustainable Development: A Gradual Learning Process of Lifelong and Environmental Law

Faisal Ali Khan

Sustainable development is defined as a process of meeting human development goals while sustaining the ability of natural systems to continue to provide the natural resources and ecosystem services upon which the economy and society depends. While the modern concept of sustainable development is derived most strongly from the 1987 Brundtland Report, it is rooted in earlier ideas about sustainable forest management and twentieth century environmental concerns. As the concept developed, it has shifted to focus more on economic development, social development and environmental protection for future generations. Sustainable development is the organizing principle for sustaining finite resources necessary to provide for the needs of future generations of life on the planet. It is a process that envisions a desirable future state for human societies in which living conditions and resource-use continue to meet human needs without undermining the “integrity, stability and beauty” of natural biotic systems. It was suggested that “the term ‘sustainability’ should be viewed as humanity’s target goal of human-ecosystem equilibrium (homeostasis), while ‘sustainable development’ refers to the holistic approach and temporal processes that lead us to the end point of sustainability.”

Development is the need of economic prosperity but in the name of economic development no one can spoil the environment as human beings need pollution free atmosphere. Imbalance in the environmental factor brings disaster to humanity.

Sustainability of forest ecosystem is an essential component of the environmental conservation efforts and any degradation of forests will have an adverse impact on various systems such as water resources, agriculture, biodiversity, environment, climate and human health. About 41% of forest cover of the country has already been degraded and dense forests are losing their crown density and productivity. A large number of India's livestock population graze in forests, causing serious damage to regeneration and productivity. The use of forests beyond its carrying capacity and encroachments, upon forestland are the main cause of the continuous degradation of forests. At present 70% forests have no natural regeneration and 55% are prone to fire. In the year 2002, the Government of India set a goal of achieving 25% forest and tree cover by 2007 and 33% forest and tree cover by 2012. Therefore, it is a continuous process to learn about the natural resources and ought to do something for safety of forest which is the best source of pollution control and control the deforestation in our surroundings. Industries or township need to be developed in non-fertile land in order to have greenery in the country. So it is a lifelong learning process of sustainable development¹ (Footnotes)

The sustainable development is a gradual learning process till lifelong due to the safety of natural resources which is an integral part of our life which will tell us how can development of planning of the township, industries, schools, etc. without any sort of compromise with our environmental law, because learning about the environmental law has been made compulsory up-to the 10+2 level by the decision of apex court of India.

The lifelong learning process can be made by awareness among the common and illiterate people of the country to know about to control of pollution as well as birth control to the peaceful enjoyment of our coming generation. So it can be achieved to our goal by some sort of classes, workshops, seminars and camp trainings to the adult educators, etc. for the awareness and protection of environment.

According to Section 2(a) of the Indian Environment (Protection) Act 1986, the term "Environment" includes water, air and land and human beings, other living creatures, plants, micro-organism and property. However, under Section 1(2) of the Environment Protection Act 1990 of the United Kingdom, the term "environment" consists of all or any of the following medium, namely, air, water and land and the medium of air made structures above or below ground. According to the Encyclopaedia Britannica, the term "Environment" means the entire range of external influence acting on an organism, both the physical and biological and other organism, i.e., forces of nature surrounding of an individual. Besides, man-made environment is created by us i.e., industrial revolution, communication networks like telephones, internet etc., agricultural and plantation for the protection of environment, power generation, sustainable development is a tool of protect the pollution free environment².

The degradation in environmental quality has been evidenced by enormous pollution, loss of vegetal cover and biological diversity, excess accumulation of harmful chemicals in the atmosphere and in food chains, growing risks of environmental accidents and threats to life support system. The expression "the people of the whole world resolve to protect and enhance the environmental quality" is found in the decisions taken at the United Nations Conference on the Human Environment which took place at Stockholm in June 1972. The Government of India participated in the Conference and strongly voiced the environmental concerns. While several measures have been undertaken for environmental protection, but the need for a general legislation has become increasingly evident. Although, there are existing laws dealing directly or indirectly with several environmental matters, it is necessary to have a general legislation for environmental protection. Existing laws generally focus on specific types of pollution or on specific categories of hazardous substances. Some major areas of environmental hazards are not covered. There also exist uncovered gaps in areas of major environmental hazards. There are not adequate linkages in handling matters of industrial and environmental safety. Control of mechanism to the guard against slow insidious to develop of the hazardous substances, especially new chemicals are weak in an environment. Because of a multiplicity of regulatory agencies,

there is a need for an authority which can assume the lead role for studying, planning and implementing long term requirements of environmental safety and to give direction to and to coordinate a system of speedy and adequate response to emergency situations threatening the environment³.

The deforestation, cutting of tree without permission from the competent authority, rapid growth of industrialization, there is no check and balance of hazard standards equipment in industrial units, expulsion of population, inadequate knowledge among the people about environment and pollution are the main causes of environmental issues and challenges. Besides, the government agencies/functionary is not activated to control these problems and prospects in such a manner as requires the problems of our nation. There is a need to motivate these agencies to do something in inspirit of the legislation with the strong "Political Will of the State". NGOs can create awareness about issues and solutions amongst to the common people.

(i) Eco-Friendly Constructions: Sustainable and Use of Green Cement

The main component of all construction, concrete made with cement, is one the wrong ways to the eco-friendly constructions because cement plants are creating large number of greenhouse gases. Copious amounts of carbon dioxide are released when cement of the ordinary Portland variety (OPC) is manufactured, often as much as one tone of gas for tonne of cement produced. As a result, right now, worldwide research is being conducted on alternative components for manufacturing green cement and the demand of green cement has been increasing day-by-day due to less damage to the environmental factor⁴.

This alternative method of green cement construction is more durable as comparable to ordinary Portland variety cement, because of a concrete mix is on high compressive strength while being devoid of cement is being touted as one of the new innovation of green construction. Instead of Portland cement, which uses limestone, substituted materials are being used to make cement free concrete. Granulated blast furnace slag, which is the byproduct of iron and steel making process used along with pulverised fly ash and silica. Theses sort of eco-friendly cements are based on the components of fly ash, sodium hydroxide and potassium hydroxide, clays, and some slag. It is durable and strong and also do not release toxic gases⁵.

The new constructions will be based on eco-friendly process to use the cement blocks instead of traditional bricks in order to maintain the environment and use the natural resources in a minimize ways. Besides this method is also low water consumption and there is a need of compulsory rain water harvesting plant to be fixed in new constructions of real estates. There should be fixed-up some sort of plant and machinery to clean the used-water and it will be able to be recycled for the purpose of use again in order to maintain the water level of the locality. It is a lifelong process to learn about the sustainable development and protect the environment.

The modern trends in the construction industry will also create a trouble by way of ceramic tiles of floorings, underground electricity fittings and sanitary fittings in the bathrooms due to cutting the brick walls, ultimately the dust particles/ash flee in the air and disturb our ecological system and hence, a need of an hour to do something for the protection from the air pollution.

(ii) Initiatives of Industrial Development Control by Sustainable Development: Environmental Law

A very high priority has been accorded to industrial development for speedy economic growth. Such progress, however, brings along with it a lot of ecological problems. Environmental pollution caused by hazardous industries presents potential challenge to life and the harmony between man and nature⁶.

It is true that industrial development should not be at the cost of environment, but at the same time, environmental protection measures should not deprive the country of an opportunity for economic development. Thus, there is always a conflict between industrial development and conservation of environment. The need to balance the values of development and environment, therefore, becomes imminent⁷.

Although the conservation of environment need not be construed as non-intervention, the industrial production process cannot be permitted to go unhindered to pollute the environment. In the words of Paton:

*"We cannot have an absolute right to an unspoiled environment, for modern industry must at least in some areas destroy rural beauty. The best that law can do is to curb the worst excesses of industrialization by town planning. Noise and pollution are two of the greatest offenders- the latter affects air, water, natural growth and health of humanity"*⁸.

(iii) Constitutional Amendment 42nd of 1976: Environment Law

The Constitution of India came into force on 26th January, 1950. Originally, the constitution has not been contained provisions related to environmental protection. The environmental movement in India has its genesis in the United Nations Conference on Human Environment held at Stockholm in June 1972, to draw the World's attention towards the universal problem of environmental pollution and for time certain specific provisions have been incorporated by the Constitution (Forty Second Amendment Act, 1976) and subsequent amendments. Indian Constitution is one of the very few constitutions in the world, which provides for specific provision for the protection and improvement of the Environment⁹. It laid down the basic foundation for environmental legislations in the Directive Principles of the State Policy and the citizens' duty towards environmental protection in India¹⁰.

A new dimension to state responsibility by obliging the State to protect and improve the environment for the good of the society as a whole has been introduced in the Constitution of India. One of the Directive Principles added by the 42nd Amendment Act, 1976 provides for the protection and improvement of public health as one of the primary duties of the State. Article 48A of the Constitution, therefore, enables the State not only to adopt a protective measure but also to call for taking all suitable steps for improving an already polluted environment. It is, thus, within the duties and powers of the State to impose restrictions on the use of those resources and factors which adversely affect life and its development¹¹.

The State is also obliged to direct its policy towards the control of material resources of the community to sub-serve the good. The Directive Principles of the State Policy obligate the State to improve the quality of human life by controlling the exploitation of natural resources and protecting the environment. The responsibility for abatement of pollution and protection of environment is not a duty of the State alone; it is obligation of the citizen so that an individual may not overlook his duties to the community in exercise of his fundamental rights or commit wanton destruction of natural environment. The duty which a citizen owes is specified in Article 51A(g) of the Constitution. It speaks that every citizen should care for the protection and improvement of the natural environment. Since the fundamental duties are not address to the State, a citizen cannot claim that he must be properly equipped by the State for performance of the duties. However, the Supreme Court has issued many directions to the State in various environmental cases¹².

Most of the pollution is mainly from trade and business- particularly from industries. It has been found that tanneries, acid factories, tie and dye factories, distilleries and nowadays the hotel industries are contributing to environmental pollution. Thus, it all relates to fundamental right to freedom of trade and commerce/ business guaranteed under Article 19 (1) (g) of the Constitution. Some of these industries or business/trades are carried on in a manner which endangers vegetation cover, animals, aquatic life and human health. But time and again, it has been made clear that this freedom of trade and commerce is not absolute and is subject to certain reasonable restrictions. Therefore, any trade or business which is offensive to flora or fauna or human beings cannot be permitted to be carried on in the name of the fundamental right¹³.

(iv) Environmental Law related Case-Laws

The Chemical or other hazardous industries which are essential for economic development may have to be set-up. But measures should be taken to reduce the risk of hazard or risk to the community by taking all necessary steps for locating such industries in a manner that would pose the least risk or danger to the community and for maximizing safety requirements in such industries. The Supreme Court has directed the High Courts to set-up a Green Bench¹⁴.

The Supreme Court has held that to issue certain directions regarding hazardous chemical and relying partly on Article 21 of the Constitution which has elaborated that there are dicta that the life, public health and ecology have priority over unemployment and loss of revenue¹⁵. Hence sustainable development is the necessity to avoid the chance of imbalance of our ecological system. Industrialization is the backbone of our economy but we cannot compromise with our degradation of the environmental factor.

The Apex Court has also held that right to pollution free air falls within the ambit of Article 21 of the Constitution and Articles 14, 21, and 51A(g) are to be read together¹⁶. The “precautionary principle” requires the State to anticipate, prevent and attack the causes of environmental degradation¹⁷. The PIL can be brought by an institution in the locality on the basis of Article 21 of the Constitution the duty under Article 48A can be enforced¹⁸ and duty under Article 48A of the Constitution can be enforced a letter, based on Article 21 of the Constitution¹⁹. In the case of Supreme Court has recognised the importance of pollution free environment and gave it the status of a human right²⁰.

The Supreme Court has enunciated the doctrine of “Public Trust”, based on the legal theory of the ancient Roman Empire. The idea of this theory was that certain common properties such as rivers, seashores, forests, and the air, were held by the Government in trusteeship for free and unimpeded use of the general public. The resources like air, sea, waters, and the forests have such a great importance to the people as a whole, that it would be totally unjustified to make them a subject of private ownership. The concept “environment” bears a very close relationship to this doctrine. The doctrine enjoins upon the resources for the enjoyment of the general public, rather to permit their use for private ownership or commercial purposes. It was thus held that the State Government committed breach of public trust, by leasing the ecologically fragile land to the Motel management. Besides, any disturbance of the basic environment elements, namely air, water and soil, which are necessary for “life”, would be hazardous to “life” within the meaning of article 21 of the Constitution²¹.

The Supreme Court has held that the every attempt should be made to preserve the fragile ecology of the forest area and to protect the Tiger Reserves and the right of tribal in the State of M.P.²². Besides, merely asserting an intention for development is not enough to sanction destruction of local ecological resources²³.

Whenever a problem of ecology is brought before the Court, the Court is bound to bear in mind Article 48A of the Constitution and Article 51A (g) of the Constitution. When the Court is called upon to give effect to the Directive Principle and the Fundamental Duty, the Court is not to shrug its shoulders and say that priorities are a matter of policy and so it is a matter for the policy -making authority. The least that the Court may do is to examine whether appropriate considerations are borne in mind and irrelevancies excluded. In appropriate cases, the court may go further, but

how much further will depend on the circumstances of the case. The Court may always give necessary directions²⁴.

The Supreme Court held that the material resources of a community like forests, tanks, ponds, hillocks, mountains, etc. are nature's bounty. They maintain a delicate ecological balance. They need to be protected for a proper and healthy environment which enables people to enjoy a quality of life which is the essence of the guaranteed right under Article 21 of the Constitution. The Court has decided that the pond's land could not be allotted for a residential purpose.

If the residential buildings are converted to commercial use, it amounts to violation of municipal laws, master plan and environmental laws. Therefore, the Supreme Court ordered that for sealing such residential premises. It was observed that the persons do not have right to carry on any trade profession in flagrant violation of regulatory provisions on massive scale. This would also result in environmental pollution²⁵.

The Supreme Court gave wider interpretation to right to life. It declared that the right to environment is a fundamental right. On the other hand right to development is also one. Here the right to "sustainable development" cannot be singled out. Therefore, the concept of sustainable development is to be treated an integral part of "life" under Article 21 of the Constitution. It was also clear that this right to development encompasses much more than economic well-being and includes within its definition the guarantee of fundamental human right²⁶.

The protection of environment cannot be sacrificed in name of development and natural resources cannot be allowed to be over exploited contrary to statutory regulatory regime and mining operations is contrary to statutory resources for present and future generation²⁷.

(v) Legislations on Environmental Law

The Parliament has enacted various legislations for the protection of environment, pollution and maintains the ecological system of our nature, such as even in pre-independent era environment pollution was regulated by general laws viz: I.P.C. 1860, Cr.P.C. 1898 and Police Act 1861 having relevant provisions dealing with control of water, air, noise pollution and nuisances. Whereas, water pollution was controlled mainly by the North Canal and Drainage Act 1873, and the Obstruction of Fair Way Act 1881, Air Pollution Control Provisions were contained in the Oriental Gas Company Act 1957, Explosives Act 1884, Indian Boilers Act 1923, The Petroleum Act 1934, Poison Act 1919, The Environment (Protection) Act 1986, Air (Prevention and Control of Pollution) Act 1981, The Water Cess Act 1977, The water (Prevention and Control of Pollution) Act 1974, The Bhopal Gas Leak Disaster (Processing of Claims) Acts 1985, The Public Liability Insurance Act 1991, The Wild Life (Protection) Act 1972, The Forest (Conservation) Act 1980, The Indian Forest Act 1927 The National Green

Tribunal Act 2010 but the implementation of these laws could not achieve the required results, it may be a failure of our function and functionary. But it can get the required results with the aid of “Strong Political Will of the State” and NGOs can play the vital role for creating awareness on environment and pollution free atmosphere among the common peoples.

Conclusion

To sum-up the above discussions that in the present day globalization era, the theory “Social Engineering” propounded by Roscoe Pound says: The policy of Law makers, town planners, developers of industrial sectors in such a manner, it should be satisfying the maximum wants, or desires, or claims of the human beings with minimum waste, means a balance between the competing interests in the society”²⁸. In fact industrialization plays vital role in our economy and commerce and also generate employment opportunities to our youth generations but keep in mind an environmental factor also. So, sustainable development is the need of an hour and it would be helpful to the maintenance of environmental factors and ecological balance. Natural resources may be utilized as minimum as possible and policy makers must plan industrialization and urbanization policy in such a manner to protect and improve the environment and pollution free atmosphere to preserve the fertile lands. Industrial Townships can be set-up in non-fertile lands and green belts developed for the progress of oxygen from trees. Policy-makers may plan their policies in such a manner to provide an opportunity to the farmers to develop the groves and orchards to create oxygen to our lungs and control of pollution. Hence, sustainable development and environmental factors are lifelong learning processes to control the pollution and save the lives of the citizens and for the coming generations to enjoy pollution free environment which is enshrined in the fundamental right under Article 21 of the Constitution.

Footnotes

¹Zafar Mahfooz Nomani; Law and Sustainable Forestry; Ed: 1st (2009); Pub. Aligarh Muslim University Press

². Dr.S.C.Tripathi & Mrs.VibhaArora; Environmental Law; Ed.5th; (Reprint 2013); Central Law Publication; pp. 1,2

³.Id p. 21

⁴Rachana Grover; Sustainable Construction at a Watershed; Pub: Times of India (Times Property); Delhi, Sept. 3, 2016; p. 4

⁵Ibid.

⁶Prof. Dharmender S. Sengar; Environmental Law; Ed:(2007); Pub.Prentice-Hall of India Pvt. Ltd. New Delhi; P. 5

⁷Ibid.

⁸Ibid.

⁹Kamaluddin Khan; Constitutional provision and the environmental protection;
<http://twocircles.net/book/export/html/13541>; (Lastly visited on 19/9/2016)

¹⁰Supra Note 6 at page 7

¹¹Ibid.

¹²ID at pp. 7 & 8

¹³Prof. Stish C. Shastri; Environmental Law; Ed: 4th; Pub. Eastern Book Company, Lucknow; pp.50-1

¹⁴Vellore Citizens Welfare Forum V. Union of India A.I.R. 1996 SC 2715

¹⁵M.C. Mehta V. Union of India A.I.R. 1987 SC 1086

¹⁶Subhash Kumar V. State of Bihar A.I.R. 1991 SC 420

¹⁷M.C. Mehta V. Union of India (1997) 3 SCC 715

¹⁸Satish V. State of U.P.(1992) Supp. 2 SCC 94; Tarun Bharat Singh Alwar V. Union of India (1992) Supp. 2 SCC 448

¹⁹M.C. Mehta V. Union of India A.I.R. (1992) Supp. 2 SCC 633-37

²⁰Municipal Council, Ratlam V. Vardhichand AIR 1980 S.C. 1622

²¹ M.C. Mehta V. Kamal Nath A.I.R. 2000 SC 1997

²²Animal and Environment Legal DefenceFund V. Union of India A.I.R. 1997 SC 1071

²³Intellectuals Forum, Tripathi V. State of Andhra Pradesh A.I.R. 2006 SC 1350

²⁴S. Pandey V. State of West Bengal. A.I.R 1987 SC 1109.

²⁵M.C. Mehta V. Union of India (2006) 3 SCC 399

²⁶N.D. Jayal V. Union of India (2004) 9 SCC 362

²⁷Paristhithy Samrakshana Janakkeeya Samithy and another V. State of Kerala and others A.I.R. 2016 (NOC) 306 Ker

²⁸. Dr. B.N. Mani Tripathi; Jurisprudence Legal Theory; Ed. 14th Reprint (2002); Pub. Allahabad Law Agency, Faridabad; p. 44

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Iswar Chandra Vidyasagar: The Lonely Prometheus of Lifelong Learning in Bengal

Sakti Pada Mandal

Iswar Chandra Vidyasagar is known all over India as a great social reformer during the mid- nineteenth century. He was a noble renaissance man, after the era of Raja Rammohan Roy and Derozio. According to the great poet Michael Madhusudan Dutt, "The man...has the genius and wisdom of an ancient sage, the energy of an Englishman and the heart of a Bengali Mother."

Multifarious Contributions

Iswar was born in a very poor Brahmin family of a remote village, Birsingha, far away from Kolkata. Initially his schooling started in this village. But at the age of only 8 years his father brought him to Kolkata for better education, crossing nearly 50 miles on foot. At that time Kolkata (then Calcutta) was the capital of India (from 1773-1911). This talented boy was admitted to Sanskrit College, became scholar in his subjects and was awarded with the honour as ' Vidyasagar' (ocean of knowledge), by the college. But he was not confined only in his studies like the self-cantered pundits of that time. He firmly came forward against the prevailing blind customs and superstitions, facing all odds of the feudal-colonial society. But unlike the Young Bengal Group, his quest was not for copying the west, but for searching new devices in the store of indigenous cultural resources and compiling and adapting the progressive western thoughts, suitable with these. As his social reform movement was based in the capital city of Kolkata, it could gain the recognition of all India character due to its gravity and extension. He adapted an entirely modern method of publicity and mass petition for the success of his social reform issues. He took bold initiative in Widow remarriage, Prohibition of child marriage and Prohibition of polygamy among the Hindu kulins.

Due to his forceful movement, widow remarriage act could be passed in 1856 along with a strong social opinion in favour of equal rights, dignity and education of the women. Ready support came from the Arya Samaj of Punjab and North India, from Maharashtra and South India. But in Bengal the opposition was very strong. Vidyasagar came forward to implement the new law with his own initiative and own fund. Almost all his relatives and well-wishers opposed him vehemently. Even there were several attempts on his life. But nothing could deviate him from his chosen path. When his only son Narayan Chandra married a widow in 1860, amidst the opposition of Narayan's mother and close relatives, Vidyasgar wrote in a letter ,

“Introduction of widow remarriage has been the greatest good work I have done in my life. There is hardly any possibility for me achieving anything greater in this life. I ruined myself materially for it, and, if necessary, I shall not shrink from laying down my life for it” But his contribution in the field of mass education is no less enduring, than the social reform movements led by him.

Pioneer of People’s Education

Vidyasagar has been recognised by all learned persons as one of the pioneers, who laid the foundation stone of modern secular education in India. His noteworthy contributions in this field may be summed up as:

- Recognizing vernacular as medium of learning.
- Upgrading the style of writing Bengali prose into its present form.
- Modernizing the curriculum and learning process of formal education.
- Writing and printing “Barnaparichay”, (part-i & ii), most effective primers for the children.
- Writing and printing the follow up books for graded learning.
- Establishing strong foundation for female education in Bengal. Establishing 40 female schools in rural Bengal, primarily with the assistance of the government.
- Establishing 20 vernacular schools in different parts of rural Bengal.
- Establishing training school for the teachers.
- Opening the door of education for the non-Brahmin students in his Sanskrit College.
- Establishing night school for the toiling adult illiterates.
- Introducing continuous and concurrent evaluation system.
- Establishing first successful non-government higher education institute in India.

According to Rabindranath Tagore, “By all accounts Vidyasagar is the first artist in Bengali prose.. .He has made it a gentleman’s classical language of the world, capable of expressing everything.” “No one before Vidyasagar ,” wrote Bankim Chandra, “and none after him, could write such elegant and graceful Bengali “. Gandhiji also pointed out that, “it is mainly due to Vidyasagar that the Bengali language is at present in full bloom and has spread throughout India.”

Educational reform

The state of formal education in Bengal at the beginning of nineteenth century was miserable. There was pathshala (school) almost in every village. But William Adam in his report in 1868 presented a harrowing picture of those schools and their teachers. Those schools were in shabby huts or *chandimandaps* or in the open air. The Guru-Mahasayas (teachers) used to teach from memory or tattered manuscripts

of a dubious nature and kept discipline literally with an iron hand. There was no relation between elementary and higher education. There was no follow up education and no element of character-building in this system. The high school curriculum was full of religious and traditional deadwoods.

In this context, Vidyasagar joined Sanskrit College in 1846 as Assistant Secretary with a clear plan of thorough reform of the contents and forms of education. He resigned within a short time as a result of differences of opinion with the Secretary; regarding his suggestions of reform. Five years later we find these points as 'notes' on the Sanskrit College. We find elaboration of these in different correspondences and actions. On 28th March, 1851, as Principal of the Sanskrit College he wrote to the Officiating Secretary, Council of Education, "I see no objection of other castes than Brahmin and Vaidyas or in other words, different orders of Shudras to the Sanskrit College".

We must convey our tribute to him as he was among the first to realise properly about Indian national language problem in the practical level. He wrote in his 'Notes' on April 12, 1852 - "The creation of an enlightened Bengali literature should be the first object of those who are entrusted with the superintendence of education in Bengal... "An elegant, expressive and idiomatic Bengali style cannot be at the command of those who are not good Sanskrit scholars well versed in the English language and literature... "Experience proves that mere English scholars are altogether incapable of expressing their ideas in elegant and idiomatic Bengali. They are so much anglicised that it seems at present almost impossible for them, even if they make Sanskrit their after study, to express their ideas in an elegant and idiomatic Bengali style."

In a letter to F.I.Mouat, Secretary to the Council of Education during September 1853, he clearly stated, "With regard to Bishop Berkeley's INQUIRY, I beg leave to remark that the introduction of it as a class book would beget more mischief than advantage." He further stated, "That the Vedanta and Sankhya are false systems of Philosophy is no more a matter of dispute."

He opposed annual examination as the only system of students' evaluation. He wrote to Dr. Mouat on 21 January, 1854, "Under this system the pupils relax their labours after the close of a session and do not resume them in earnest till the time of the examination draws near... The consequence is that a habit of industry is not acquired, from the want of which the great majority of students do not keep up their studies in after-life, though they distinguished themselves while at college." So far he was given a free hand, he enthusiastically implemented all his plans in full scale.

Ideal administrator

Vidyasagar's duration of holding government posts was very short. But in this short time he passed through vicissitudes of various educational assignments. He

was Sheristadar of the College of Fort William from December 1841 to March 1846, Assistant Secretary to the Government Sanskrit College from April 1846 to July 1847, Head Writer and Treasurer of the College of Fort William from March 1849 to November 1850, Professor of Literature in the Sanskrit College from December 1850 to January 1851, and Principal of the same College from January 1851 to 1858.

In addition to his duties as Principal of Sanskrit College, he was made Assistant Inspector of Schools of South Bengal from May 1, 1855. He was promoted to the post of Special School Inspector during November 1856 and continued till his resignation from all government posts during November 1858 at the age of only 38.

Besides these, he had to discharge other important administrative duties at different times, like Honorary Secretary of Bethune Female School, Secretary of Tattvabodhini Sabha, Editor of Tattvabodhini, Someprakash and Hindu Patriot patrika, EC member of 'Pathuriaghata Banga Natyalay,' Inspector of Wards Institution etc.

Love for humanity, particularly for the oppressed, which he inherited from her mother, Bhagavati Devi and other family members, was the key to his unbound energy. He was a straight-forward man and disliked any kind of tricks, dishonesty and pretention. He must be regarded as an ideal educational administrator, still to be studied and followed.

Popular Education

Education during early 1850's was confined to a narrow section of the towns and township of our country. English was its medium. In Bengal Sanskrit was being studied in tolls and Arabic in Madrasas. But the mother tongues were almost neglected. The colonial rulers declared in 1835, the supremacy of English over all Indian languages and declared infamous "downward infiltration theory" for the masses. As per India Government's resolution of 10th October, 1844 learning English had become a passport to government services. The Indian 'bhadralok' classes too had no sympathy for popular education and nor for education through people's languages.

Rajnarayan Bose, a reputed educationist of that time commented on the deplorable situation of popular education and utter failure of "downward infiltration theory" at a Hare Memorial Meeting in 1848. He showed from the government reports that in twenty years since the establishment of the General Committee of Public Instruction, only two thousand in all had learnt a little English, whereas only 8% of boys in Bengal and Bihar had any schooling and only 6% of the adults were literates. In this context of severe criticism, Sir Charles Wood's Despatch (no.49 of July 19, 1854) arrived in India, where it was stated that, "...while the English education continues to be made use of as by far the most perfect medium for the education of those persons who have acquired a sufficient knowledge of it to receive general instruction through it, the vernacular languages must be employed to teach the far larger classes who are ignorant of, or imperfectly acquainted with English." [Para-4 of the Despatch]

An essential part of Vidyasagar's educational plan was to spread education among the masses though their own mother tongue. He wrote to Dr. Mouat, as early as 7th September, 1853,... "What we require is to extend the benefit of education to the mass of the people. Let us establish a number of vernacular schools, let us prepare a series of vernacular class-books on useful and instructive subjects, let us rise up a band of men qualified to undertake the responsible duty of teachers and the object is accomplished. The qualification of these teachers should of this nature. They should be masters of their own language; possess a considerable amount of useful information and are free from the prejudices of their own country. To rise up such a useful class of men is the object I have proposed to myself and to the accomplishment of which the whole energy of our Sanskrit College should be directed."

The scheme of F.J.Halliday, the then Lieutenant –Governor of Bengal, which took shape as a result of 'several consultations with Vidyasagar' provided Vidyasagar a brief chance (1854-58) to carry forward his plan of popular education with the vernacular schools or 'Banga Vidyalayas'.

Vidyasagar set to work with characteristic zest and between 22 August 1855 to 14 January 1856 twenty such schools were founded, five in each district of Hooghly, Burdwan, Nadia and Midnapur. The village people mobilised resources for construction of school buildings and took a lively interest in them. By the beginning of 1856 the number of students reached to 2,738. As per evaluation, they acquired thorough knowledge of the Bengali language, and respectable advancement in other branches of study. Vidyasagar carried away by the success promised fund from his private means right and left. He established a free school in his home village in 1853 and continued to provide free food and lodging at his own house. For the training of the teachers, a normal school of teachers' training was opened in 1855 with Akshoy Kumar Datta as its principal.

Though the government policy resisted him from further extension of his plan of popular education, yet his genuine love, determination and dedication paved the way for a long journey towards education for all.

Women's education

The conservative society during the period of Vidyasagar was opposed to any kind of systematic education of the women. "Woman would become widow, if she become educated" was the traditional saying, propagated by the greedy fundamentalists. It is true that a few ladies of the Tagore families of Jorasanko and Pathuriaghata, the Dev family of Sobhabazar and the Roy family of Posta etc had some sort of education. But those were mere exceptions. Raja Rammohan Roy was the first to plead boldly for women's education. Afterwards the Brahmas, the Derozians and a few progressive-minded persons advocated and did something for it. But the opposition was still very powerful. In this situation, Vidyasagar dared to come forward

and face the storm. He visualised that only through proper laws and wide spread education can protect and upgrade the plight of the women. Sir J.E. Drinkwater Bethune, president of the then Education Committee founded the Calcutta Female School on 7 May 1849. He was aware of the views and efficiency of Vidyasagar and approached him to be its Honorary Secretary in December 1850. Unfortunately Bethune passed away and the School was renamed as Bethune School. Vidyasagar continued as Honorary Secretary till 1869. Under his capable leadership, this school crossed one after other milestones. He visited from house to house persuading parents to send their girl-children to the school. He personally took care of each girl and devoted his attention to disabuse the age-old prejudices against girls' education in school. Within a few years public estimation about the school became high. It had been placed on a firm footing and continued to flourish and became the first women's college in Calcutta. Kadambini Ganguli and Chandramukhi Bose became the first women graduates of Bengal from this school in 1883. When Chandramukhi passed M.A. in English in 1884 from Calcutta University, Vidyasagar was very happy and presented her with a copy of Cassell's illustrated works of Shakespeare with warmest words of congratulation.

Bethune was always in favour of women's education. He wrote to the government for grant towards establishing female schools. But the government was hesitant. In this context Lord Dalhousie's council and Wood's Despatch (during 1850) made the principle of grants-in-aid applicable to female school. Halliday depended solely on Vidyasagar for spreading women's education in Bengal. Vidyasagar enthusiastically took up the burden on his shoulders. He applied for government grant, as Special Inspector of Schools, from May 1857. Initially 2 schools at Hooghly and 2 schools at Burdwan were sanctioned. In anticipation of government's generous policy of expanding women's education, he went on opening one female school after another. Altogether 40 schools were opened in four districts with 1,348 girl students, between November 1857 and June 1858. The sites and teachers of these schools were selected with due care. A vigorous campaign for enlistment of students was made. Vidyasagar personally visited each and every school and helped them in all aspects. An era of women's empowerment began to be visualised.

But in the meantime the colonial rulers were frightened due to Sepoy mutiny and stopped any kind of support to the reformist and mass awakening activity. On a trifling plea grants to the newly established female schools were stopped. Moreover the building of the Sanskrit College was temporarily undertaken by the government for the soldiers. These led Vidyasagar to tender his resignation from all government posts on 5 August 1858. However he continued to provide financial support to the schools from his own fund. We are surprised to note that even during 1890, when he was almost bed ridden and disappointed from all corners, he established one Girls' High School at Birsingha in his mother's name, through his brother Sambhu Chandra. Even in apparent defeat, he stood like a lonely rock till his death passionately in favour of women's emancipation.

Barnaparichay

One of the greatest contributions of Vidyasagar in his journey for people's education is the creation of Barnaparichay i & ii (acquaintance with alphabets) for the children in the year 1855. During that period a few writers attempted to do the same and a few were published. But excepting that of Madan Mohan Tarkalankar, a friend and co-partner of a press of Vidyasagar, none was noteworthy.

When Vidyasagar was engaged in running vernacular schools, he realised the absence of any appropriate primer for the children. He helped Madan Mohan actively to fill the gap. But he was not satisfied. Thus a unique art was created which set the model for all later works. This is based on the temper of the children, with scientific accuracy in systematising Bengali orthography, step by step, from the simple vowels to consonants, orderly arranging of sounds, conjoint letters, then from mono-syllabic to dissyllabic, tri-syllabic words, leading to musical rhythmic simple sentences and paragraphs containing moral stories. The main characteristics of this are:

- * Developing it based on tenderness of the children.
- * Re-arranging the alphabets according to phonetic order.
- * Determining the perfect shape of the alphabets and printing them accordingly.
- * Using simple common words.
- * Introducing so far un-used punctuation marks, like comma, question mark etc.
- * Inspiring the children in discovering rhythm, sweetness and grace in prose and verse.
- * Developing inquisitiveness among the children about nature and society.

This was so popular that (within 1890) 33, 60,000 copies of the first part were sold/ printed (with 152 impressions/editions). Similarly, 15, 90,000 copies of the second part were sold/printed (with 140 impressions/editions) within that period.

Follow-up books

Vidyasagar did not stop only with creating a unique primer for the first grade learners. He conceived the idea of lifelong learning. So he developed the graded follow up books in a systematic manner. As such, *Kathamala*, based on Aesop's Fables was published for the second grade. Then *Charitavali*, biographies of some great men was produced for the third grade. Then came *Bodhodaya*, a book of useful knowledge as the final grade of the series. These books equipped generations of Bengali children to face the world.

However, Vidyasagar continued to develop other necessary books at different times, like *Upamanika*, *Akhyan-manjari* (in three parts), *Rijupath* etc. either for the readers of formal schools or for the informal self reliant readers.

Night School

The missionaries of Bengal had a role in spreading education in Bengal. But probably Vidyasagar was the first man here to open a non-formal education centre at night for the poor adults. This was established in 1853 at his native village, Birsingha. The idea was not merely imparting literacy, but also to make them aware about the basics of geography, history, science and the society. To make them developed human beings with elementary knowledge and self respect. Besides 3R's, discussions on relevant topics were regular feature of that centre. The centre became very popular among the day labourers and poor peasants of the locality within a very short time. But the landlords and the money lenders of the neighbouring villages became very furious. As a result of their conspiracy the centre was attacked and burnt. Vidyasagar was shocked.

But his zeal was indomitable. Again, when he built up his residence at Karmatar (Bihar), he established another night school there during 1874-75 for the Santali community.

Private Educational Institution

The most remarkable achievement of Vidyasagar in the later part of his life is transforming a private school into a model school and college. The Metropolitan Institution was founded by Thakurdas Chakraborty and some other gentlemen during 1859. Vidyasagar was incorporated as a member of the School Committee. When this institution passed through a critical situation, Vidyasagar shouldered the burden as Secretary of the School Committee with single-minded devotion. Devoted and efficient teachers like Surendranath Banerjee were selected as teacher. Proper method of teaching-learning was introduced. Care for each student was ensured. Its fame had spread like a fire. Within a short time the government authority was forced to recognise it as a college in January 1863. Afterwards G. Ballet, officiating Director of Public Instruction stated, "Among Unaided Colleges, the Metropolitan Institution maintains its numerical supremacy...The General Assembly's College stands second and the Presidency holds the third place in point of numbers." During 1882 the Metropolitan Institution was allowed to open Law Degree Course. Later on it was allowed to provide education up to the M.A. Degree.

This Institution had been described by the then Vice-Chancellor Gooroodas Banerjee in his Convocation Address for 1892 as "first affiliated private college under native management, which has served as a model for many others that have since come into existence."

Lonely Prometheus

The contribution of Vidyasagar towards advancement of our society, particularly in laying the foundation stone of modern, secular education is unparalleled. But

throughout his life he had to swallow unbearable sufferings silently. But through all sorrows and sufferings his head was hold high .In a fettered land he was free and bold. He continued to serve the humanity alone even when his heart was bleeding. He is certainly a Prometheus of lifelong learning in Bengal, as well as in India. Tagore has rightly summed up his character in two precious phrases, “invincible manliness and indelible humanity”.

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Lifelong Learning: A Tool for Quality Improvement in Teacher Education

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Lifelong Learning is the continuous building of skills and knowledge throughout the life of an individual. It is the provision or use of both formal and informal learning opportunities throughout people's lives in order to foster the continuous development and improvement of the knowledge and skills needed for employment and personal fulfillment. Lifelong Learning crystallized as a concept in 1970's as the result of initiatives from three international bodies. In that one is the Council of Europe advocated permanent education, a plan to reshape European education for the whole life span. The second one is the organization for Economic Co-operation and Development (OECD) called for recurement education, as alternation of full-time work with full time study similar to sabbatical leaves. The third one is United Nations Educational, Scientific and Cultural Organization's (UNESCO) report (learning to be 1972), drew most attention and had the broadest influence.

The increased pace of globalization and technological change, the changing nature of work and the labour market, and the ageing of populations are among the forces emphasizing the need for continuing upgrading of work and life skills throughout life.

Lifelong Learning for Teachers

Teaching is a profession indeed a noble one, conceptually and ideally, and it is also different from other professions, because of its multitude of dimensions. Teacher occupies a significant place in the entire educational machinery and the true backbone of the educational system. The teacher shapes the future of young generation and therefore, he should continually renovate himself through Lifelong Learning to keep pace with rapid and recurrent changes. Gurudev Rabindhranath Tagore has rightly remarked "A Teacher can never teach unless he is still learning himself. A lamp can never light another lamp unless it continues to burn its own flame". For updating the knowledge and skills of teachers, there should be a continuous monitoring and evaluation of the quality of teacher education. Quality is not merely an act but it is a habit.

The Teacher education of the new millennium through its pre-service, in-service and open-learning system targets at producing quality teachers by providing quality education and training with top priority on Lifelong Learning based upon four pillars of

education like “Learning to Know/Learn”, “Learning to Do”, “Learning to Be”, and “Learning to Live Together”. The National Council of Teacher Education (NCTE) in India was established with a view of achieving planned and coordinated development of Teacher Education throughout the country and also for regulation and maintenance of norms and standards. It has been making endeavors bringing about improvement in quality and standards of Teacher Education.

With the view to find out the need and importance of pre-service and in-service education/training for teachers a study was conducted by us which is enumerated below:

Significance of the problem

This study undertaken is significant because it deals the academic problems concerning to Teacher Education of Primary, Secondary and higher secondary level. The findings of the study will be useful to educational planners, administrators and universities. It will provide empirical evidence at grassroots level to determine the problems of Teachers in the teaching-learning situation at all the levels. Moreover, the findings would help in identifying the priority areas where, there is a need for improvement for betterment of qualitative aspects of teaching-learning at various levels.

Objectives of the study

The objectives of the study included concept of Lifelong Learning, importance of Lifelong Learning for Teachers, importance of pre-service and in-service education and the role of Open Distance Learning and ICT in Teacher Education programme.

Methodology

Keeping in view the specific objectives an in-depth study of lifelong learning and Teacher Education Institutions’ problems and prospects were taken.

Tools of Data Collection

The study was based on the data from secondary sources through published books on lifelong learning, reports on Teacher Education, Journals and Newspaper clippings.

Analysis of the Data

The collected data was scrutinized and analyzed as per the following:

Teacher Education Programme

The teacher education is designed to equip the prospective teachers with in-depth knowledge, understanding and skills in those aspects for which suitable teacher education curriculum be developed for preparing teachers at different levels of school education, i.e., elementary, secondary and higher secondary. The teachers need to acquire the required skills to mobilize the community to work in union for total wellbeing of the school. For the purpose of equipping/developing the prospective teachers with good skills, provision of internship training with adequate duration is required.

Pre-Service Teacher Education

The pre-service teacher education needs to ensure that teachers understand how to enable students to move from their current knowledge and conception of reality using the well-crafted experiences to build more powerful conceptions that are robust enough to continue to assimilate further teaching. Re-orientation of teacher education ensures that teachers are furnished with necessary knowledge and skills to cope with the new demands placed on them. The teacher education programmes need to be reoriented to develop ideas and skills in teachers to teach for a sustainable future health, hygiene, sports, population issues and development.

In-Service Teacher Education

In-service teacher education is the essential part of teacher education and must draw their substance from the emerging needs and concern of education as faced from time to time. Along with the above, it must give emphasis on teachers' development programme with suitable link between the pre-service and in-service education. It must be treated as a continuum and must syringe new hopes and aspiration for Lifelong Learning/education.

The need for in-service education of teachers depends on the change in Educational Structure, Curriculum, Transactional Technique, Technetronic Educational input, evaluation system, management process and teachers' desire for refreshing and updating their knowledge. The professional survival and growth of teachers at least in part, is related to coverage in quality content and delivery of in-service programme.

Open Distance Learning

The concept of learning throughout life is emerging as one of the key aspects of the open distance learning. Distance education is not a choice but is a chance to develop person's self-confidence, reforming their skills and gain for professional growth. Open Universities are providing many sources of professional, non-professional programmes which one can pursue by sitting at home. The quality improvement of teacher education through open learning system can be one more option which can be adopted/availed for the benefit of the teachers and students.

Role of ICT in Teacher Education

Information Communication Technology (ICT) in teacher education has the capacity to accelerate major changes both in pre-service as well as in-service teacher education for professional development. Today's students live in global knowledge based age and they deserve the teachers who practice/embrace the best that technology can bring to learning. The role of the teacher will change from knowledge transmitter to that of learning facilitator, knowledge guide to knowledge navigator and co-learner with the student.

The ICT provides a powerful tool to support the shift in student centered learning and new roles of teachers and students. For successful integration of ICT in teacher education, the teacher educators have to demonstrate their ICT competencies in teaching-learning situations. There are some essential learning environments for successful implementation of ICT in teacher education such as (a) Shared vision (b) Access (c) Skilled educators (d) Professional development (e) Technical assistance (6) Content standards and curriculum resources (7) Assessment (8) Community support and (9) Support policies.

Findings

- Traditional methods of teaching, outdated knowledge and aptitude pose difficulties in coping with the fast changing ICT and new intellectual challenges being thrown-up by the changed global context.
- Most of the teacher training colleges adopt the technique of lecture method and expecting prospective teachers to adopt child – centered approach in their own classrooms is not realistic.
- Lack of audio-visual aids, library, science lab in schools, seating arrangements, proper lighting, ventilation and demonstration table, etc.,
- Lack of coordination and cooperation between the schools and teacher training institutions.
- Lack of guidance from the teacher educators.
- Inadequate academic, professional and pedagogic preparation and insufficient level of knowledge and skills of the prospective teachers.

Suggestions

Following are the suggestions to develop the quality and competence among prospective teachers:

- There is an urgent need to improve the infrastructure and quality instructional material for enhancing the standard of teacher training institutions.
- Emphasis should be given to modern technologies in day-to-day teaching-learning process for creating interest among the students.

- Compulsory internship along with teaching practice for the sake of actual school experience like conducting morning assembly, maintaining student's attendance register, organizing co-curricular activities and preparing time-table, etc.
- Basic computer skills should be made compulsory for prospective teachers for making teaching-learning more effective, forceful and interesting.
- Human rights and peace education should be incorporated in teacher's training programmes to train the prospective teachers about peace, human rights and universal values.
- Enforcing regular supervision and inspection by the university authorities may improve the functioning of the teacher's training institutions.
- Autonomy may be given to teacher training institutions to innovate and take-up the need based action research.
- A nationwide review of teacher education curriculum in the light of school curriculum, renewal exercise must be taken-up immediately with assured follow-up after every five years.
- Each teacher education institution must prepare a master plan for itself, which will be reviewed quarterly by the staff council for monitoring the progress.

Conclusion

Teacher Education programme should articulate effectively the concerns and commitment of education as a social reconstruction. It must address seriously the functionality and excellence at national and international levels so that the concept could be translated into precepts, theories and practice. It is important for the education system to make parallel changes in order to fulfill its objectives in preparing students for the world beyond the classrooms. There is a need for the teacher educators as well as prospective teachers to keep burning their desire of learning and become acceptors and not receptors of the change in order to keep pace with the changing scenario. In this background we can truly say Lifelong Learning is a tool for quality improvement in teacher education.

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Lifelong Learning in Higher Education – Role of Universities

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Lifelong learning as a recipe for learning throughout life dates back to 1970s. It has broad connotations of inclusive learning which transcends all manmade boundaries, encompasses heterogeneous cultures, races, genders, skills and addresses and discusses all existential themes. Lifelong learning is unique as a transdisciplinary approach to learning. It converges all streams of learning and contributes to a learning society. It has personal, societal and global development perspectives. Lifelong Learning, as an evolutionary concept may be defined as “All purposeful learning activity undertaken throughout life on an ongoing basis with the aim of improving knowledge, skills and competence within a personal, civic, social and /or employment-related perspective”. (EU Memorandum on Lifelong Learning, 2000). The Belem Framework for Action recognizes that Lifelong Learning has a critical role in addressing global educational issues and challenges. Further, it states that “Lifelong Learning ‘from cradle to grave’ is a philosophy, conceptual framework and organizing principle of all forms of education, based on inclusive, emancipator, humanistic and democratic values; It is all –encompassing and integral to the vision of a knowledge-based society”. (Belem Framework for Action 2010). The framework endorsed the four pillars of learning recommended by the International commission on Education for the twenty first century, namely ,’ learning to know, learning to do, learning to be and learning to live together’ (Belem framework for Action, 2010). The humanistic perspective of Lifelong Learning is justified and testified in the Belem Framework for Action, moving more towards a socialistic framewok.

Relevance

- **Learning is a continuum:** Societies are always in a flux. Latest knowledge and skill equip one to cope with change and transformations.
- **Learning is universal** especially in the new world order, where spaces and individuals are closer, yet strange. So learning inevitably crosses the boarders of space and countries to keep one up to date and closer to others
- **Learning to update:** updating of knowledge and skills are required to respond to the emerging demands of technological advancements and changing work, cultural, economic and health scenario.
- **Demographic parameters:** population ageing, increasing rate of literacy especially female literacy, decreasing birth and death rates, high life expectancy, varied IMR, urbanization and migration of young /productive population especially in developing countries, aggravated by changing

morbidity patterns and life style diseases, demand meticulous survival strategies, for which Lifelong learning can offer substantive recipes.

- **Demographic dividend:** demands millions of qualified skilled workers, world over in general and India in specific, one of the rarities of the present era.
- **Survival threats** like environment degeneration, dwindling agriculture, decreasing productivity, increasing cost of production, inflation, high rate of unemployment, sky rocketing price, etc are to be addressed and conscientised.

In short, Lifelong Learning appeals “not only to economic, occupational and practical needs but also to create opportunities for reflection and dialogue that would help individuals of all age groups to effectively cope with life. Lifelong learning should appeal to the totality of a person – heart, body and brain-and more importantly to our existential values and emotions” (Anonuevo, et.al.2001).

Lifelong Learning and Universities - India

Global discourse on Lifelong Learning had its reverberations in India too. The UGC launched the Scheme on Lifelong Learning and Extension in Higher Education during the XI Plan. The hitherto Departments of Adult, Continuing Education and Extension were changed in to Departments of Lifelong Learning& Extension. Lifelong Learning evolved into a discipline of study, practice and research. Twelfth Five Year Plan also carries on with Lifelong Learning, especially under the MHRD programmes.

Nuances of Lifelong Learning were intrinsically woven in the framework of Higher Education, during the 1950s itself. Research and academic support to all kinds of learning for life were offered by the Departments of Adult Continuing Education, Extension, Extramural studies, etc, especially by the Universities of Rajasthan, Madras, S.V. Tirupati, SNDT Mumbai, etc. Nevertheless the implications quite often did not go beyond Adult Continuing Education. The wider philosophical, existential, economic, political and cultural premises were submerged into a plethora of activities scattered into various disciplines. A paradigm shift to Lifelong Learning was initiated by the UGC during the XI Plan.

Lifelong Learning in Higher Education- Relevance

- Lifelong learning, to be life – worthy, requires assessment and accreditation, especially in its both -economic and humanistic -perspectives. Higher Education with its research, extension and academic potential, shall be the right agency to identify learning needs, facilitate them and accredit prior and present learning. Further, it consolidates the knowledge accumulated through haphazard learning into an acceptable framework.
- XII Five Year Plan emphasis on Saakshar Bharat – Higher education can apply Lifelong Learning as an all-pervasive tool for learning and ensuring

gender, race, ethnic, culture fair campaign/flexi approach to literacy and Continuing Education. Higher education can also provide academic, research and extension base required for Saakshar Bharat and fill the lacunae.

- To address the threats of globalization, Updating of Skills, Acquisition of Skills, Identification of Skills required Recognition, Validation and Accreditation (RVA) of non- formal and informal learning and Identification of emerging requirements in academics, research and extension.
- To address Demographic dividend, offer Industry readiness programmes and facilitate academic – skill interface.

Role of higher education in Lifelong learning- Paradigm

The paradigm for Lifelong Learning in Higher Education has to be built upon the humanistic and economic perspectives and look into the factors, which urge Lifelong Learning in Higher Education.

The dichotomy of lifelong learning in Higher Education is its role to maintain lifelong learning as a discipline of study within the Higher Education system and simultaneously address the learning needs of the society, as an agency which promotes lifelong and life-wide learning for all strata and sections of society. The first and basic role makes it a conventional University Department while the second role demands a thorough deviation from it, even de-schooling! Based on this premise the Universities will have to assume roles which facilitate the following functions in Lifelong Learning:

- Provide academic and research support to Lifelong Learning:
- Fulfill the social obligation of the Department by –
 - Introducing need- based lifelong Learning programmes to the educated and employed
 - Supporting the Literacy movement through academic, research, material development and training programmes
 - Reaching out to the community through extension and outreach programmes and disseminating knowledge
 - Undertaking research to explore areas of University - Industry, University – community, University – Health, University- media interface
 - Broadening Lifelong learning perspective through inter-University collaboration and discourses
 - Gaining international outreach and collaboration with agencies like UIL, UNESCO, EU, OECD, etc.
 - Exploring new projects and opportunities to ensure-
 - ❖ Social Justice / Social welfare.
 - ❖ University - industry interface
 - ❖ University- NGO interface
 - ❖ Development of innovative disciplines , especially in interdisciplinary areas
 - ❖ University - local self government interface

- ❖ Competency building of youth
- ❖ Enhancement of placement potential of youth
- ❖ Women empowerment through Lifelong Learning Programmes
- ❖ Proficiency building of employees
- ❖ University - Media interface
- ❖ Community mental health care programmes
- ❖ Establishment of consultancy service
- ❖ Visibility of extension through academic credits

The functions of Universities in Lifelong learning can be summarized as follows:

- ❖ Catalytic role in Lifelong Learning – Act as a focal agency in the University system for all Lifelong Learning programmes, and provide academic / research and technical resource support for extension and outreach activities, in collaboration with other departments of the University and other institutions
- ❖ Provide client centered learning programmes ranging from short term training programmes to Ph.D
- ❖ Provide inter/ disciplinary learning opportunities for all strata of learners
- ❖ Address the learning requirements ranging from housewives to retirees and design courses/ training programmes/ other services accordingly
- ❖ Provide academic and skill development opportunities for youth, the under privileged and marginalised
- ❖ Address the mental health issues of the community in general and youth in particular
- ❖ Strengthen networking with Industry and Institutions of placement potential and improve the employment scenario
- ❖ Strengthen Collaborative and networking role – apart from collaboration with other universities and colleges, networking with governmental and non-governmental agencies, international agencies and industries.
- ❖ Documentation, dissemination and evaluation –documentation of case studies, success stories, best practices in lifelong learning.

Proposal for Operationalisation

The paradigm placed below is an attempt to translate the above into a discipline of study and research and field of action. It is a proposition for University level Departments of Lifelong Learning and Extension. The translation of Lifelong learning in Higher Education is proposed through various Units under the Department of Lifelong Learning and Extension.

1. Discipline Programmes

Conduct integrated Discipline courses which are in sequential progression from Certificate to P. G. level and ensure learning opportunities to all sections of society.

2. Continuing Education

Facilitate the delivery of skills development and workforce development type training, along with academic programmes of up to one year duration. Workshops, Seminars, Certificate and Diploma courses, etc may be offered in a wide range of areas. Continuing Education credits can be awarded for programmes pursued through this Unit, as the pass outs of these programmes may gain entry into higher programmes and awarded credit transfers with CEU credits earned.

3. Research and Consultancy

Facilitate inter disciplinary studies leading to Ph.D for employees and adults. The Unit can design the use of technology in teaching, learning and research activities and offer consultancy services. It can undertake need assessment studies of the potential clientele of Lifelong Learning. Curriculum research shall be an integral component of this Unit. Joint International Research, to explore new directions in lifelong learning policies, in collaboration with international and national organizations like OECD, EU, UNESCO, UNFPA, UGC, etc and with researchers and government officials of such countries as which appreciate and execute Lifelong Learning also shall be undertaken by this Unit. It can also actively cooperate in survey and research projects undertaken by government ministries and agencies, local self government, institutions of higher education, and various other organizations.

4. Extension

Transfer the knowledge generated in Universities to the society. Deviating from the traditional concept of extension, this Unit can move to Community Open Defenses whereby proven knowledge is transferred directly to the society, eliminating all sorts of doubts. Interdepartmental and interuniversity level extension programmes can be chalked out.

5. Social Justice

Social justice inputs, aiming mainly at the socially and economically underprivileged youth and students shall directly be targeted by this Unit in collaboration with Government Departments and international agencies concerned.

6. Networking

Develop a networking strategy with different local, regional, national and international institutions so that the entire gamut of activities can be broad-based, strengthened and made visible in an international platform.

7. Career Guidance and Placement

Developing taxonomy of different levels of institutions and their programmes, identification of expertise and employment opportunities for the needy, examination and selection of Modular Employable Skills, preparation of aspirant and aptitude profile, placement bank, etc. can be done by this Unit.

8. Counselling

The Counselling Unit shall be the recipe to address the emerging mental health crisis and it shall be a soothing presence to all in dire necessity.

9. Professional Education

Offer customized training in a number of areas. The Unit can work with various government departments, cooperative entities and corporate sector to upgrade the skill level of their staff. Sustained continuing education to scientists, engineers and other professionals can be a collaborative effort with professional Institutions. The Unit may establish partnerships with external training institutions and firms to bring world class training and resources to local context.

10. Compensatory Academic Support

An alternative pathway to tertiary level education for those students who have the aptitude and the desire to pursue the same but are academically under prepared. The programme can offer a range of pre-college courses and academic support services that help students acquire the basic knowledge, skills and attitudes necessary to function effectively at tertiary level. The major target group of this Programme will be the participants of Continuing Education Programme conducted by NLMA institutions.

11. Technology-Assisted Lifelong Learning

Technology assisted lifelong learning aims at harnessing technology to support excellence in teaching, learning and research. It shall undertake research and consultancy on e-learning and technical projects, and develop high quality learning solutions. The Unit can undertake development services like online courses, identifying the best technology for learning requirements, production of multimedia interactive resources, design and development services for academic and commercial websites and user-friendly approaches to interactive tools and online community building.

12. Prior Learning RVA

Prior learning RVA focuses on using an alternative method for awarding transfer

credits to entry students. Assessors are to be trained in most discipline areas of the University and will be providing opportunities in each of these areas for students to access credits for experiential learning. In addition, the Unit can serve as an authorized agency for Prior Learning assessment to assess employee experience during recruitment, in areas where certification is lacking.

13. Documentation

Procures learning resources from different sources and be ready to disseminate them. Simultaneously the Unit has to document all the activities of the Department. Digitization and dissemination of documentation also is to be done.

14. Translation and Interpretation

Provide translation and interpretation services to cooperative, corporate and public clients. It can be the official translating agent of the government and is highly inevitable in the globalised corporate and PPP scenario. The Unit can also offer customized training in foreign languages and offer certificate level qualification in foreign language studies.

15. Learning in Retirement

Learning in retirement addresses the demographic peculiarity of ageing states and peer teaching for retirees can be a novel attempt of this Unit. Credit courses that meet during the evenings, provide online distance credit courses that are semester-based, facilitate self-paced and independent learning, facilitate access to the outreach activities of the Department where they can involve and render service, etc also can be offered. The Unit can also look into the learning needs of the retirees in other Units if they desire so.

Discussion

Centre staging Lifelong Learning from the peripheries is part of the effort towards social justice. Higher Education is one of the most effective media for this momentous task. It is a deviation from the oft-travelled road and requires thorough de-schooling. De-schooling, again, creates confusion and resistance too. Unless the lifelong personnel are not ready to meet this challenge the whole exercise may go astray. Tools and modes of de-schooling are to be drawn meticulously, for which the above proposal for operationalisation may work out. "If learning involves all of one's life, in the sense of both time-span and diversity, and all of society, including its social and economic as well as its educational resources, then we must go even further than the necessary overhaul of 'educational systems' until we reach the stage of a 'learning society'." (Preamble, xxxiii, Faure)

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Skill Development Opportunities in Lifelong Learning

Rashid Hussain

In a globalised world education and skill development is essential for an individual as well as for the development of the nation. Mere literacy alone is neither sufficient nor adequate to enable citizens to prepare for changing market economy and knowledge society. Lifelong Learning plays a central role in developing skills and it is the vital investment for human and economic development. "Skill development is essential for increasing the productivity and sustainability of enterprises and improving working conditions and the employability of workers."¹ In order to secure the job as well as navigate in the labour market, women and men need technical skills to perform specific tasks as well as core work skills: like learning to learn, communication, problem-solving and teamwork. Development of core skills, awareness of workers' rights and an understanding of entrepreneurship are the building blocks for lifelong learning and capacity to adapt to change. "Skill development is extension of the educational process. It prepares a person not only for a specific job but also for life. Having acquired meaningful and relevant skills, the person is better positioned to engage in productive work. In the process, he moves towards self-reliance and adds to his self-esteem".² Also, this elevates, in varying degrees, his status in the family and neighbourhood. Given perseverance and opportunity, he is able to exploit his talents and potential and more often than not, to prosper. In fact, in the present environment denoted by openness and liberalization, rags-to-riches stories of skilled person abound throughout the length and breadth of the country. Doubtless, these persons are moving up on economic and social ladder and also contributing to the development of the country.

"Human resource is treasure, which can be put into a productive channel. This is the need to enhance their skills and it can be done through the lifelong learning and it gives a second chance to unskilled labours to maintain the gap between personal and professional development".³ Lifelong learning makes an individual self-sufficient, self-dependent and it will develop skills and generate employment opportunities. Skilled men/women may be used as a device to wipe out poverty.

Lifelong Learning

"Learning is the need and condition for improving the capabilities and empowering an individual to be efficient in various fields. It is a potential instrument of individual wellbeing as well as social development. It is closely related with specific skills that

many employers look for".⁴ Thus learning has been known to increase productivity of individuals', profitability of employers and aid on national development. It is an organized process to understand the ideas that are relevant to our daily life problem non formal and informal learning. Lifelong Education and learning has generated considerable interest among educationists across the nations. "The report to the International commission on the Development of Education (1972) has recommended Lifelong Education as a master concept for educational policies in the years to come for both developed and developing countries. In 1996 UNESCO report of International Commission on Education for 21st Century reiterated that the concept of learning throughout life emerges as one of the key to the 21st Century".⁵

Lifelong learning is the provision for both formal and informal learning opportunities throughout peoples' lives in order to foster the continuous development and improvement of the knowledge and skills that are needed for employment and personal development. It ensures efficiency and effectiveness in our day to day life. Learning is a prerequisite essential condition for acquiring and applying knowledge used for taking decisions and for solving problems. In short, it is necessary for successful living and for improving the quality of life.

Lifelong Learning in India

The Lifelong Learning has been repeatedly stressed in several educational policy documents and discourses in India. While the 'Report of the Education Commission (1964-66) observed that education doesn't end with schooling but is a lifelong process'; the National Policy on Education in India (1986) considered "Lifelong Education as the cherished goal of the educational process which presupposes universal literacy, provision of opportunities for youth, housewives, agricultural and industrial workers and professionals to continue the education of their choice at the pace suited to them".⁶

The National Literacy Mission launched in 1988, gave a fillip to adult education programmes which led to the emergence of the concept developmental literacy. Aiming at higher participation of the disadvantaged and underprivileged, adult education programmes created awareness about development schemes of the government. This included components of self-reliance in basic literacy and numeracy, social awareness, acquisition of relevant skills and imbibing the values of national integration, conservation of environment. The inclusion of gender equity underscored the need for empowerment for women. The imperative of strengthening the economy necessitated that functional literacy and lifelong learning is included in its ambit. The focus of government is increasingly on their vocational education and skill training needs. The target was to achieve 80% literacy rate, to inculcate general awareness about conscious attitudinal responses to balance gender disparity by reducing the gender gap in literacy to 10% and to reduce regional and social disparities through polyvalent education. This contribution continued focus of India's adult and lifelong learning

programmes on adult basic literacy and continuing education which in turn generates the need for trained manpower. However, it was the organisation of two international conferences on Lifelong Learning in India and the formulation of the Mumbai and Hyderabad Statements on Lifelong Learning in 1998 and 2002 which highlighted Lifelong Learning as a guiding principle and overarching vision that seems to have publicized the concept. "The Hyderabad statement on Lifelong Learning clarified the role of lifelong Learning in creation of a learning society and learning community. It emphasized empowering people, expanding their capabilities and choices in life and enabling individuals and societies to cope with the 21st century".⁷

"With the formulation of the Eleventh Five Year Plan (2007-2012), the Government of India put forward the idea of expanding the scope of Continuing Education Programmeme by developing it as Lifelong Education and Awareness Programmeme (LEAP). This may be partly influenced by the global discourse on Lifelong Learning and partly due to the socio-economic changes taking place within and outside the country".⁸ There are a wide variety of Lifelong Learning opportunities to all sections of the society. These opportunities provided via Continuing Education Courses both through Universities and community based centres, Equivalency Programmeme, Quality of Life Improvement, Individual Interest Promotion Programmes, Vocational Education/Skill Training etc.

Skill Development

The International Labour Organization defines employability skills as:

"The skills, knowledge and competencies that enhance a worker's ability to secure and retain a job, progress at work and cope with change, secure another job if he/she so wishes or has been laid off and enter more easily into the labour market at different periods of the life cycle. Individuals are most employable when they have broad-based education and training, basic and portable high-level skills, including teamwork, problem solving, information and communications technology (ICT) and communication and language skills. This combination of skills enables them to adapt to changes in the world of work".⁹

Skill Development is critical for economic growth and social development. Skill development is an important drive to address poverty reduction by improving employability, productivity and helping sustainable development and inclusive growth. It facilitates a cycle of high productivity, increased employment opportunities, income growth and development. One of the significant drawbacks of our education system is; it does not bestow appropriate magnitude to vocational education and training. There is a great disparity between the 'skilled manpower requisite and skilled manpower obtainable'. "Millions of graduates are churned out but, they are not those who have skills required by the industries, this tendency would harm our prospects of growth more in the long-run, there is a need to change the attitude of our people as

we look at skill training as if it is below one's dignity. Skill development training programmes and courses should be promoted and general public should be made aware of their immediate benefits and opportunities".¹⁰ A major justification for skill training has been the notion that acquisition of skill improves the chances that the unemployed or underemployed would find stable wage-employment. In respect of economically and academically disadvantaged young people, vocational skills are a little more appropriate means of improving their employability than general education.

Lifelong Learning for Skill Development and Employability

The genesis of Lifelong Learning in India is inextricably associated with the socio-economically rooted problems of those sharing multiple handicaps of economic deprivation and marginalization. It hinges on the underlying twin issues of migration and unemployment. Two factors are considered to be primarily responsible for urbanization. The first is the rapid industrial development in and around metro-cities. The second reason is the large scale migration from rural to urban areas for employment attributed to poor employment in villages due to underdevelopment and dwindling livelihood options. Cities appear to hold a promise of employment of socio-economic mobility. The combined effect of the two factors has encouraged migration to cities and thereby increased the urban population resulting in critical socio-economic problems particularly for first generation migrants and deprived communities. Similar conditions affect people at the periphery of cities who are employed in neighbouring urban areas. The precipitation of rural to urban migration increases the quantum of a large transient group of workers along with micro-traders in the informal sector of the urban economy which provides cheap labour primarily for manual labour. This group of workers and their families can benefit from skill development through lifelong learning by developing and upgrading their employable skills and thus increasing their capability for income generation.

Skill development is instrumental not only in improving employability but also in creating sustainable enterprises for economic growth of the nation. Planning for skill development needs to synergize the supply of trained workers according to the mutating dynamics of employment. One such challenge is to determine the appropriate balance of technical skills and employable skills for the workplace. "The definition of employability is complicated by the coexistence of different perceptions of what it means to be employable. Employability is the career potential defined as 'the continuous fulfilling, acquiring or creating of work through the optimal use of competencies'.¹¹" Basic skills enhance workers' abilities to learn new information and techniques and make the future workforce more adaptable to change".¹²

In response to the changes of necessary workplace skills, lifelong learning programmes have to identify knowledge and skill levels needed in the future workforce. While deficiencies in basic workplace skills are not a new problem, their growing numbers poses a challenge, emerging from a volatile mix of demographic, economic, and technical forces. In this context, lifelong learning programmes incorporating

functional literacy and skill-training in vocational courses is envisioned as a mechanism to reduce the vulnerability of this social segment by creating opportunities of employability to overcome factors that act as barriers to meeting their aspirations and thus empowering them. The gap between the requirements of the industry and the availability of skilled manpower is highlighted the disjunction between skill-availability at the operational level and the need for strengthening the curriculum and infrastructure of vocational training institutes like Industrial Training Institutes (ITIs), Apparel Training and Development Corporation (ATDC) and Polytechnics in India, it underscores the need to impart specialized training programmes for the unskilled and semi-skilled workers. The shortfall in the target achievement of Eleventh Five-year Plan has necessitated greater impetus on skill building in the Twelfth Plan Approach Paper as a way to improve worker-effectiveness and to boost economic growth and social empowerment.

There has been a concerted impetus of the government and policy-makers on incorporating skill-development with lifelong learning in order to synergize the need for generating employment opportunities to the youth and fill the competency requirement of the industry. Employability involves the creation of linkages between education and employer. Formal knowledge may not be the most important attribute sought by all employers for employment at different levels. Employers are interested in recruitment of not only educated and professionally trained graduates but also of workers at lower levels for skill-based tasks. It therefore becomes necessary to create an integrated education system which can enable the production of a critical mass of skilled manpower at an accelerated pace. With increasing numbers and diversity of industries there is a corresponding need for lifelong learning education and skill training suitable for employability. This implies that forging backward and forward linkages between the industry/employers and education/employees, whether at the higher levels of the organization or the lowest, are mutually beneficial.

Lifelong Learning Programmes in India

The Government of India plays a key role in the promotion of lifelong learning programmes mainly through the skill development. In India skill development training is centralized with Ministry of Human Resource Development (MHRD), Ministry of Labour & Employment (MOLE) and the newly created Ministry of Skill Development and Entrepreneurship. Apart from these three ministries there are around 15 more ministries and department which provide skill training programmes in India as per the need of the beneficiaries they cater to.

Some important skill development programmes are as follows:

Industrial Training Institutes (ITIs) & Industrial Training Centres (ITCs)

The Directorate General of Employment & Training (DGE&T) in the Ministry of Labour and Employment, Government of India initiated Craftsmen Training Scheme

(CTS) in 1950 by establishing about 50 Industrial Training Institutes (ITIs) for imparting skills in various vocational trades to meet the skilled manpower requirements for technology and industrial growth of the country. The second major phase of increase in ITIs came with the oil-boom in West-Asia and export of skilled manpower to that region from India. Several new private ITIs were established in 1980's in southern states mostly in Kerala, Karnataka and Andhra Pradesh from where trained craftsmen found placement mainly in Gulf countries. In 1980, there were 830 ITIs and the number rose to 1900 ITIs in 1987. During 1990's, the growth of ITIs had been steep and presently there are over 10,750 ITIs (2275 in government and 8475 in private sector) (in private sector they are called Industrial Training Centres – ITCs) having a total seating capacity of 15.22 lakhs.

Under the constitution of India, Vocational training is the concurrent subject of both Central and State Governments. The development of training schemes at national level, evolution of policy, laying of training standards, norms, conducting of examinations, certification, etc. are the responsibilities of the central government, whereas the implementation of the training schemes largely rests with the state governments and UT Administrators. The central government is advised by the National Council of Vocational Training (NCVT), a tripartite body having representatives from employers, workers and central/state governments. Similar Councils termed as State Councils for Vocational Training (SCVT) are constituted for the same purpose by the respective state governments at state levels.

Jan Shikshan Sansthan (JSSs)

Jan Shikshan Sansthan are vocational training institutions sanctioned to NGOs under the Scheme of Assistance to Voluntary Agencies by the Ministry of Human Resource Development (MHRD). These Sansthan were originally called Shramik Vidyapeeths. The Vidyapeeths used to cater to the vocational needs of migrant workers and their families came to cities and towns in search of employment. Subsequently, Shramik Vidyapeeths were renamed as Jan Shikshan Sansthan in the year 2000 to enable them to provide vocational training to illiterates, neo-literates and persons with rudimentary level of education with the mandate of covering both rural and urban areas. The Sansthan are funded by MHRD through annual recurring grant to meet the expenditures towards payment of emoluments to the members of the staff, office expenditure and programmes. These Sansthan offer skill training in variety of vocations in which theory portion is limited to the core knowledge of the vocations and practical aspects are more so that they perform well in work situation.

Krishi Vigyan Kendras (KVKs)

The Education Commission (1964-66) recommended that a vigorous effort be made to establish specialized institutions to provide vocational education in agriculture and allied fields at the pre and post matriculate levels to cater the training needs of

a large number of boys and girls coming from rural areas. The Commission also suggested that such institutions be named as 'Agricultural Polytechnics'. The recommendation of the Commission was thoroughly discussed during 1966-72 by the Ministry of Education, Ministry of Agriculture, Planning Commission, Indian Council of Agricultural Research (ICAR) and other allied institutions. Finally, the ICAR mooted the idea of establishing Krishi Vigyan Kendras (Agricultural Science Centres) as innovative institutions for imparting vocational training to the practicing farmers, school dropouts and field level extension functionaries.

The mandate of KVKs is technology assessment and demonstration for its application and capacity development. To implement the mandate effectively activities envisaged for each KVK included - on-farm testing to assess the location specificity of agricultural technologies under various farming systems, frontline demonstrations to establish production potential of technologies on the farmers' fields, capacity development of farmers and extension personnel to update their knowledge and skills on modern agricultural technologies, to work as Knowledge and Resource Centre of agricultural technologies for supporting initiatives of public, private and voluntary sectors in improving the agricultural economy of the district and provide farm advisories using ICT and other media means on varied subjects of interest to farmers. In addition, KVKs would produce quality technological products (seed, planting material, bio-agents, livestock) and make it available to farmers, organize frontline extension activities, identify and document selected farm innovations and converge with ongoing schemes and programmes within their mandate.

The first KVK, on a pilot basis, was established in 1974 at Puducherry (Pondicherry) under the administrative control of the Tamil Nadu Agricultural University, Coimbatore. At present there are 645 KVKs, out of which 438 are under State Agricultural Universities (SAU) and Central Agricultural University (CAU), 55 under ICAR Institutes, 100 under NGOs, 35 under State Governments, and the remaining 17 under other educational institutions.

AJEEVIKA - National Rural Livelihood Mission (NRLM)

AAJEEVIKA - National Rural Livelihoods Mission is under the Ministry of Rural Development, Government of India. The aims of the Mission are to create efficient and effective institutional platforms of the rural poor enabling them to increase household income through sustainable livelihood enhancements and improved access to financial services. The Mission has set an agenda to cover 7 crore BPL households, across 600 districts, 6000 blocks, 2.5 lakh Gram Panchayats and 6 lakh villages in the country through self-managed Self-Help Groups (SHGs) and federated institutions and support them for livelihoods collectives in a period of 8-10 years. In addition, the poor would be facilitated to achieve increased access to their rights, entitlements and public services, diversified risk and better social indicators of empowerment. NRLM believes in harnessing the innate capabilities of the poor and complements

them with capacities like information, knowledge, skills, tools, finance and collectivization to participate in the growing economy of the country.

Deendayal Antyodaya Yojana-National Urban Livelihoods Mission (DAY-NULM)

The main objective of Deendayal Antyodaya Yojana-National Urban Livelihoods Mission is to reduce poverty and vulnerability of the urban poor households by enabling them to access gainful self-employment and skilled wage employment opportunities, resulting in an appreciable improvement in their livelihoods on a sustainable basis, through building strong grassroots level institutions of the poor. The mission aims at providing shelters equipped with essential services to the urban homeless in a phased manner. In addition, it also addresses livelihood concerns of the urban street vendors by facilitating access to suitable spaces, institutional credit, social security and skills to the urban street vendors for accessing emerging market opportunities.

Rural Self-Employment Training Institutes (RSETI)

Lakhs of youth are entering the job market every year after completing their school/collegiate education. Non-availability of corresponding employment opportunities in the organized as well as unorganized sector has increased unemployment. The entry of automation and mechanization in every sphere of commerce and administration due to the advent of science and technology has further accentuated the problem. On the rural side, the employment potential in agricultural economy also appears to have reached a saturation level leading to large scale migration of manpower from rural areas to urban areas adding woes and pressure to already over strained civic infrastructure. Millions of unemployed youth particularly from rural and semi-urban background who could not access higher professional education but oriented towards white collar jobs are driven to despair for not finding a job. Of late, these distressed youth are attracted towards antisocial activities for their livelihood. This tremendous waste of human resources and mismatch of potentiality with productive deployment has baffled the planners and administrators. The situation calls for urgent steps to provide increased employment opportunity in the rural and semi-urban areas itself to check the shifting of resources resulting in improved economic status. All these clearly indicate the need for promoting self-employment entrepreneurial ventures among the unemployed youth and women

Hence, Ministry of Rural Development sanctions Rural Self Employment Training Institutes to have dedicated infrastructure in each district of the country to impart training and skill up-gradation of rural youth geared towards entrepreneurship development. These training institutes are managed by banks with active co-operation from the Government of India and State Governments.

Pradhan Mantri Kaushal Vikas Yojana (PMKVY)

Pradhan Mantri Kaushal Vikas Yojana is the flagship scheme of the Ministry of

Skill Development & Entrepreneurship (MSDE). The objective of this Skill Certification Scheme is to enable a large number of Indian youth to take up industry-relevant skill training that will help them in securing a better livelihood. Individuals with prior learning experience or skills will also be assessed and certified under Recognition of Prior Learning (RPL). Under this Scheme, Training and Assessment fees are completely paid by the Government.

The key components of the Scheme are:

- Short Term Training imparted at PMKVY Training Centres (TCs) to benefit candidates of Indian nationality who are either school/college dropouts or unemployed. Apart from providing training according to the National Skills Qualification Framework (NSQF), TCs also impart training in Soft Skills, Entrepreneurship, Financial and Digital Literacy. Duration of the training varies per job role, ranging between 150 and 300 hours. Upon successful completion of their assessment, candidates shall be provided placement assistance by Training Partners.
- Individuals with prior learning experience or skills shall be assessed and certified under the Recognition of Prior Learning component of the Scheme. This aims to align the competencies of the unregulated workforce of the country to the NSQF. To address knowledge gaps, Project Implementing Agencies need to offer Bridge Courses to RPL candidates.
- The Special Projects component of PMKVY envisages the creation of a platform that will facilitate trainings in special areas and/or premises of Government bodies, Corporates or Industry bodies, and trainings in special job roles not defined under the available Qualification Packs (QPs)/National Occupational Standards (NOSs). Special Projects are projects that require some deviation from the terms and conditions of Short Term Training under PMKVY for any stakeholder.
- Social and community mobilization is extremely critical for the success of PMKVY. Active participation of the community ensures transparency and accountability, and helps in leveraging the cumulative knowledge of the community for better functioning. In line with this, PMKVY assigns special importance to the involvement of the target beneficiaries through a defined mobilization process. Training Partners to conduct Kaushal and Rozgar Melas every six months with press/media coverage; they are also required to participate actively in National Career Service Melas and on-ground activities.
- PMKVY envisages linking the aptitude, aspiration, and knowledge of the skilled workforce it creates with employment opportunities and demands in

the market. Every effort thereby needs to be made by the PMKVY Training Centres to provide placement opportunities to candidates, trained and certified under the scheme. Training Partners also need to provide support to entrepreneurship development.

Saakshar Bharat

Saakshar Bharat, a programme of Ministry of Human Resource Development has four broad objectives and they are – impart functional literacy to non-literate adults, enable neo-literate adults to continue their learning beyond basic literacy to acquire equivalency to formal educational system, impart non-literate and neo-literate adults relevant skill development programmes to improve the earning and living conditions and promote learning society by providing opportunities for the neo-literate adults for continuing education. For this Jan Shikshan Sansthan are institutionally network with the adult education centres so that they impart skill development training as well as literacy linked vocational training. The Sansthan in coordination with the District Implementing Agencies will enlist neo-literates for appropriate skill development training. The same way the State Literacy Mission Authorities and District Implementation Agencies develop synergies with other agencies in the public as well as private sector for enhanced opportunities of skill development training at the Gram Panchayat level.

Conclusion

The primary aim of lifelong learning is not only to provide the skills to cope with the written words in everyday life, but to enable them, to gain greater freedom, to make choice to have a better grasp of the real life, to enhance personal liberty and to have other sources of knowledge. The lifelong learning and skill development are interrelated and inter-dependent. Progress of one cannot be achieved without the other as both are mutually interactive and beneficial. Therefore, both have to go hand in hand to achieve the target of total human development. In today's world technology is used in all aspects of life and hence, lack of literacy and education is a great deprivation which leads to many more deprivations and deficiencies. So it is all the more important that lifelong learning and skill development programmes should be made more popular among the deprived sections of the society through all sorts of media so that it reaches the persons concerned.

Footnotes

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⁹ HRD Recommendation 195, 2004; this was reinforced in the Resolution on Youth Employment 2005.

¹⁰ Sridhar Krishna, 'Vocational Education and Training: Issue and Perspectives, ed. Nagmani Ngraj N. (Hyderabad: ICFAI University Press, 2009)

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Challenges Relating to Quality of Teacher Education

Shalini Pandey

A dynamic and progressive society has find ways and means to resolve the issues and solve the problems, which it faces in any sphere of life. Education development has always been a forerunner of social change and development. Therefore, we have been striving hard to find appropriate responses to challenges in the field of education so as to make it a powerful vehicle of social change. The success of an education system largely depends upon the quality of teachers available to it again the quality of the teachers depends upon the quality of the education. The Education Commission (1966) has echoed this in their report when they said that a sound programme of professional education of teachers is essential for the qualitative improvement of education. Investment in teacher education can yield very rich dividends because the financial resources required are small when measured against resulting improvements in the education of millions. Therefore, teacher education today forms an integral part of any educational system. Different education commissions, various committees and National Commission for Teacher Education (NCTE) have voiced the growing concern for teacher education.

During the last sixty nine years after independence there has been rapid growth of education at all levels. The unprecedented increase in enrolment every year needed even increasing number of teachers as well as more and more schools as a result quality of education was sacrificed for the sake of quantity in education. Teacher education facilities could not be increased as rapidly as required to produce the number of teachers needed for increase in enrolment at school level. As a result untrained persons with low academic qualifications are engaged as teachers. Schools and colleges that are set-up could not be properly equipped with educational infrastructure. Many new ill-equipped and understaffed teacher education colleges also sprang up and started preparing untrained teachers who are given certificates which undermined the standard of teacher education.

Some of the major challenges and remedies related to quality teacher education are discussed here:

Artificiality in courses of studies both in theory and practice

Teacher Education courses at different levels are the continuation of the patterns adopted more than a quarter of a century ago. They embody course content, which is not helpful in preparing an effective teacher. The theory courses in particular have no articulation with practical work and teaching skill requirements. The application of

theory to practice is recondite and leaves enough room for revision and restructuring. The weightage on content is negligible. There is no conceptual framework in the overall course structure.

The practice teaching course as prescribed has assumed the form of a meaningless ritual and its carry over potential in the development of a dynamic strategy for handling instruction problems in actual classrooms is very poor.

Ineffective methods of teaching

Teacher education all over the country is averse to innovation and experimentation in the use of methods of teaching. They have shown a remarkable allegiance to the traditional method of instruction, viz, lecturing and dictating of notes. Their acquaintance with modern classroom communication devices is inadequate. In many cases the lectures given are dull, monotonous and uninspiring.

Little or no interaction with the main academic stream of university

The teacher education departments in the states are cut-off from the mainstream of education and isolated. There is nothing exemplary in them on the basis of which they may function as models. The university departments treat the teacher training section as something inferior to others. They shun away from the idea of collaborating in any programme sponsored by teacher education section. Even in areas such as evaluation, teaching methods and curriculum development, teacher education departments have not been able to make any dent.

Inadequate base of empirical research in various fields of teacher education

Research in education is considerably neglected. Whatever research is being reported is of a very inferior quality. The teacher education programmes have not been properly studied by under taking any systematic research. The result is that unwarranted suggestions based on mere speculation become the guiding principles in conducting teacher education programmes.

No inbuilt system for the professional development of teacher educators

There is little stimulus provided to the teacher educators for their professional growth, because of which even the summer institutes which are being run with the help of University Grants Commission (UGC) and National Council of Educational Research and Training (NCERT) are not able to deliver the goods. Most of such programmes are being conducted in a routine and un-imaginative manner. Even the association of teacher educators has deteriorated in quality as far as its deliberations are concerned. It has not contributed anything so far towards developing of a sound professionalization of teacher education.

Ineffective examination system

The examination system in teacher education is such that any adult person with some common sense and general education can easily pass the all important final examination. As a result, even in institutions which have good physical facilities and adequate staff, neither the students nor the teachers are serious about their work. Theory course are not taught properly and very little practical work is organized and the students know very little study is needed to pass the final examination. This indirectly encourages the establishment of institutions without requisite physical facilities and equipments, for these seemingly do not hamper their students from passing the teacher education examination.

Less emphasis on development of professional attitude

The curriculum of teacher education is such that it cannot develop the professional competencies required of a teacher. It only embodies some knowledge and information, which are desired the teacher trainees to possess. Till a year before the duration of the teacher training for secondary grade teachers was only ten months which was hardly adequate for any professional course. Fortunately, the need for increasing the duration of teacher education was felt and done now. However, the teachers trained in the old pattern still continue to be in service. Modernization of curriculum with considerable emphasis on development of practical skills and competencies required for making a good teacher.

The consequence of the inadequate and short duration teacher training made the student teachers only talk about the methods but cannot use them with facility and ease. There is absolutely no manifest or learnt concern on the part of teacher educators to achieve in planned and systematic way the awareness and control over the instructional and information technology.

Lack of proper facilities like practicing schools, laboratory, library and physical equipments

The teacher education programme is given a step motherly treatment in most of the Arts Colleges and the university departments. About 80% of the teacher education institutions are being run in rented buildings and hence, there is no facility for the experimental school or laboratory, library, and other equipments necessary for a good teacher education department. In most of the teacher education institutions there is no separate hostel facility for the student teachers.

No regulation of demand and supply in accordance with the requirements of subject teachers

The State Education Departments have in majority of cases no control in the

starting of post-graduate teacher education departments. The teacher education departments on the other hand have no data whatsoever on the basis of which, they may work out the desired intake for their institutions. There is a considerable lag between the number of teachers required and the number of teachers available to the market. This has contributed to the problem of unemployment and under-employment of a varying magnitude.

Commercialization and correspondence courses in teacher education

Commercialization of teacher education is another malady from which teacher education suffers today. In some states the teacher education programme has been commercialized and optimum saving is made through the revenue raised by such departments. In fact in many places the fee charged from the student teachers in B.Ed. colleges is more or less the same like that of Arts colleges. This practice has necessarily resulted in bad influence on the regular course of teacher education. Since the university gives the same degree to the products of both these courses, some teachers in regular teacher education institutions neglect their teaching and supervision of practical work. Thus the bad coin is driving out the good coin from circulation.

Quality of teacher education

This is generally reflected in the policies followed in the recruitment of teacher education too. The poor quality of teacher educators coupled with the substandard provision of facilities is largely responsible for lack of vigorous and dynamic programmes in the campus. The effort to build a proper democratic attitude through a community life gets undermined.

Actions needed to improve the teacher education

A scrutiny of the statement of problems will reveal that what is needed is a vigorous and planned action which should be supplemented with an inbuilt system of evaluation. The following points may be of some help in ameliorating the situation as it exists today:

- The course of studies, both in theory and practice should be reorganized. For this a programmatic research should be conducted by some universities to see what is the course structure which will be helpful for realization of the goals of teacher education? The ratio of theory and practical work should be specifically studied and a special programme should be developed for recording various types of practical work/practical activities which are required to be conducted in schools.
- The method of teaching in the teacher education departments should be such that it inspires a sense of appreciation among other departments of

the university and colleges. A teacher education department should, therefore, conduct innovative programmes in the directions like - Seminar, combining of seminar and discussions with lectures, team teaching, panel discussion and projects sponsored by the faculty members for improvement of learning in various spheres.

- For development of professional attitude it will be advisable to recognize the colleges of education as units in themselves. Such an institution should be equipped with facilities for organizing various types of activities such as daily assembly programmes, community living, social work, library organization and other curricular activities which promote democratic spirit of mutual appreciation and fellow feeling.
- There should be a planning unit in each State Education Department. The function of this unit should be to regulate the demand and supply of teachers at various levels of schools. This unit can also be given the responsibility of projecting future requirements of teachers in various categories.
- The teacher education department should be made a nucleus for research on teaching curriculum and evaluation in the regular university departments. It can also be entrusted the responsibility of sponsoring programmes for extension such as bringing the community into close contact with university academicians.
- The professional association of teacher education or teacher educator should be streamlined by broad-basing its present composition. It should include eminent scholars from different disciplines and teachers of various levels so that its professional strength is increased. For professional growth of teacher educators there should be seminars, summer institutes and research symposia at more frequent intervals.
- Teacher education through correspondence or other distance education modes should be allowed for first degree/diploma in teacher education which qualifies a person to teach in the school system because this mode of education is not suitable for developing practical skills, needed for a teacher. Such modes of education may however be allowed for further education of a teacher who has already obtained the basic qualification to teach through the regular full-time institutional programme.
- Commercialization of teacher education should be stopped, i.e. no teacher education institution should be allowed to operate as a profit making institution. The tuition and other fees collected from students should not be more than necessary for meeting the recurring costs of the institution. The capital expenditure for the institution should be obtained through endowment or from government.
- The teacher education curriculum and its implementation in teacher education institutions need considerable improvement. NCERT has prepared a framework for teacher education curriculum which has revised a few years ago. It is for the NCTE now to determine the important features of the teacher education curriculum which must be implemented by all teacher education institutions and also ensure their implementation. Among other things, the

curriculum should specify the nature of theory and practical teaching to be done, the teaching time and the method of evaluation of learning.

- The examination system in teacher education should be revised. There should be a continuous evaluation of learning with regular feedback to the students so that they are continuously informed of their shortcomings and helped by the teachers to overcome the deficiencies. The final grading of students should reflect the ability of the student to be a good teacher. A national level committee may consider the examination system of teacher education for reformation.
- It is an opinion of many educationists that one academic year is too short a period for developing the knowledge, skills, abilities, attitudes and values that a teacher should have. What should be the minimum duration of professional teacher education and how should it be effectively utilized? Is integrated teacher education as on Regional College (Now Institutes) of Education a better method of teacher preparation? What could be other alternate methods and structures of teacher education? How can innovation in teacher education be encouraged? These questions should be answered by a competent national body and implemented so that teacher education can really become professional.

Conclusion

If people believe and agree that “the destiny of India is being shaped in her classrooms” the teacher deserves greater attention, care and support. A good education system of teachers will ensure a good society which in turn will be an asset to the nation. Teachers are revered in India and are kept next only to mother and father but above the God. Such a position no one gets and hence, teachers must maintain the quality of teaching for which good training will be of great help.

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