ISSN 0972-5628

JOURNAL

Journal of Indian Education

Volume XXXIX Number 4 February 2014

विद्यया ऽ मृतमश्नुते
एन सी ई आर टी
NCERT

राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्
NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING

The *Journal of Indian Education* is a quarterly periodical published every year in May, August, November and February by the National Council of Educational Research and Training, New Delhi.

The purpose is to provide a forum for teachers, teacher-educators, educational administrators and research workers; to encourage original and critical thinking in education through presentation of novel ideas, critical appraisals of contemporary educational problems and views and experiences on improved educational practices. The contents include thought-provoking articles by distinguished educationists, challenging discussions, analysis of educational issues and problems, book reviews and other features.

Manuscripts along with computer soft copy, if any, sent in for publication should be exclusive to the *Journal of Indian Education.* These, along with the abstracts, should be in duplicate, typed double-spaced and on one side of the sheet only, addressed to the **Academic Editor, *Journal of Indian Education*, Department of Teacher Education, NCERT, Sri Aurobindo Marg, New Delhi 110 016.**

The Journal reviews educational publications other than textbooks. Publishers are invited to send two copies of their latest publications for review.

Copyright of the articles published in the Journal will vest with the NCERT and no matter may be reproduced in any form without the prior permission of the NCERT.

Academic Editor

Raj Rani

Editorial Committee

Ranjana Arora *Kiran Walia*
Anupam Ahuja *M.V. Srinivasan*
Madhulika S. Patel *Bunny Suni (JPF)*

Publication Team

Head, Publication Division : *N.K. Gupta*
Chief Editor : *Shveta Uppal*
Chief Business Manager : *Gautam Ganguly*
Chief Production Officer (Incharge) : *Arun Chitkara*
Editorial Assistant : *Mathew John*
Assistant Production Officer : *Abdul Naim*

Cover Design

Amit Kumar Srivastava

Single Copy : ₹45.00
Annual Subscription : ₹180.00

विद्यया ऽ मृतमश्नुते
एन सी ई आर टी
NCERT

JOURNAL OF
INDIAN
EDUCATION

Volume XXXIX | Number 4 | February 2014

CONTENTS

Prilm.indd 1 15-04-2015 AM 11:36:57

EDITOR'S NOTE

Day-to-day advancements and changes in various aspects of our society have been creating more and more challenges for our education system in general, and school education in particular.

With the implementation of Right to Education Act in India, children from different social-economic background are getting opportunity to enter school and fulfil their dreams. A large number of such children being first-generation school goers have put before the system many challenges — challenge of practicing multiple pedagogies, challenge of acknowledging their knowledge base and cultural contexts and challenge of school based evaluation, etc. The whole education system has now been geared up to address these challenges. People who are concerned and closely related with education have started looking into teacher education and school education critically.

Dialogues on textual material, improving classroom process, overhauling of teacher education programmes and assessment are now augmented.

This issue of JIE voices systemic concerns for education. Articles and research papers that we received from our authors for this issue are reflective of these voices.

Garima Bansal's research paper "Analysing Middle Grades Science Textbooks for Their Potential to Support Scientific Inquiry" concludes that process based textbooks may be a powerful inquiry oriented resource to encourage Scientific Inquiry in our classrooms.

Rishabh Kumar Mishra's study explored one of the under-researched areas of textbook analysis that is textbook questions and exercises and revealed that most of the textbook questions are authoritative in nature promoting pre-established context independent knowledge among learners.

Vijayan K. in his article elaborates some of the assessment practices by him in a classroom in a school during three months. Anupam Ahuja in her article reflects upon an amendment in the RTE Act-2009, which is about home based education for children with severe and multiple disabilities.

Najmah Peerzada discusses the philosophy of education as propounded by Al-Ghazzali - a great educationist.

Papers written by Madhulika S. Patel and Saroj Pandey, Sarmila Banerjee, Namita Das and Atasi Mohanty, Poonam and Anuradha, K. Sampath and T. Sundaramoorthy reflect various concerns and issues related to teacher and teacher education in the country.

Two papers in this issue highlight concerns about resources in education. Paper jointly authored by Debrata Das, R.K. Mahapatra and Suraj Panigrahi

Prilm.indd 3 15-04-2015 AM 11:36:57

entitled "Collection Management in Senior Secondary School Libraries: an Analytical study" presents status of some CBSE affiliated senior school libraries in Bhubaneswar city. The text of a memorial lecture delivered by Urvashi Butalia speaks of the politics of contemporary publishing in India and views that the contributions of the small independent publishers need to be recognised and supported in our country.

Liranso Gebreyohannes Selamu explores some of the practices and challenges in providing care and support to orphan and vulnerable children in Ethiopia. The issue ends up with a book review by Jasim Ahmad of a recently developed textbook for two-year B.Ed programme entitled *"Pedagogy of Science: Textbook for B.Ed. (Physical Science) Part-I,* published by NCERT.

Academic Editor

Analysing Middle Grades[1] Science Textbooks for their Potential to Promote Scientific Inquiry

Garima Bansal*

Abstract

Textbooks constitute the toolkit (Chinn et. al., 2002) used by teachers to foster scientific temper among their students. By this token, this study seeks to examine the middle school science textbooks of two publications, NCERT and Eklavya, for the ways in which they support scientific inquiry. The 5E model of inquiry based science learning is used to analyse textbook activities for their ability to support inquiry. A proposed plan in terms of centrally placing inquiry based tasks in curriculum organisation, furthering student engagement, and facilitative role of teachers is presented. It is hoped that contextualising science by the means of inquiry based textbooks would strengthen the bonds between science and society and develop critically inquiring minds contributing to the progress of scientific pursuit throughout their lives.

Introduction

"If a single word had to be chosen to describe the goals of science educators during the 30-year period that began in the late 1950s, it would have to be INQUIRY." (DeBoer, 1991, p. 206). While understanding the available discourse in science education, it becomes evident that science education has received an exceptional attention from both education and political stakeholders. Many efforts have been made to improve science teaching and learning in non-customary ways. In USA, science education reform initiatives have targeted on scientific literacy through inquiry experiences and skills "for all" (AAAS, 1990, 1993; NRC, 1996).

This attention on promoting inquiry seems to reflect a belief that inquiry approach to teaching and

* *Assistant Professor,* Department of Elementary Education, Miranda House, University of Delhi, Delhi

learning probably reflects quality science education. While unpacking what does inquiry based science education (IBSE) entails, it comes forth that it has been characterised in a variety of ways over the years (Collins, 1986; DeBoer, 1991; Rakow, 1986 as cited by Haury, 1993). Some have emphasised on the active nature of student involvement, associating inquiry with "hands-on" learning and experiential or activity-based instruction. Others have linked inquiry with a discovery approach or with development of scientific process skills. (Novak, 1964) suggested "Inquiry is the [set] of behaviours involved in the struggle of human beings for reasonable explanations of phenomena about which they are curious." So, inquiry involves activity and skills, but the focus is on the active search for knowledge or understanding to satisfy a curiosity (Haury, 1993).

Moving ahead with this as operational definition of inquiry in science, it is worth noting that few commentators of IBSE have contrasted inquiry and textbook-based approaches to teaching – learning of science. A textbook-based approach is often interpreted as teaching by largely depending on and following textbook content, which is interpreted as distinct from inquiry approach. Settlage (2007) highlights that inquiry "has long been promoted as the antidote for teaching science directly from a textbook" (p. 464) and Von Secker (2002) indicates that science education reform calls for pedagogical shift from a teacher-centred,textbook-based instructional paradigm to a student centred, inquiry-based model (Kahveci, 2010).

Although these distinctions have often been made on an "either/or" basis, textbooks are still being widely used in classrooms and continue to be an essential part of the curriculum. Various scholars indicate that science textbooks have played a dominant role in the teaching of science and have been mostly 'seen' as the science curriculum by stakeholders (Chiappetta and Fillman, 2007; Pizzini, Shepardson and Abell, 1992 cited by Kahveci, 2010). Harlen (1998) pointed out that there are three ways in which teachers use textbooks. The first group centres their entire pedagogical processes around textbook, the second uses it as a resource coupled with other tools and the third group of teachers avoids using it. Whatever the extent of usage, but textbook is an important feature of science teaching-learning in schools. However, despite repeated efforts and recommendations by several researches and policy documents it has been a common observation that schooling often promotes textbook dominance. Specifically, in Indian culture, importance of textbook is often traced back to British Raj period where the agenda was to create a service class in Indian society to serve the colonial needs who could regurgitate facts

and procedures under certain pre-designed situations. These agendas gradually became ingrained in our school system leading to creation of 'textbook culture' in which the entire schooling came to be structured around textbooks (Kumar, 1986). (Sarangpani 2003) in the same line suggested that in Indian schools, textbooks not only control products but processes of teaching-learning. Providing an international perspective to the issue, Chiappetta and (Fillman 2007) stated that science textbooks are used as the primary organiser of subject matter at all levels of schooling (Kahveci, 2010).

Drawing on these assertions the prominent position of textbooks for effective and all-inclusive teaching and learning becomes evident.

Science Textbook Analysis

Research echoes the fact that most of the science textbooks are teacher directed. Experiences for exploration, if and only if they exist, are textbook or teacher directed (Vijaysimha, 2013). Pedagogical tools evoked through such textbooks mainly involve listening and reading, students are often found engrossed in notes taking, and assessment is based on short, atomised aspects of the curriculum. All the more, inquiry is interpreted as restricted to science laboratories where structured and specified opportunities to exploration are prescribed. This view disconnects inquiry from science lessons occurring in regular classrooms.

Eventually, while reflecting upon science teaching and learning in Indian classrooms, it seems that the role of textbooks and the ways in which teaching-learning processes are conducted is worth investigation.

An extensive textbook analysis procedure has been developed within the frame of the AAAS Project 2061, based on seven main categories (AAAS, 2005). Other past and also up-to-date evaluations of science textbooks involve various analyses from certain perspectives, such as representations of gender and sexuality (Snyder and Broadway, 2004), gender equity (Elgar, 2004), questioning level (Pizzini et al., 1992), science vocabulary load (Groves, 1995), content accuracy (Hubisz, 2003), or the inclusion of the nature of science aspects in biology (Chiappetta and Fillman, 2007; Irez, 2009) and chemistry (Abd-El-Khalick, Waters, and Le, 2008; Niaz, 2005) textbooks (Kahveci, 2010).

Furthermore, research literature on science textbook analysis indicates that the subject matter should be divided into themes for content analysis. Different researchers have been using different themes for the purpose, such as Wilkinson (1999) used the themes related to scientific literacy, Vesterinen et al. (2011) had themes related to nature of science, and Dimopoulous et al. (2003) related them to visual images, and Schussler et al. (2010) explored the specific knowledge provided by the textbooks by looking at the headings

of various topics and content that is included in each of them (Dunne et al., 2013). In the present context, the themes of 5E model would be used and content would be analysed in relation to it.

The Textbooks

For the purpose of textbook analysis, two publications or series of textbooks for same grades are chosen. These publications are one from NCERT, and the other produced through the renowned science popularisation project, Hoshangabad Science Teaching Programme (HSTP), started in 1972 in the Hoshangabad District of Madhya Pradesh in India for over 20 years. It had resulted in the development of textbooks named '*Bal Vaigyanik*' series for middle school science. The major thrust of this programme was 'learning by doing' and the basic tenet of their textbooks is 'Before children can understand a thing, they need experience - seeing, touching, hearing, tasting, smelling, choosing, arranging, putting things together and taking things apart. Children need to experiment with real things' (Gupta, 2010). Moreover, the scientific equipment used for performing experiments was low cost as against the populist view that science experimentation requires high end and expensive apparatuses. This publication has gained extreme repute amongst academics in India. And hence it seemed important to analyse these textbooks for the extent they contain the features and characteristics of pedagogy of inquiry based science education.

The second series of books chosen are published by National Council of Educational Research and Training (NCERT). This is a central body whose one of the key responsibilities is the development of textbooks in accordance with recent advancements in the educational discourse. These books are undoubtedly considered to be the state-of-the-art and sacrosanctly adhered in most of the Indian schools. With the advocacy of NCF (2005), these books have been revised to place scientific inquiry at the centre stage and contribute towards inquiry based science education. Therefore, it is important to analyse what are the characteristic features of these books as they are widely used by majority of school going population in India. For feasibility purposes, seventh grade textbooks of both the publications are examined.

Though the intention is not to steer a competition between the two publications but to arrive at an informed understanding of what is inquiry based science education, what are its prominent characteristics and how can it be included in textbooks to achieve the best of outcomes?

Rationale and Purposes of the Study

This study attempts to explore the ways in which science textbooks can be structured to promote inquiry.

Following research questions in particular guided the study:

- Ability of activities presented in them to involve students in 5E model : Engage, Explore, Explain, Elaborate, Evaluate (Dunne et al., 2013).
- Ways in which sequencing of science instruction and inquiry has occurred: Does text organisation make exploration compulsory or activities simply hinge onto the central text?
- Level and nature of student involvement present.

And in order to arrive at solutions, textbook analysis seemed to be most appropriate methodological tool.

Research Methodology

The methodology used in this study is based on a content analysis of the textbooks. An in-depth probe into the ways in which text is organized, nature of activities chosen and the ways in which they are presented, sequencing of text material, titles of the chapters and the nature of scientific content included, etc. is made. For the purpose of analysis, 5E model of inquiry is chosen as the analytical framework as it gives scope for a strict, objective analysis of themes as well as content of the textbooks.

The 5E instructional model was developed for the elementary school science program *Science for Life and Living* by the Biological Sciences Curriculum Study Organisation (BSCSO, 1990). This approach to teaching science through inquiry is recommended by BSCSO in their curriculum framework for teaching about the history and nature of science and technology. As the name implies, the 5E model has five phases: Engagement, Exploration, Explanation, Elaboration and Evaluation which are described as follows:

Table 1
The 5E model of inquiry

Engagement	Strategies and activities designed to elicit thoughts or actions by the student that relate directly to the lesson's objective
Exploration	Experiences where students' current understandings are challenged by activities, discussions and currently held concepts to explain experiences
Explanation	Presentation of scientific concepts that change students' explanations to align with scientific explanations
Elaboration	Activities that require the use of applications and use of scientific concepts and vocabulary in new situations
Evaluation	Culminating activity that provides the students and teachers with an opportunity to assess scientific understanding and intellectual abilities

Source: Dunne et al. (2013, p. 1519)

This framework is vast enough to allow for almost all the activities to be placed under one of the headings. Two assumptions were made to allow for flexibility - first assumption involved Elaboration phase where it is expected that scientific concepts are applied to new situations but it is not often the case as the situations for applying the information were not always new and outside classroom; the second assumption was that assessment of student should go hand-in-hand through all the phases of 5E without the need of a specific activity all the time to assess pupils' understanding.

The next stage involved the development of a tool that would enable the placement of various ideas and activities in the textbooks under different phases of the 5E model. A tool was designed in such a way that it allowed for easy comparison of topics, books and the ways in which same content was conceptualised in both the publications. Each topic was classified under the 5E categories and qualitative description was also added to allow for easy and comprehensive comparison between various activities that the textbooks promote.

Table 2 provides an illustration of how the tool is used to classify various textbook materials under different sub-headings of the 5E model. Another added dimension of the analysis is the order element being carefully investigated through the tool, i.e, sequencing or the order in which material is organised under various sub-headings in the textbook to understand does sequencing of the text material play a role in enhancing inquiry or alternatively stated what would be the best way to organise material to enhance inquiry approach of the lesson.

Table 2

Topic	*Engagement*	*Exploration*	*Explanation*	*Elaboration*	*Evaluation*
Light	Arrange three empty match boxes with a hole in each of them to make the light from a candle visible across all of the match boxes	What does this experiment tell you about the path of light? What happens to the image if the screen is moved forward or backward?		Make your own pinhole camera (process explained)	Why can't you see your friend who is sitting in the next classroom of your school?

Analysis

Activities form the essence of Inquiry Based Science Education (IBSE) and to unpack how they truly initiate inquiry is fundamental to this study. In this part of data analysis, activities that form the individual phases of the 5E are described. Activities or experiments from both the textbooks are placed under one of the categories (however, there existed the scope of overlap among categories which is acknowledged). And frequency of activities being included under one of the categories is noted. It is followed by a qualitative analysis of the quality of experiments included in the textbooks which is determined against the conceptual framework so developed on scientific inquiry.

As previously discussed, **Engagement** activities are designed to elicit previous knowledge, thoughts and actions of the students related to the lesson objectives. This phase generally constituted the introductory session of the science lessons to create a base for further knowledge construction. It was found that both the series laid emphasis on this aspect of inquiry but their approaches differed. Textbooks of NCERT publications often encouraged students to indulge in small activities which were very simple. Moreover, the scientific explanation is often provided as soon as the explanation of the activity ended which often proved to be a hindrance to the real time pupil engagement in the activity. For instance, in the chapter Electric Current and its Effects, an activity on construction of electromagnets is described.

Box 1

Take around 75 cm of a long piece of insulated (plastic or cloth covered or enameled) flexible wire and an iron nail, say about 6-10 cm long. Wind the wire tightly around the nail of a coil. Connect the free ends of the wire of the terminals of the cell as shown in the figure.
Place some pins on or near the end of the nail. Now switch on the current. What happens? Do the pins cling on to the tip of the nail? Switch off the current. Are the pins still clinging to the end of the nail? (NCERT, 2009, Class-VII, p. 168).

This engagement activity is immediately followed with an explanation of the possible observations that should have been made[2] and the scientific reasons behind it - "The coil in the above activity behaves like a magnet when electric current flows through it. When the electric current is switched off, the coil generally loses its magnetism. Such coils are called electromagnets". (NCERT, 2009, Class-VII, p. 168).

The nature of activities primarily included a range of cartoon initiated queries "Boojho and Paheli", Panchtantra stories, etc., relating science to real life situations but

often lacked rigorous scientific investigations. Manipulation with a limited range of material was seen and the focus was more on observation. While the Engagement phase in *Bal Vaigyanik* included multitude of activities to involve students in the scientific pursuit. For instance, they used narratives, discussions, design and model making (make your own kaleidoscope), reading, observing, planning investigations (make your own cell using lemon juice, tamarind juice, tomato juice instead of sulphuric acid), manipulating lots of concrete material (which is readily available), description of historical aspects of scientific development (how cell was discovered by Volta). In all the cases, scientific knowledge was the by-product of pupil engagement with the scientific pursuit.

The **Exploration** phase, as delineated in the table, is where students' current understanding is challenged by activities, discussions to explain experiences which are often provided by the Engage phase. This phase was sparsely dealt in NCERT publications as only a few situations were provided (for instance, observe your face in a spoon, front and back, etc.) that may challenge pupils' current states of understanding. All the more, the activities present were found to be primarily catering to the observation process skill without giving due guidance in ways of recording these observations. Whereas, in *Bal Vaigyanik,* guided experiments were the prime focus in which students were provided with the process to follow. They were rigorous in the sense that they employed lots of process skills, question raising, manipulating concrete material, observing, inferring, etc. To illustrate, the textbook provided students with directions to themselves elucidate laws of reflection and manipulate the set to record various cases. Rather than supplying scientifically validated information, it was constructed through learners. All the more, the entire lesson invoked exploratory activities which were evenly scattered throughout the text. Therefore, inquiry was not a one-shot process restricted to the lesson introduction or at the end as an assessment task but was a compulsory feature of science knowledge building.

The **Explanation** phase included presentation of scientific facts and concepts to align students' understanding with scientifically validated knowledge. It was found that NCERT had prime focus on 'telling' students what they must have observed. Almost all the activities in first two phases culminated with scientific facts explained by the author. An example is given below.

Box 2

Activity: Take a stainless steel spoon. Bring the outer side of the spoon near your face and look into it. Do you see your image in it (Fig. 15.10)? Is this image different from what you see in a plane mirror? Is

this image erect? Is the size of the image same, smaller or larger?
Now look at your image using the inner side of the spoon. This time you may find that your image is erect and larger in size. If you increase the distance of the spoon from your face, you may see your image inverted. You can also compare the image of your pen or pencil instead of your face (NCERT, 2009, Class-VII, p.179).

As evident, that what a student would have observed is pre-stated which restricts pupils' involvement in the process. In such cases, children often hesitate to raise questions, describe their alternative views and other observations which are not directly related to the content.

In addition, the sub-topics were too prescriptive to suggest what scientific concept to explore while doing an activity. For instance, one of the titles of a topic in chapter 'Light' was 'light travels in a straight line'. Such titles supply students with readymade knowledge hence barring the process of scientific inquiry. Contrastingly, in *Bal Vaigyanik* it was found that instead of providing students with information it provided them with activities to construct the relevant knowledge, identify errors or misconceptions that must be addressed before proceeding on to the next activity. While referring to the same concept, this book had title *The Path of Light* which is relatively open. Such titles do not dictate scientific information but provide for avenues to explore what could be the science behind their observations. However, this approach does not negate explanation but enables the learners to create it for themselves instead of engulfing packed pieces of information.

The **Elaboration** phase is concerned with activities that require the application and use of scientific facts in new situations. *Bal Vaigyanik* had several such activities interspersed throughout the lessons. One example of this application of knowledge is described as the students designing of a kaleidoscope, pinhole camera, etc. Apart from these, several other tasks were included to relate the scientific knowledge at home and hence embed science in their everyday lives. For instance, household measures of volume like feeding bottles, glucose bottles, medicine bottles, mugs, buckets, etc. were introduced as measuring instruments and students were encouraged to find out their least count (Class VII, p. 87).

NCERT also utilised different tasks for elaboration but sparsely. Some of the examples were prominent in the section 'Extended Learning-Activities and Projects' that featured at the end of the lesson after the exercise questions were presented. Its positioning often relegated it a status of being 'optional' or 'extra' and thus there is a possibility of it being overlooked. However, scope for inquiry is there with activities

such as make your own rainbow, visit a laughing gallery, dentist, etc., role playing which if compulsorily followed could enrich the curricular and pedagogical processes.

The final phase is **Evaluation** and as had already been described it does not only cater to formal modes of assessment but refers to formative, classroom based modes of assessment that assesses pupils' understanding on regular basis. It may include activities, such as, creating posters, answering questions, discussing investigations, etc. It was found that NCERT often focused upon recall based short questions, such as, 'What is a virtual image?' State one situation where a virtual image is formed, List the differences between clayey soil and sandy soil, etc. All the more, questions were organised in terms of fill in the blanks, match the following, multiple choice questions, etc. which culminated the inquiry into rote memorisation as 'what is assessed often becomes what is taught' (Cheng, 2000). On the other hand, in *Bal Vaigyanik*, assessment was happening unobtrusively throughout the lesson. All the activities promoted students to perform and record their observations followed by drawing of inferences. In this process, what knowledge is created by learners becomes evident, learning gaps can be identified, and hence adaptive measures can be taken then and there. To focus upon end of the chapter questions, it came forth that multiple modes of eliciting assessment evidence were employed, to illustrate, the assessment task on Motion chapter was 'To plot a graph of the famous story of race between a hare and a tortoise.' which will motivate learners to creatively plot a story and apply scientific knowledge to real life situations; the structured questions given as back exercise in the Electric Circuits and Cells - 'you have seen and used many electric appliances. List them. Each has some information written on it - for example, its voltage, wattage, etc.... Consult your teacher to find out their meaning, and what they tell you about the appliance' — this question was not text based and created a preparatory base for concepts to be included in the next grade.

Upon examining all the activities of the textbooks, it came forth that though both the books are student-centric but *Bal Vaigyanik* employs lots of diverse range of activities for students to construct scientific knowledge instead of supplying the information. This is in alignment with several policy documents, such as, position paper on Teaching of Science (2006), NCERT Source Book on Assessment, and international trends of Inquiry Based Science Education (IBSE). This approach towards content organisation displays a constructivist approach rather than a deductive approach to teaching-learning of science. Furthermore, contextualisation of science emerged as an added

feature for the promotion of inquiry, specifically in *Bal Vaigyanik*, and hence would be helpful in translating scientific temper to real life situations.

Concluding Thoughts

Textbooks form one of the crucial guiding lamps for school education. Its organisation, nature of content included, types of pedagogical approaches described often becomes 'what is science' to most teachers and students. Inquiry based learning requires development of instruction by the means of activities in which student engagement plays the crucial role. Activities need to be truly exploratory in nature that is involving students in discovering, planning, monitoring and proposing answers.

The differences between the textbooks, however, may seem trivial but in collectivity they have a huge impact on the way teachers derive their conceptual, pedagogical and assessment implications from the textbooks. The results of this study suggest several nuances among science textbooks used in middle grades in India from which several conclusions can be drawn–

Physical Aspects: NCERT textbooks have made considerable efforts to make science learning interesting to learners by integrating colourful pictures, cartoon characters such as Boojho-Paheli, using pleasant visual imagery to make the text look interesting to young learners. Also, they have suggested various field visits to further relate the concept to learners' daily lives which can be taken up later as an extended project. On the other hand, Eklavya publications had lots of interesting activities but their packaging was in black and white which may not appeal immediately to young learners.

Differing Orientation of Curriculum Designers: It came forth that under same themes the textbooks were covering different topics, suggesting the distinct vision of curriculum designers about the cognitive validity of scientific content. For instance, in the theme of 'Electricity' in Class VII, NCERT textbook included the concepts of magnetic and heating effects of electric current while *Bal Vaigyanik* included the concepts of series and parallel circuit.[3] Both publishers included different scientific content in their books.

Additionally, complexity of activities chosen for promoting inquiry considerably varied. That is to say, Eklavya promoted rigorous experimental procedures while NCERT preferred simple tasks involving only a few science process skills.

Content vs. Process Orientation

While analysing NCERT, it came forth that pre-occupation with scientific principles often lead to content-orientated textbooks and teachers may skip the inquiry-oriented activities to arrive at

packets of information. It can be called that NCERT publication is content-oriented and can be used as a resource for IBSE (Inquiry Based Science Education) if the teacher adequately builds upon the lesson structure by incorporating other elements of 5E inquiry model.

On the other hand, *Bal Vaigyanik* (Eklavya Publication) series contained all the processes and structures of the 5E framework. It provided teachers with diverse pedagogic tools, hence, it can be described as promoting both conceptual understanding and scientific process skills among learners. Moreover, Eklavya Publication books attempted to contextualise science to a great extent. The characteristic feature of this publication is that every theme is introduced by making children reflect upon his day-to-day observations. He is forced to take cognisance of his surroundings, ponder over the intricacies of various phenomena and think whether science can probably explain the reasons behind the seemingly obvious natural and physical phenomena. To illustrate, questions like 'Why can we not see in the dark?, How do our eye see things?' and so on are either followed by an explanation phase or an engagement phase in which pupils have to engage in an activity to find answers. This approach provides learners with an intrinsic motivation to engage with the discipline, hence, making science an internalised process.

In addition, inquiry was not restricted to specific themes but a few chapters were introduced just to initiate a joy of engagement with science, such as, 'Fun and Games', 'Games with Air' and 'Fun with Science' (Make your own rainbow) activities interspersed with themes. These fun-based activities which were optional in terms of content coverage welcomed the learners to experience science and mess around with things to develop familiarity with the ways in which natural and physical world works.

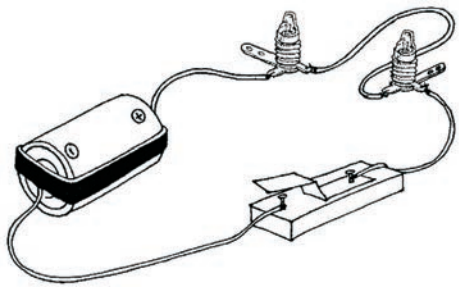
Sequencing of Activities

It is crucial to note that the way content is organised in the textbooks often structures the ways in which linkages are made between different themes and grade levels.

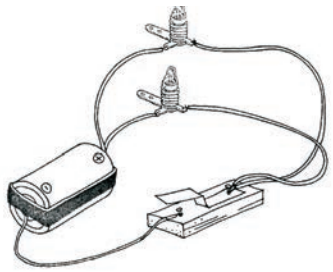
In Eklavya Publication, it was found that continuous reference to the topics placed under different themes was made. Also, any topic, such as, Electricity was spirally connected from Classes VI to VIII. This promoted holistic development of the scientific content. Also, there is smooth transition from one 5E sequence to another with the first building onto the other and leading to a coherent organisation of the text. For instance, as could be seen in the textbook excerpt, parallel circuits were built from the series circuit drawn in previous experiment. There are smooth transitions between different 5E phases as one stage built upon another.

Box 3

Make this circuit by joining two bulbs and cell-*Engagement*

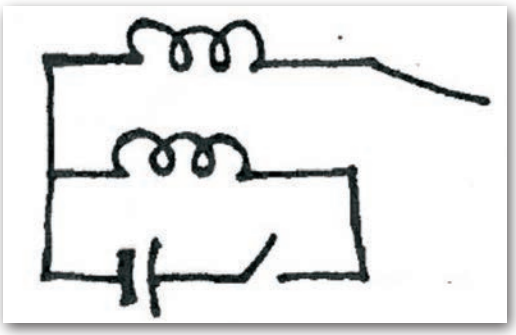


Do both the bulbs light up? Do both glow equally brightly?- *Engagement*
If one glows less brightly, will it shine more brightly if we change its place in the sequence? Take a guess. Now change the position of the bulbs to check whether the guess was correct or not.- *Exploration*
It is followed by *Explanation* phase-
Sometimes, similar looking bulbs differ from each other and do not always glow equally brightly…
(This excerpt is followed by another experiment without providing any bold fonts suggesting a continuity between sub-themes).
Can you break the circuit in such a way that one bulb continues to glow while the other does not?- *Engagement*
How is the current affected when the current is broken at any place?- *Exploration*
How many paths are there in this circuit for the current to flow?- *Exploration*
This statement is followed by an explanation phase during which scientific terminology was introduced: 'You have made and observed a series connection. Let us explore another type of connection.' After this new title 'Parallel Circuit' was introduced which entailed:-
The bulbs in this circuit (referring to a circuit diagram of one cell and two bulbs connected in parallel) are said to be connected in parallel- *Explanation*
Take the bulbs you used to make the series connection and



connect them in parallel circuit- (*Elaboration* which was followed by a series of questions again initiating 5E inquiry) (Bal Vaigyanik, Class VII, P. 146-7).

Furthermore, the book represents a chain of experiments and hands-on activities giving explanation, per se, presentation of facts, a minimal space. The explanation phase is constituted of specific 'guess' based tasks where in students were motivated to make informed guesses from the concrete situations. For instance, What would happen if the connection of Bulb B is broken at one end? Take a guess and then test to see whether your guess was correct (p.147).



Furthermore, the book is organised around process skills and content is evolved through acquisition of process skills.

Nature of Assessment: Poor assessment tasks (Stern and Ahlgren, 2002) seem to cripple the process of inquiry as low order questions seeking information often promote teachers teaching to the test. Such tests (referred to high stakes formal ways of pupil assessment) often lay emphasis on rote-based teaching-learning which results in bypassing the path of inquiry to reach directly at the school science view. However, integration of open-ended divergent questioning interspersed throughout the lesson makes inquiry a compulsory feature to arrive at solutions.

Bal Vaigyanik did not provide answers, in terms of scientific facts, to all the assessment questions but described the ways to explore the possible solutions to the problems within the main body of the text. Self evaluation happens by default in this textbook as in order to arrive at the scientific principles, the child has to experience it, deduce inferences from it and explain it in a fashion that makes his knowledge scientifically valid. It also develops in him joy of creation, inquisitiveness, metacognition and other science process skills. Further, route of discovery of scientific knowledge becomes internalised which can then be translated to other new problem-solving contexts, thus, laying due emphasis on 'Elaboration' phase of 5E framework. Also, almost all tasks required pupils working in groups thus encouraging peer teaching, learning and assessment.

Teachers' Pedagogical Content Knowledge (PCK): It has been cited in literature that blind reliance on textbooks is attributed to lack of teachers' PCK (Dunne et al., 2013). In order to arrive at reforms in science education, it seems imperative that adequate PCK is provided so that teachers know how to use inquiry oriented textbook in its true spirit. It seems that teachers and textbook constructors themselves need to have a vast repertoire of inquiry oriented skills, due experience in science inquiry so that they can create activities suited to the age level, cognitive level of children while maintaining interest, innovation and scientific rigour. It may happen that in the absence of appropriate PCK, teachers revert to didactic teaching methodologies by bypassing the innovative pedagogical tools as realising the potential of inquiry oriented textbook requires an 'amalgamation' of teachers' pedagogic

knowledge, content knowledge and knowledge of the classroom context.

Developing Student Ownership towards their Science Learning: A teacher involved in IBSE needs to share the classroom powers with learners. In fact, making pupils accountable for their own learning makes pupils responsible and reflective. It could only be achieved by 'engineering' (Black and Wiliam, 2012) learning tasks that stress upon active engagement of pupils in the meaning making process. One of the key elements is to clarify the learning intentions of the task, make the process transparent and suggest the movement towards learning progression of the concept involved. It was found that in Eklavya Publication, reasons for carrying out an investigation, experiment or activity are explicitly stated in terms of what questions will be answered after performing this activity. For instance, in the chapter 'Water-Hard and Soft', series of questions were delineated before describing an activity which could probably answer those questions.

Box 4

Which salts, when dissolved in water, make the water hard?
Are there any salts which, when dissolved in water, do not affect the softness of water?
Which salts when dissolved in water, leave a precipitate on adding soap?
Do you see any relationship between salts that form a precipitate and salts that make water hard? If you do, explain what this relationship is.
If you cannot answer these questions, do the following experiment (it was followed by the procedure of an experiment). (Bal Vaigyanik, VII, p. 42).

These questions adequately mentioned the learning objectives of the experiment to be followed performed. This often leads to students acting as scientists engaged in problem-solving situations akin to real life situations.

A Way Forward

A way forward in terms of curriculum organisation and the role of teacher in inquiry based learning can be drawn from this study. Inquiry oriented textbooks may prove to be a powerful resource in encouraging teachers and students to take recourse to IBSE. With appropriate developments in teachers' PCK, it could be hoped that pupils not only gain an in-depth scientific conceptual understanding but also get equipped with scientific process skills. These pupils would then contribute progressively to the process of knowledge construction and provide creative solutions to real world problems. Therefore, it seems important to encourage scientific inquiry in our classrooms in order to further relate science to society. It is because only by means of these reforms in science education it

would be able to serve its purpose of dissemination and communication of scientific values to the larger world outside classrooms.

Acknowledgements: I am grateful to Prof. Gaysu R. Arvind for supporting me through the research process.

[1] Grades being referred to are VI, VII, VIII

[2] However, research in science education notes that students observe different aspects even from a same demonstration made by the teacher depending upon their own interpretive frameworks (Driver et al., 1999).

[3] Whereas, the concept of series and parallel electric circuits in introduced at secondary levels in NCERT publications.

REFERENCES

AAAS. 1990. (American Association for the Advancement of Science). Science for all Americans. New York: Oxford University Press/American Association for the Advancement of Science.

_____. 1993. Benchmarks for science literacy: Project 2061. New York: Oxford University Press/ American Association for the Advancement of Science.

_____. 2005. AAAS Project 2061 textbook evaluations [Electronic version]. Retrieved on January 19, 2014 from http://www.project2061.org/publications/textbook/hsbio/report/analysis.htm.

BSCS. 1990. BSCS 5E Instructional Model [Electronic Version]. Retrieved on January 19, 2014 from http://bscs.org/bscs-5e-instructional-model.

Cheng, L. 2000. Washback or Backwash: A review of the impact of testing on teaching and learning. USA: USA Department of Education.

Chinn, C. A. 2002. Epistemologically authentic inquiry in schools :A theoretical framework for evaluating inquiry tasks. Science Education, 86(2), 175-218.

Deboer, G. E. 1991. A history of ideas in science education. New York: Teachers College Press.

Dunne, J. M. 2013. Investigating the Potential of Irish Primary School Textbooks in Supporting Inquiry Based Science Education. International Journal of Science Education, 35(9), 1513-1532.

Eklavya. 2007. Bal Vaigyanik: Class 6. Bhopal: Eklavya.

_____ 2007. Bal Vaigyanik: Class 7. Bhopal, Eklavya.

_____ 2007. Bal Vaigyanik: Class 8. Bhopal, Eklavya.

Gupta, A. 2010. Science through Activities. Journal of Indian Education, 5-19.

Harlen, W. 1998. Teaching for Undersatnding in Pre-secondary Science. (K. G. Tobin, Ed.) International Handbbok of Science Education, 1, pp. 183-197.

_____ 2008. Editor's Introduction. In W. (Harlen, and W. Harlen (Ed.), *Student Assessment and Testing*: Volume 1 (pp. i-xivi). Los Angeles, London, New Delhi, Singapore: Sage Publications.

Haury, D.L. 1993. Teaching Science through Inquiry. ERIC/ CSMME Digest.

Kahveci, A. 2010. Quantitative Analysis of Science and Chemistry Textbooks for Indicators of Reform: A complementary perspective. International Journal of Science Eductaion, 32 (11), 1495-1519.

Kumar, K. 1986. Textbooks and educational culture. *Economic and Political Weekly*, 2 (30), 1309-1311.

NRC (National Research Council). 1996. National Science Education Standards. Washington DC: National Academy Press.

NRC. 2000. Inquiry and the National Science Education Standards. Washington, DC: National Academy Press/National Research Council.

National Council of Educational Research and Training (NCERT). 2005. National Curriculum Framework, (Yah Pal: Chairman). Delhi: NCERT.

NCERT. 2006. Position Paper: National Focus Group on Teaching of Science. Delhi: NCERT.

_____ 2009. Science: Textbook for Class VII. Delhi: NCERT.

_____ 2009. Science: Textbook for Class VI. Delhi: NCERT.

_____ 2009. Science: Textbook for Class VIII. Delhi: NCERT.

Pizzini, E.L., D. P. Shepardson and S.K. Abell. 1992. The Questioning Level of Select Middle School Science Textooks. *School Science and Mathematics*. 92(2), 74-79.

Sarangpani, P. 2003. Constructing School Knowledge: An ethnography of learning in an Indian village. New Delhi: Sage Publications.

Stern, L. and A. Ahlgren. 2002. Analysis of Middle School Curriculum Materials: Aiming Precisely at Benchmarks and Standards. Journal of Research in Science Teaching. 39 (9), 889-910.

Vijaysimha, I. 2013. 'We are Textbook Badnekais!': A Bernsteinian Analysis of Textbook Culture in Science Classrooms. Contemporary Education Dialogue, 67-97.

Von Secker, 2002. Effects of Inquiry Based Teacher Practices on Science Excellence and Equity. *The Journal of Educational Research*. 95(3), 151-160.

The RTE Act Amendments
How Progressive are they?

Anupam Ahuja*

Abstract

The enactment of the RTE Act 2009 marked a historic moment for the children of our country. A landmark legislation, it makes elementary education a fundamental right for all children between the ages of 6-14 years. It has brought to centre stage the importance of formal schooling for all children, including children with disabilities and focuses on bringing about the much needed systemic changes. The recent amendments strengthen the commitment of education for all children with disabilities in our country and if applied in true spirit, will result in real and important gains for their education in the mainstream school system. There needs to be a strong focus on the preparation of this system, so that children with disabilities can get the required support to access and participate in the system as equal partners. Monitoring will be required in the coming years on how education and rehabilitation grow and complement each other. This article highlights the amendment regarding home-based education for children with severe and multiple disabilities and the mixed response it has received. It urges the reader to reflect on how progressive is this move?

Mira (name changed) shares: When I came to know that I have been granted admission in the college of my choice, rather than being thrilled the first emotion that gripped me was that of fear. After a long time I was going to be part of the rest of the world. I was terrified at the thought of how the 'others' in my college would react to me: a wheelchair user and a person with cerebral palsy, a speech difficult to comprehend and a drooling mouth. Would they look at me with 'poor you' written all over their faces! Though I was confident about my capabilities to learn and

* *Professor,* Department of Education of Groups with Special Needs, NCERT, New Delhi
The abridged version of this article was published on the Editorial page 10 in the Hindu August 14, 2013.

grow in my discipline, I doubted my abilities to adjust in the new environment, commute daily, make good friends, move around in the college in my wheelchair and use the toilet. Many apprehensions clouded my mind. As I looked at the picture of the multistoreyed building of the college in the prospectus, I wondered what I will do if my classes are held on the first and second floors. These and many more thoughts sent a shiver down my spine and I wondered if I will be able to fulfil my dream of being a qualified English language teacher in a primary school.

My early life experiences came back as a vivid flashback and stood staring at me! I had not seen my father as he had left my mother before my birth. We belong to a minority community and lived in poverty and I remember being teased in school by others on account of my disability and background. Despite this I seemed to have learnt to take the insults in my stride, and looked forward to being in school. My mother saw to it that I would rarely miss school and my teachers loved and cared for me. They knew I was always attentive in class and rated me as 'a keen learner'. Like other children, I responded to questions and also took part in discussions. My teachers ensured no one laughed at my taking longer to say what I had to because of my disability. In fact, my answers to questions, were always well received and I was among the children who completed their work in class and helped others. Many of my classmates admired my learning abilities, though silently.

As I finished my primary school, suddenly the world changed for me. In the beginning of sixth grade, other parents raised objections about my 'peculiar characteristics', in particular the drooling (which would spoil my books and clothes). I would be a 'bad' influence on their children they asserted and some said that it was not safe for me to be in school too! The school transport in-charge also told my mother that I was growing up and becoming heavy to carry. In addition, the process of strapping/un-strapping me in the bus seat was becoming more and more difficult and opening and folding my wheelchair time consuming. All this fuss after my mother on being asked, had unconditionally signed a declaration absolving the school authorities of all responsibilities in case of a mishap!

On these grounds I was required to leave school and was forced to continue my learning at home. The school called it a home-based education programme under the Sarva Shikha Ahiyan (SSA). A special educator who my classmates called 'the teacher of the mad children' used to come once a month to teach me for two hours. Actually, it was my Class five teacher who continued to teach me regularly at home and with my mother worked hard to seek support from other teachers/institutions/agencies. Eventually, I completed my

schooling through the open schooling system. As I reflect I wonder had my school teacher not been there, would I have continued my education? I nor my mother ever really understood the process through which the decision was taken by the school authorities to 'push me out of the school'! I used to feel very sad every morning when my sisters would get ready for school and come back and narrate how they spent their day studying, playing and having fun. I was not allowed to go out in the locality where we lived as my grandmother felt that if people saw me, it would spoil the marriage prospects for my two elder sisters. I know she loved me but her actions made me feel miserable and sometimes even unwanted.

Many children with disabilities (not 'disabled children' as they are children first and the disability happens to be one of their many characteristics) like Mira have historically been excluded from mainstream education opportunities. Legislation has played a crucial role in changing this scenario. The Government of India on 1 April 2010 enacted the Right of Children to Free and Compulsory Education known as the RTE Act, 2009. It marked a historic moment for the children of our land. A landmark legislation, it makes elementary education a fundamental right for all children between the ages of 6-14. The Act is a result of a century-long struggle, initiated with the demand for universal education by Gopal Krishna Gokhale in the British era, concluding in a time-bound promise under the Article 45 of the Indian Constitution. Few countries on the globe have such a national provision ensuring both free and child-friendly education to all children and allowing them to develop to their fullest potential. It is an inspiration for other countries that are looking to ensure that all children have access to equitable and good quality education.

This Act makes a number of significant provisions that can potentially mark a turning point in the quality and status of delivery of education in the country. It has brought to centre stage the importance of formal schooling for all children, including children with disabilities, and focuses on bringing about the much needed systemic changes. India has also ratified the United Nations Convention on the Rights of Persons with Disabilities which mandates equal rights and inclusion. The UN Convention outlines non-discrimination in the context of disability. Recently, the two-year old RTE Act, 2009 has been amended. How have these moves impacted on children with disabilities like Mira who have been 'pushed out' of the system and many others who have been invisible for too long?

On 9 May 2012, the Lok Sabha passed the amendments to the RTE Act, 2009. A significant part of these amendments relate to the children with disabilities. Let us try to take a

close look at them in order to form our own understanding. The recent amendments define the children with disabilities as all those coming under the two major laws with regards to children and persons with disabilities viz; Persons with Disabilities (Equal Opportunity, Protection of Rights and Full Participation) Act, 1995 and the National Trust Act for the Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities, 1999. Both these Acts are being amended and thus also provide a scope to include other types of disabilities. This is indeed a forward-looking step.

With the clear inclusion of children with disabilities now legally categorised as disadvantaged, all the clauses of the Act, particularly the strong non-discrimination clause, applies to the children with disabilities. These children would now come under the 25 per cent category that private schools must admit. In addition, parents of children with disabilities will now have to be included in all School Management Committees (SMCs). This is a welcome move which is hoped to create improved mutual understanding and have a positive impact on school development plans. This amendment strengthens the commitment to education for all children with disabilities in our country, and if applied in the true spirit, will result in real and important gains for their education in the mainstream school system. Children like Mira will get an opportunity to unfold their potential, show their strengths and this will, slowly but surely, help in changing existing attitudes.

However, there is a need to be cautious. Sarva Shiksha Abhiyan (SSA) data on identification and enrolment on children with special needs for the year 2010-11 indicates that 1.5 per cent of the total number has been identified. In addition, the number of out of school children with disabilities is a cause of serious concern. Of the total children, 34.12 per cent were found to be out of school in the 2009 SRI (Social and Rural Research Institute) IMRB study. The existing understanding and opportunities for identifying these children are likely to remain a barrier unless proactive steps are taken. In addition, in the next few years we are likely to see a growing demand for the education of these children. Schools will need to gear up and rehabilitation services mainstreamed to reach children and adults with disabilities. There needs to be a strong focus on the preparation of mainstream systems, so that children with disabilities can get the required support to access and participate in the system as equal partners. Monitoring will be required in the coming years on how education and rehabilitation grow and complement each other.

Most often when we talk about educating a child, we think about school and believe that true learning can only take place within the

four walls of a formal classroom setting. We only consider schools in a traditional and formal sense. However, education occurs in many different forms and environments. The recent amendment in the RTE Act regarding an option for home-based education for children with severe and multiple disabilities is based on this latter outlook. The practice of home-based education was initiated by the Government SSA flagship programme. In order to fulfil the zero adoption policy, it follows a multi-option model for children with disabilities. The 2010 statistics of SSA show that out of the total children with disabilities identified under SSA, 7.22 per cent are enrolled in home-based education. Opportunities need to be provided regularly for these children to interact with other children, including those without disability. This will avoid their isolation in the 'prison house' called home.

The amendment regarding home-based education has received a mixed response thereby tilting the balances. What are the implications of home-based education for children with disabilities like Mira? Although the law does give a choice and an option for home-based education to parents, did Mira's mother really have a choice? Parents of children with severe and multiple disabilities are particularly vulnerable primarily because society and community at large do not see the point of their child going to the school. Families will have very little support if they want to insist that their child goes to a formal school. Again Mira's story is an example in point. Parents, particularly with meager resources, have an unequal relationship with the system and as is evident their children will be pushed out of the system even more easily.

Post-amendment voices have argued that home is the natural and first place of education and will continue to be one of the places for lifelong education for all children. Then why should we legally legitimise it for children with high support needs? If we are legitimising this, why only for children with high support needs, and not for a child who is excessively shy or for a child with a different learning style? Should they also not be given an option? Why do we not think about asking children their own choice for the type of schooling they want to opt for? Should they not have a voice in a matter that affects their life in a big way?

Is education only for personal gain or does it also offer benefits to general growth of an entire community providing a place for children, youth and adults to interact, socialise, and unify societies? If we agree with the latter, then clearly home schooling cannot really provide for this goal. Having ratified the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) will categorising children as "high support needs " or not be in the

true spirit of the UNCRPD. The Convention sees disability as part of human diversity and therefore persons with disabilities as equally valued members of society. It underscores the fact that disability is not just a medical issue. People become disabled because of all the social, cultural, economic, political and other factors that prevent them for participating fully in society.

Again we need to consider what are the opportunities available for the children with disability from the large population of migrants living on meagre means in deplorable sanitary and living conditions packed in small confines, and those in rural areas and expanding urban slums? Who would be identifying and certifying the children as severely disabled for providing the home-based education programme? What would be the kind of curriculum and standard of pedagogical principles followed? How often will these children be visited and by what kind of professionals? What kind of support will parents entrenched in the daily grind of making ends meet, be able to provide? Furthermore, are we in a position to provide the required support such as rehabilitation services at home, social security for the family, and personal assistance for the child everywhere in the country? Who would monitor them if they are abused or given corporal punishment? How will the children in home-based education access the available entitlements for children, for example, the midday meal or other such incentives? The recent developments in the form of RTE Act amendment, including home-based education may be interpreted as discriminatory for children with disabilities and a watering down of their fundamental human right to inclusive education. Will not the State be shirking its responsibility to improve mainstream education systems to better respond to differences and diversity of learning and learners if we start labeling children as 'uneducable' within the education system? There is also a possibility of the home-based programme being misused by some parents of partially disabled children. For example, the parents of a partially deaf girl or a girl with low vision may not be able to escape the inclination to opt for home-based education, possibly due to social or financial constraints. In addition, discrimination has often multi-dimensions, such as, a girl child with disability who may find herself 'doubly disadvantaged' on account of her gender and disability and may remain uneducated for life!

As a result of teacher education programmes, teachers now accept and welcome diversity among their learners and are beginning to work with more responsively in their classrooms. Home-based education may have a negative or perhaps even a regressive impact on the regular school teachers' attitudes as the responsibility to address different learning needs in their classrooms

will again be passed to special educators in-charge of the home-based education. This will mean moving away from the principles of non-discrimination and inclusion.

Many argue that the current regular schools do not offer any relevant service for children with high support needs in schools. Few feel that some disabilities; for example, children with multiple disabilities, the deaf blind, autistic, low functioning intellectual disabilities, and others such as those with high level of osteoporosis will definitely need the home-based option. The counter argument given is how can systematic changes be planned for if these children remain hidden at home unseen, unheard and unknown to anyone? How will children learn to live together with each other, respect differences and diversity and realise each other's strengths and weaknesses? How will we move towards building inclusive societies if our schools are not inclusive?

Observations from the field indicate that often most leaders in the community do not have a positive opinion about children with severe disability 'fitting into' the mainstream classroom or valuable. Many, including these children's families may agree. Often, this belief is also endorsed by the advice of doctors and other medical functionaries who too often lack an understanding of the educational merits of growing up in an inclusive classroom. Considering these prevailing attitudes, children with disabilities thus cannot be confined to the four walls of the home.

Home-based education cannot be the only alternative. It can at best be considered as a preparation for including children in the system. This too only if their will to bring them back into the mainstream is strong. Many feel that providing the option of home-based education gives the system the reason not to change. How progressive is this move, we will discover over time as we observe and build research into the implementation of the RTE Act with its amendments.

What stands out clearly though is the need for concerted efforts to make the RTE Act, 2009 provisions a reality and parents having to sign declarations absolving schools of their responsibility of children with disabilities (as Mira's mother had to do) an action of the past! Let us join hands to make schooling and life a happy experience for all children, acknowledging, respecting and celebrating diversity as enriching humanity and a normal aspect of society. Our efforts need to be geared towards 'All for the children, for all the children including Mira!'

Impact of Teacher Competence and Teaching Effectiveness on Students' Achievement in Life Science Subject at the Upper Primary Stage

Sarmila Banerjee*
Namita Das**
Atasi Mohanty***

Abstract

The quality of education goes with quality of teachers. Teacher education is a system that prepares teachers who could teach the children in schools effectively. It is grounded in the belief that teachers, not assessments, must be the cornerstone of any systematic reform directed at improving our schools. The teacher is the mediator between the knower and the known, between the learner and the subject to be learned. In the present paper, efforts are made to study the qualities of teachers required for enhancement of students' achievement in Life Science subject. The paper also suggests the skills to be developed to become an effective and competent teacher and thus provide quality education to all children. Twenty-one schools of Birbhum and Burdwan districts of West Bengal state were selected through stratified random sampling technique for the study. Four boards under West Bengal were selected for the study; they were W.B.B.S.E., V.B, I.C.S.E. and C.B.S.E. 564 students were selected as the sample for the present study. Thirty-five teachers of Life Science from the twenty-one schools were the sample of teachers for the present study. The data were collected through Teacher Competence Scale, an Observation Schedule and an Achievement Test. The findings of the study indicate that students do differ significantly in achievement in Life Science

**Lecturer,* S.B.B.Ed. Training Institute, Santiniketan.
***Retd. Reader,* Education Department, Visva Bharti.
***Educational Technology Department, IIT Kharagpur, West Bengal.

subject due to teaching by high or low competent teachers and also due to high or low teaching effectiveness of teachers, further substantially positive relationship between the teacher competence and teaching effectiveness were found. Thus, for enhancing the students' achievement in Life Science, there should be properly trained competent teachers who are acquainted with the latest methods of teaching, use of technological aids and have a through rapport with latest syllabi at the secondary level.

Introduction

Quality school education may be defined as education that enables children learn what they could learn or should be able to learn in school. It helps them to know themselves for their hidden talents. They should know themselves and also know how to work upon them in their own interest and in the interest of the society. There are many factors that account for what the students learn in schools. The home has a role in it. The society plays its role. In a school there are many things that matter. Above all, there are teachers in schools who are held accountable for it. No system of education could be better in quality than the quality of its teachers who educate the children. The quality of education goes with quality of teachers. They need competent teachers. Their commitment for quality school education is needed. In the words of Education Commission (1964-66): 'of all the factors which influence the quality of education and its contribution to national development, the quality, competence and character of teachers are undoubtedly the most significant. Nothing is more important than securing a sufficient supply of high quality recruits to teaching profession, providing them with the best possible professional preparation and creating satisfactory conditions of work in which they can be fully effective.'

Thus, for quality school education the following is required:

1. Securing the sufficient supply of high quality recruits to the teaching profession.
2. Providing them with the best possible professional preparation.
3. Creation of satisfactory conditions in which the teachers can be fully effective.

The conditions in which teachers could give quality school education need to be analysed. All persons can't teach. All are not born teachers. We only betray our ignorance about what teaching is. This kind of our thinking is based upon some logic that every one of us is not fit for becoming what we want. The same logic holds good for the teaching job in schools. It can be open for all to contest for but entry to it cannot be given to everyone. Obviously, all are not to be taken to be fit for it. Teaching is not every body's cup of tea. In this complex and complicated

information society, there are persons who could become efficient teachers and there are, of course, people for whom teaching is not meant for. It is all the more true that none can teach without knowing how to teach. Teaching is an art as well as science. It is the quality teacher education that is needed for quality school education. In the words of Education Commission (1964-66): 'The essence of programmers of teacher education is 'quality' and in its absence, teacher education becomes not only a financial waste but a source of overall deterioration in educational standards.' It is grounded in the belief that 'teachers, not assessments, must be the cornerstone of any systematic reform directed at improving our schools ……. The teacher is the mediator between the knower and the known, between the learner and the subject to be learned. A teacher, not some (test), is the living link in the epistemological chain.' (Madaus, cited in Darling-Hammond, 1997, pg. 293). National studies and reports have documented the strong relationship between teacher quality and student performance.

Teaching when properly performed is a professional activity. It does require the use of specialised knowledge and skill on behalf of other people. In defining the teacher's role, it should be stated that the function of the teacher is to help his pupils to acquire skills in different subject-areas. The teacher's task at this stage is two-fold: to offer skills in his subject discipline and also to use various ways and means to aid his pupils to learn how to employ their own talents to acquire the skills that the teacher wishes them to acquire. Education for the 21st century needs to enhance an individual's ability to assimilate, evaluate and apply the available information. The globalisation is affecting the economy, culture and information, internationalisation of relations, mobility of individual communications, and media. This is a challenge to the system of education as well as the teachers. Thus, globalisation in the 21st century calls upon the teachers to change their roles to meet the future demands of the society.

Educators and researchers have debated which school variables influence student achievement for many years. As policymakers become more involved in school reform, this question takes on new importance since their many initiatives rely on presumed relationships between various education-related factors and learning outcomes. Despite conventional wisdom that school inputs make little difference in student learning, a growing body of research in India and abroad suggests that schools can make a difference, and a substantial portion of that difference is attributable to teachers. Despite the educational growth, competent teachers are still a need, though teachers are being appointed every year. Competent teachers create an effective learning

environment which is very much in need for the students' outcome/ achievement. Just as a quality course is important, quality instruction is important too. Most of the instructors currently teaching do not apply the skills needed to be effective in classroom. Thus, quality faculty is needed to give the quality training to the teachers. The production of quality and competent teachers are required to give quality education to students resulting in maximum students' benefit. Thus, the first step is to define what a quality instructor is or what are the competencies required or at least recommended for a quality and competent teacher to teach effectively. Teacher education and job performance of a teacher are the contexts in which this term is used. Competencies are the requirements of a competency-based teacher education, which includes knowledge, skills and values that trainee teacher must demonstrate for successful completion of the teacher education programme (Houstan, 1987). To be competent is not the awareness, the attainment or even the knowledge of various attributes although all of this play a part. To be competent is the juxtaposition of this knowledge with the application of that knowledge in a teaching practical. In other words, a competent individual is one who effectively and efficiently accomplishes a task (instructs) in a given context using appropriate knowledge, skills, attitude and abilities with time and needs. These individuals are who are sought after for instruction. In some way, the knowledge, skills, attitude, abilities, etc that comprise a competent instructor need to be articulated in order to access one's competence in the given context. Thus, it can be said that to make classroom teaching more effective so that the learning outcome of students is better, good competent teachers are required. These teachers make the students learn on their own and thus help to develop their creative thinking. The students' achievement thus can judge how good the teaching is and thus the teacher.

In all, we can say that if the teachers are trained properly in developing their skills / competencies, she/he can deliver effective teaching which facilitates the learning outcome of students, make them think independently and develop their creativity. These achievements can be measured by different modes of evaluation to assess the students' learning outcome. In all, good teaching competencies make effective teaching in classroom which has impact on students' learning outcome. Thus, a teacher needs to scrutinise her/ his teaching performance regularly to be competent which is very much required. Teaching effectiveness is another variable that is likely to have great impact upon students' learning. Although there is a close relationship between teacher competence and teaching effectiveness, yet those are

different. Competence has do with how a teacher teaches as is measured in terms of the teacher's behaviour; on the other hand, how effective a teacher is, is measured in terms of pupils' learning. In other words, an effective teacher is always competent, but a competent teacher may not be effective, for a multitude of reasons. Darling-Hammond's (2000) findings indicate a consistent and significant positive relationship between the proportion of well-qualified teachers and students' achievement on the National Assessment of Educational Progress (NAEP) in Reading and Mathematics.

Without competent and effective teachers, education in any branch of science is likely to remain incomplete. Proper assimilation of knowledge, development of skills, inculcation of values and attitudes – nothing is perhaps possible without the help and guidance of competent teachers. All these are reflected in the learners' achievement scores (these are the products or outcomes of students' learning). For knowing the outcome of students' learning, evaluation must be done with as much care as possible. Without solid evaluation we really don't know how much the students have learned. Some people may argue that teacher competence and teaching effectiveness are not such important factors in students' learning; if students are serious and sincere, or if other congenial factors like parental guidance are there, then they may fare well in their examinations even if their subject teachers lack in competency and effectiveness. Thus, researcher intended to establish beyond doubt the importance of teacher competence and teaching effectiveness on the learners' achievement (though not undermining the importance of other congenial factors) and for that reason, undertook the present study. The researcher having a background of Life Science subject wanted to see if competent teachers could help in the achievement of the students, particularly in Life Science subject by effective teaching. Considering the importance of science education, she/he has chosen one of the two major branches of science education in school-curriculum. In order to verify objectively the already existing notion about the positive impact of teacher competence and teaching effectiveness on students' achievement in science subject at school level, the present researcher has undertaken this study.

Review of Related Literature

Many factors contribute to the quality of teaching, such as the professional competence of the teacher, which includes subject matter knowledge, pedagogical content knowledge, knowledge of teaching and learning, curricular knowledge, teaching experience, and certification status (Shulman, 1986, Grossman, 1995, Westera, 2001). Darling-Hammond's (2000) findings indicate a consistent

and significant positive relationship between the proportion of well-qualified teachers and students' achievement on the National Assessment of Educational Progress (NAEP) in Reading and Mathematics. Teacher effectiveness depends on how well a teacher performs in the classroom, and this is dependent on how competent the teacher is.

The literature (Chapman and Mählck, 1997, Kanu, 1996, Châu, 1996) emphasises the importance to the performance of the pupils of the quality of teacher who has well developed subject knowledge, pedagogical content knowledge and curriculum knowledge. In the Mozambican context, the nature of the learning outcomes depends on the level of teacher competence, and teacher competence depends in turn on the teacher training curriculum, the level of competence of the trainer, and that of the mentor at the school to whom the teacher is assigned. Various researchers studied the impact of teacher competency and teaching effectiveness on improvement of classroom teaching to enhance the students' achievement. Following are some examples— Choubey (1965-66), conducted a study on – "Improvement of Teachers' Professional Competency in the use of Classroom Technique". The purpose of the study was to find out a way to provide guidance to teachers, already working in the schools, to improve their teaching competency. The findings were the highest improvement was in the ability i.e. interest in practical and written work of the pupils. The capacity of the presentation of matter and ability of using AV aids properly were remarkably improved. It seems that guidance of colleagues and training in the use of AV aids has shown their effects on the teachers' work in the classroom. Parmar, Haider. and Joshi, (2008) conducted a study on "Attitude of Student Teachers towards Teaching Profession and Teaching Competency". This was a descriptive study conducted through quantitative analysis aiming at determining the attitudes of student teachers of Jharkhand towards teaching profession and determining their teaching competencies. The results obtained within the scope of the study are: Level of teaching competency of student teachers participated in the study is not satisfactory and vary in terms of their gender, educational level, residential background and subject studied in favour of female student teachers, postgraduates, student teachers belonging to urban residential area and student teachers with science background respectively. However, level of teaching competency of student teachers does not vary in terms of their employment status, marital status and cultural background. Attitudes of student teachers participated in the study towards teaching profession are positively correlated to the level of their teaching competency.

Banerjee and Sinha 2010 conducted a study on the "Impact of Micro Teaching in enhancing the skill of explaining in the B.Ed. students in Burdwan, West Bengal" and found that there was an effect of training of micro-teaching approach on the experimental group of pupil-teachers of method group. There was also development in the competency of the experimental group of pupil-teachers using micro-teaching approach in simulated conditions This survey was conducted on four B.Ed. colleges to probe into the effect of micro-teaching on the teaching competency of the pupil teachers of the course. Bansibihary, Pandit and Surwade, Lata (2006) conducted a study on "The Effect of Emotional Maturity on Teacher Effectiveness" and assumed that in the field of education, the quality of education or educational programmes, which is a function of effective teaching, depends upon the level of emotional maturity of teachers. It was, therefore, hypothesised that the teaching of emotionally mature/ stable teachers would be more effective than those of emotionally immature or unstable teachers. Findings were that female teachers are emotionally more mature/stable than male teachers who are found to be emotionally immature/unstable. The teaching of emotionally mature teachers is more effective than those of emotionally immature teachers, whose teaching is found to be of average grade and there is no sex difference in emotionally mature group with respect to teacher effectiveness. Ding, Cody, Sherman, Helene, 2006 conducted a study on "Teaching Effectiveness and Student Achievement: Examining the Relationship" and found the relationship between teacher effectiveness and students' achievement as measured by test scores. This relationship suggests that there is a direct causality among teacher preparation, teacher quality and student achievement. It stresses that policy makers and public and private funding agencies believe that these test scores correlate to the quality of teaching effectiveness. The results of these studies demonstrate that teachers should maintain high verbal caring to preserve their credibility in the classroom. It is in teachers' best interests to be perceived as both competent and trustworthy to be effective in the classroom. Teachers who are better able to monitor their behaviours in the classroom may be subsequently able to achieve greater learning outcomes in their students.

Objectives of the study

(i) To assess the science teachers' competencies through a standardised scale and to categorise them on the basis of their competencies.

(ii) To assess the teaching effectiveness of the science teachers through a standardised scale and to classify them in different categories.

(iii) To find out the effect of teachers' competencies on students' achievements.

(iv) To find out the effect of teaching effectiveness on the students' achievements.

(v) To find out the relationship between teacher competence and teaching effectiveness.

Assumptions

1. Teacher competencies can be measured through a standardised teacher competence scale.
2. Teaching effectiveness can be measured through different techniques, such as interaction analysis, classroom analysis, and standardised scale.
3. Students' achievement can be measured through teacher made test.

Hypotheses

H1. Students' achievements in science subjects shall vary significantly due to different teacher competencies.

H2. Students' achievements in science subjects shall vary significantly due to differences in teaching effectiveness.

H3. There is substantial positive relationship between teacher competence and teaching effectiveness

Research Design

Employing a 2x3 factorial design in this survey-type research, subjects were randomly assigned to one of the two categories of teachers under high and low teacher competence and teachers with high and low teaching effectiveness.

The researcher was interested in determining the achievement in Life Science subject measured under the different categories of teachers.

Thus, the variables in the study were –

1. Teacher competency – independent variables
2. Teaching effectiveness – do
3. Students' achievement (Life Science subject) – dependent variable.

Population and Sample

The students of Std. VIII of the schools selected for study constitute the population of this study. The schools were from the Birbhum and Burdwan districts of West Bengal State.

Twenty-one schools of West Bengal state were selected for the study.

The schools were selected through stratified random sampling technique. Four boards under West Bengal state were selected for the study; they were W.B.B.S.E. (West Bangal Board of Secondary Education), V.B, I.C.S.E. and C.B.S.E. Selection of schools was done according to their availability in the districts chosen.

Thirty-five teachers of Life Science from the twenty-one schools of four different boards i.e., W.B.B.S.E., V.B., I.C.S.E., C.B.S.E were the sample of teachers for the

present study. All the Life Science teachers were taken for the study, no sampling done in case of selection of teachers.

Total 564 students were selected as the sample for the present study. Sampling was done by administering a Pre-test in Life Science subject (with the help of Life Science teachers) for Class VII to test the previous knowledge gained in Life Science. The results of Pre-test were used to classify the students according to merit. A cut-off mark of 30 was fixed out of total marks 50. In this way the sampling was done.

Tools Used

For the purpose of the present study tools used were:-

(i) "Teacher Competence Scale" developed by Passi and Lalitha was used to measure the teaching competency in five major areas i.e.,
   (a) Planning (Pre-instructional),
   (b) Presentation (Instructional),
   (c) Closing, (d) Evaluation, and
   (e) Managerial.

The scale includes 21 items related to 21 teaching skills which encompass the entire teaching-learning process in the classroom. It is a 7-point rating scale measuring the use of skill by the teacher in the classroom corresponding to each item ranging from '1' for 'not at all' to '7' for 'very much'.

(ii)(a) A standardised "Teacher Effectiveness Scale" by U. Kulsum was used to measure the teaching effectiveness in five major areas by a 5-point scale and a self-assessment questionnaire. The five major areas seen here are:
   (a) Preparation and planning for teaching,
   (b) Classroom management, discipline, motivation, interaction, evaluation,
   (c) Knowledge of the subject matter, its delivery and presentation, including B.B. Summary,
   (d) Personality characteristics of teachers, and
   (e) Interpersonal relations of teachers with others.

These five areas cover all aspects of teachers function and hence have the merit of adequate conceptual framework and content validity. 60 items are included in the scale.

   (b) A standardised Observation Schedule was used to measure the teaching effectiveness.

(iii) An achievement test for testing the previous knowledge of the students of Class VIII in Life Science (Pre-test in L.Sc.).

Procedure

The present study intended to find out the impact of teacher competency and teaching effectiveness on students' achievement in Life Science subject. Students of Class VIII were taken as subjects from different schools of Birbhum and Burdwan districts of West Bengal. The study was done also to measure

the students' achievement in Life Science under different categories of competent and effective teachers. This study involved 564 students of Class VIII of secondary schools of West Bengal. Subjects were selected by administering a pre-test on the total students taken of Class VIII of all schools. Random sampling was done for selecting the sample. Schools were selected through stratified random selection. Four boards of schools (i.e. Visva Bharti Board, CBSE, ICSE and West Bengal board) in the districts of Birbhum and Burdwan were chosen for the study.

Visva Bharti Board – has two schools only; C.B.S.E. – two schools (permission not given for other schools); I.C.S.E. – four schools (where permission was given by the authority); W.B. board – thirteen schools were chosen randomly (all urban schools).

The researcher visited all the selected schools and the particular Class (VIII) on a suitable date and time with prior permission of competent authorities and administered an achievement test (Pre-test) in Life Science subject of the previous Class (VIII). A cut off mark of 70 per cent was fixed for selecting the samples. In this way sampling was done to classify the students according to merit. Since it was not possible to include all the schools, only twenty-one schools were chosen by stratified random selection. Thirty-five Life Science teachers were selected for the study. Secondary schools of urban area were only taken for the study. Tools were applied first on teachers, i.e., teacher effectiveness scale by Kulsum and teacher competency scale of Passi and Lalitha during the time the teacher taught in the Class. A cut-off mark was fixed according to the advice of experts (5) Mean+-0.5 S.D. from mean was taken as cut-off mark to differentiate high and low categories of teacher competence and teaching effectiveness. Further observation schedule was also maintained by the investigator to observe the teaching of the Life Science teachers. Results of the achievements scores of the students were then recorded. These scores were arranged accordingly under high and low levels of teachers. Mean, S.D. and C.R. values were calculated and interpretations done to find out the significances of difference, if any, between the two categories of students.

Operational Definitions of the Terms

Teaching

Teaching is imparting to others the acquired knowledge which we want them to know. It is a process by which a learner is led to understand and acquire the knowledge which she/he is expected to have. Teaching is a process of transferring knowledge or experience to the learner or teaching is the development of inborn potentials of the pupils being taught, by the way of imparting some

knowledge to them as a foundation for further development.

Teacher Competence

Teaching process is determined by knowledge, a set of abilities, attitudes and skills (pre-sage variables) which in turn determine pupil outcomes. Thus, the term 'teaching' can be defined as a set of observable teacher behaviours that facilitate or bring about pupil learning. Thus, teacher competence is a pre-determined set of outcomes that is usually related to particular skills, knowledge and attitudes.

Teaching Effectiveness

Teaching is effective to the extent that the teacher acts in ways that are favourable to the development of the basic skills, understanding work habits, desirable attitudes, value judgments and personal adjustments of the pupil. On the basis of opinions expressed by the educators above and experts in the field of education, the operational definition of teaching effectiveness which emerges is: An effective teacher is she/he who has clear concept of the subject matter, ability to write clear objectives for her/his course, ability to organise learning materials, ability to communicate her/his knowledge to the students successfully and to deal with classroom situations.

Students' Achievement

Achievement is the amount of knowledge derived from learning. The child gains knowledge by the instruction she/he receives at the school.

According to the Dictionary of Education (Carter, 1959), academic achievement means the knowledge attained or skills developed in the school subjects, usually designed by test scores or by works assigned by teachers or both.

The achievement is accomplishment of proficiency of performance in a given skill or body of knowledge. The achievement in this study means the scores obtained by students on tests in Life Science developed by the investigator and collected through different evaluation strategies.

Data Analysis and Interpretation

Correlations, C.R. test, were used for analysing the collected data. C.R. test was done to find out the difference between mean achievement scores of students under different categories of teachers. Product moment correlation was used to find out the relationship between two independent variables 'Teacher Competence' and 'Teaching Effectiveness' of Life science teachers.

Verification of the first and second hypotheses was done with the help of C.R. test to find out if there was any significant difference in the mean achievement scores of students taught by two groups of teachers i.e., high and low competent teachers and also teachers with high and low teaching effectiveness.

The third hypothesis was verified with the help of product Moment Correlation, to find out the relationship between teacher competence and teaching effectiveness of individual teachers. Teacher competence scores were computed from the data collected through administration of GTCS scale of Passi and Lalitha. Teaching effectiveness scores were computed from the data collected through administration of KTES scale, which has two parts: (i) Researcher's rating, and (ii) Self-assessment and also the observation was made by the researcher with the help of an Observation Schedule (standardised).

Results

The results obtained are given below in the following tables, i.e., 1, 2 and 3. The results related with hypothesis 1 regarding students' achievements in Life Science subject which differ due to different levels of teacher competency are given below with figure. There is difference in achievement in Life Science subject of two groups of students (one, taught by highly-competent teachers and another, taught by less-competent teachers).

Table1

Significance of difference between M. Ach. Scores (Life Science) of two groups of students under high and low competent teachers.

M1	M2	D	SED	C.R.	S/NS
27.92	26.49	1.43	0.698	2.048	S

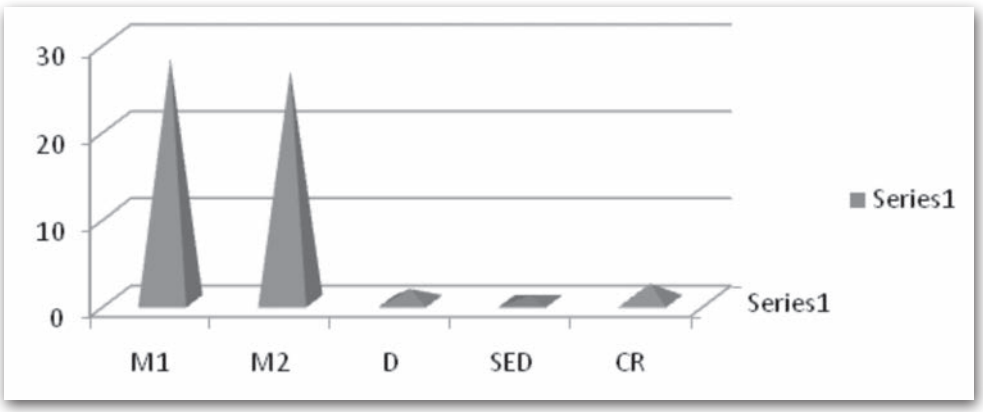
Where,

M1=Mean achievement score of Grp-1, i.e. group of students taught by highly competent teachers. N=267

M2= Mean achievement score of Grp-2, i.e. group of students taught by low competent teachers.

N=100. Accepted level of significance: - 0.05

Fig.1: Showing significance of difference between M. Ach. Scores (Life Science) of two groups of students under high and low competent teachers



It is evident from the table 1 and fig.1 that there is significant difference between Group1 and Group 2 in mean-achievement scores in Life Science subject. Therefore the hypothesis 1 is retained, i.e., students' achievements in science subjects shall vary significantly due to different teacher competencies. As greater score indicates better achievement in the subject, it is indicated that the students taught by highly competent teachers achieve better in Life Science subject than the students taught by low competent teachers. The diagram above indicates the differences between the two mean values obtained from the mean achievement scores in Life Science subject under the different categories of teachers.

The results related with hypothesis 2 regarding students' achievement in Life Science subject differs due to differences in teaching effectiveness is given below. There is difference in achievement in Life Science subject between two groups of students (one, taught by highly-effective teachers and another, taught by low-effective teachers).

Table 2

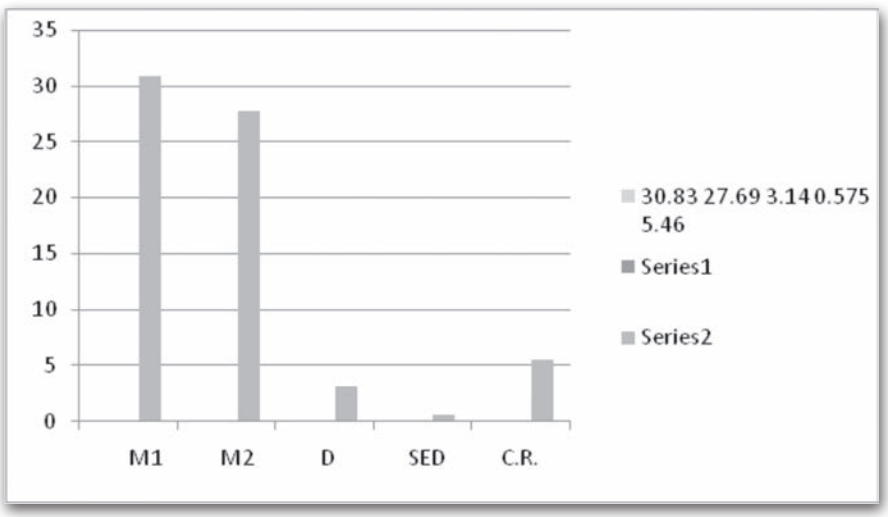
Significance of difference between M. Ach. Scores (Life Science) of two groups of students under high and low effective teachers

M1	*M2*	*D*	*SED*	*C.R.*	*S/NS*
30.83	27.69	3.14	0.575	5.46	S

Where,

M1 = Mean achievement score of grp.1, i.e., group of students taught by high effective teachers. N= 51

Fig.2: Showing significance of difference between M. Ach. Scores (Life Science) of two groups of students under high and low effective teachers



M2 = Mean achievement score of grp.2, i.e., group of students taught by low effective teachers. N=467 Accepted level of significance - 0.05

It is evident from the above table 2 that there is significant difference between the two groups in mean achievement scores in Life Science subject. The findings indicate that students do differ significantly in achievement in Life Science subject due to high or low teaching effectiveness of teachers; that is to say, students under teachers with high teaching effectiveness achieve significantly better than those under teachers with low teaching effectiveness. Therefore the hypothesis. 2 is retained. This implies that high teaching effectiveness has significant positive impact o n students' achievement in Life Science. The diagram above indicates the differences between the two mean values obtained from the mean achievement scores in Life Science subject under the different categories of teachers.

The results related with hypothesis 3 regarding that there is a substantial positive relationship between teacher competencies and teaching effectiveness (in Life Science subject) is given below. The null hypothesis is that the coefficient of correlation between teacher competence and teaching effectiveness will not be substantially positive. In order to verify the hypothesis 3 the co-efficient of correlation by product-moment method was computed. Results of the analysis are presented below with figure —

Table 3

Co-efficient of correlation between teacher competency scoresand teaching effectiveness scores by product-moment method

Variables	*N*	*Total scores*	*Mean*	*S.D.*	*'r'*	*Substantial*
T/C	35	4040	115.43	9.21	0.46	Positive
T/E	35	6311	165.5	12.02		Relation

Where, N=no. of teachers observed=35, T/C=total scores of teacher competency of teachers observed.

T/E=total scores of teaching effectiveness of teachers observed. Mean=average of the total scores taken.

S.D. = standard deviation score from the mean of the total scores.

Accepted level of significance: - 0.01.

Fig.3: Showing co-efficient of correlation between teacher competence scores and teacher effectiveness scores by product-moment method

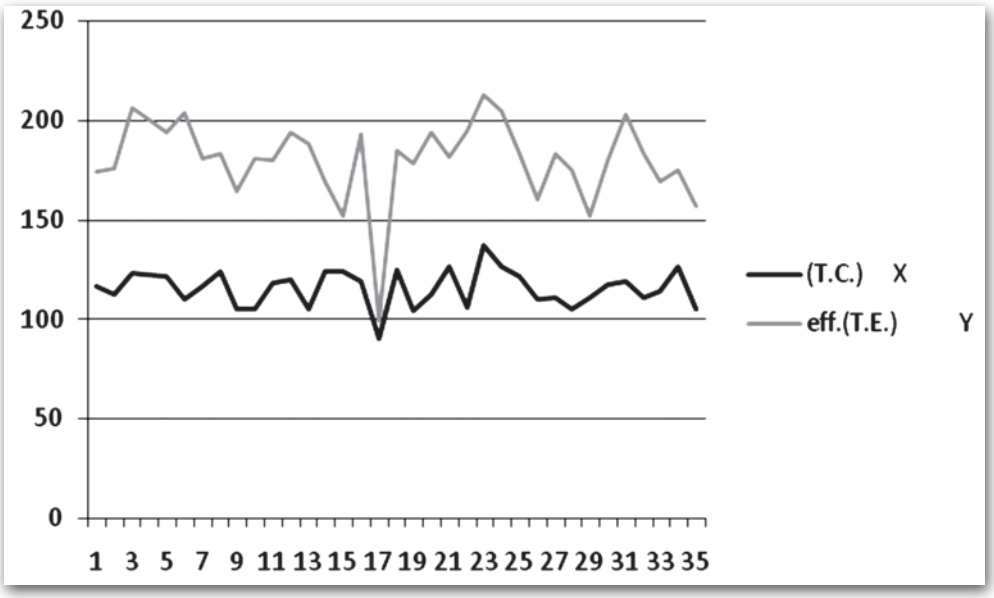
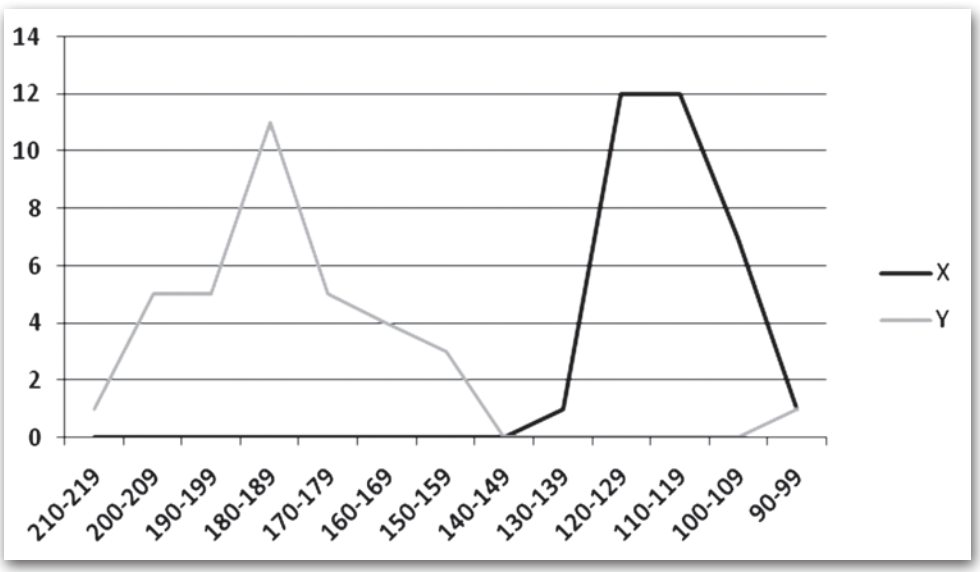


Fig.4: Showing co-efficient of correlation between teacher competence scores and teacher effectiveness scores by product-moment method



The above analysis shows the co-efficient of correlation between teacher competence and teaching effectiveness scores is 0.46 which falls within the range of substantial positive relationship. Therefore, hypothesis 3 is retained. The findings indicate that there is a substantial positive relationship between teacher competence and teaching effectiveness. Fig. 3 and Fig. 4 show the status and the relationship between the two independent variables X and Y, i.e., teacher competence and teaching effectiveness scores of the teachers obtained.

Major Findings of the Studies

On the basis of analysis, the following findings are made, i.e.,

1. The findings indicate that students do differ significantly in achievement of Life Science subject due to teaching by high or low competent teachers.
2. The findings indicate that students do differ significantly in achievement in Life Science subject due to high or low teaching effectiveness of teachers; that is to say, students under teachers with high teaching effectiveness achieve significantly better than those under teachers with low teaching effectiveness. This implies that high teaching effectiveness has significant positive impact on students' achievement in Life Science.
3. The findings indicate that there is a substantial positive relationship between teacher competence and teaching effectiveness scores obtained from the teachers observed.

Discussion

It is found that students do differ significantly in achievement in Life Science subject due to teaching by high or low competent teachers and also due to high or low teaching effectiveness of teachers, that is to say, students under high competent teachers and also under teachers with high teaching effectiveness achieve significantly better than those under low competent teachers and also under teacher with low teaching effectiveness. This implies that high competent teacher and high teaching effectiveness has significant positive impact on students' achievement in Life Science subject.

Hypothesis 3 shows the relationship between the independent variables teacher competence and teaching effectiveness. Substantial positive relationship is found between them.

Educational Implications and Suggestions

On the basis of analysis and findings of the study, following implications of the study, is suggested-

1. High competent teacher and high teaching effectiveness has significant positive impact on

students' achievement in Life Science subject, that is to say, students under high competent teachers and also under teachers with high teaching effectiveness achieve significantly better than those under low competent teachers and also under teacher with low teaching effectiveness. The findings indicate that students do differ significantly in achievement of Life Science subject due to teaching by high or low competent teachers and that high teaching effectiveness has significant positive impact on students' achievement in Life Science. Therefore, skills to develop teaching have to be nurtured by training.

2. There is significant correlation found between teacher competency and teaching effectiveness which signifies that teacher competency factors are related to teaching effectiveness. So, skills of teacher competency have to be developed for better teaching effectiveness through training.

Thus, for enhancing the students' achievement in Life Science there should be properly trained competent teachers who are acquainted with the latest methods of teaching, use of technological aids and have a through rapport with latest syllabi at the secondary level. Further, latest method of training should be provided to update the teacher with development of all the required skills for teaching. This is the requirement of the day so that they can put their best efforts for building the nation's citizens.

Summary and Conclusions

The main purpose of the present investigation was to study the impact of teacher competence and teaching effectiveness on students' achievement of Class VIII students of upper primary section of board schools. The study was an experimental-survey type in which the investigator attempted to study the importance of the qualities of teachers in influencing the achievements of students in Life Science subject. The important point to be noted was that the investigator wanted to find out whether teacher competency and teaching effectiveness both factors influenced achievement or not. Thus, an attempt was made to find out the importance of both the independent variables teacher competency and teaching effectiveness on the achievement of students in Life Science subject; the inter-relationships between the two on the achievement of students in Life Science subject of Class VIII students. The objectives of the present investigation were to assess the competencies and the teaching effectiveness of the Life Science teachers and to categorise them into high and low categories on the basis of their competencies and teaching effectiveness. It was

also done to find out the effect of teachers competencies and teaching effectiveness on students' achievements. Also, the relationship between teacher competence and teaching effectiveness was established.

The present study deals with the students of Class VIII in Life Science subject who were taken as sample for the study along with the Life Science teachers. As Life Science is an important subject of the School board curriculum, the researcher was interested to see whether the qualities teacher competency and teaching effectiveness was the reason behind the students' achievement in that subject. Researches in the field indicate that the factor behind the students' success depends on the teacher in the classroom though other congenial factors may also contribute to their success. Considering the fact that it was impossible for a researcher to identify all possible reasons behind the students' success, or to trace out the actual causes of success of the students, the researcher, in her/his present study, made a humble effort to identify only the qualities of teachers behind the students' achievement success in Life Science subject. Qualities of teachers were the focal point of this study as it was fact that the achievement of students' depends on the qualities of teachers. The study did not penetrate deep enough to reveal the different causes of achievement because the researcher has focused only on the qualities of teachers' required for students' achievement in Life Science subject. The study focused on the matter that a competent teacher can teach effectively which emphasises the point that both teacher competency and teaching effectiveness are the factors behind the students' achievement and thus positively related.

REFERENCES

Aggarwal, J.C. 2001. *"Teaching Skills and Teacher Competency, Teacher and Education in a Developing Society"*, Vikas Publishing House, PVT. LTD.

Albone Eric. 2004. *Science in Parliament,* spring 2004, Text of a Presentation to the Parliamentary and Scientific Committee Place of West minister.

Anand, S.P. 2004. *School Management for Quality Education in 21st Century* (2nd edition). Mahamaya Publishing House, New Delhi (India).

Bourai, H.H.A. 2000. *Dynamic teaching,* Chug Publication, New Delhi.

Bansibihary, Pandit and Surwade, Lata. 2006. *The Effect of Emotional Maturity on Teacher Effectiveness. EDUTRACKS*, Vol.6-NO.1.

Bhardwaj Pandey Amita. 2010. *Needed Competencies for the Teachers in the 21st Century*, *University News*. 48 (42) Oct, 18-24. New Delhi.

Banerjee, Mita and Sridipa Sinha. 2010. "Impact of Micro Teaching in enhancing the skill of explaining in the B.Ed. Students in Burdwan, West Bengal", *Sikshachintan*. Vol.4:95, 102.

Choubey K.P. 1965-66. *'Improvement of Teachers' Professional Competency in the use of Classroom Technique.* Project Report No. 3; Research in Classroom Vol-2 Reports of Experiments and Projects, NCERT.

Chauhan, S.S. 2000. *Innovation in Teaching Learning Process.* Vikas Publishing House Pvt. Ltd. New Delhi.

Darling-Hammond, L. 1997. The bright to learn: A Blueprint for creating school that work. San Trancisco : Jossey-Bass

Darling-Hammond, Linda. 2000. "Teacher Quality and Student Achievement: A Review of State Policy Evidence", Education Policy Analysis Archives: Volume 8 Number 1 January 1, 2000 ISSN 1068-2341, Stanford University. (Shulman, 1986, Grossman, 1995, Westera, 2001 cited in this study), (Chapman and Mählck, 1997, Kanu, 1996, Châu, 1996 cited in this study).

Ding, Cody, Sherman, Helene. 2006. "Teaching Effectiveness and Student Achievement: Examining the Relationship." *Educational Research Quarterly*. Vol. 29, No. 4. (2006), pp. 39-49 Key: cite like: 1623162.

Hough, B. John and K Duncan James. 1970. *Teaching: Description and Analysis.* ADDLSON-WESLEY PUBLISING COMPANY Reading Massachusetts, Menlo Park, California, London Don Mills. Ontario.

Houstan, W. R. 1987. Competency-based teacher education. In M.J. Dunkin (Ed.), The international encyclopedia of teaching and teacher education. Oxford: Pergamon Press, 86-94.

IGNOU Study Materials Course ES-333. 1998. *Educational Evaluation, Evaluation in Teaching-Learning Process.* NCERT, New Delhi.

_____ 1998. *Educational Evaluation, Learner's Evaluation.* NCERT, New Delhi.

Jangira, Pinki and N.K. Jangira. 1995. *Effective Teaching, Child Centered Approach.* National Publishing House, 23, Daryaganj, New Delhi.

Laurence, J. J. Peter. 1975. *Competencies for teaching: Teacher Education.* Wordsworth Publishing Company, Inc. Belmont, California.

Mohalik, Ramakanta. 2008. Impact of In-service Teacher Education Programmes on Teacher Effectiveness and Students Achievement in English, *Journal of Indian Education,* Vol. XXXIV Pg. 70 .No1.

Nanda, S. K. 1991. *Indian Education and its problems today, Secondary Education.* Kalyani Publishers, New Delhi-Ludhiana.

NCERT, *National Curriculum Framework.* 2005, New Delhi.

Najma, Unnisa. 2007. *Role of Teachers in 21ST century.* EDUTRACKS, Vol.6-NO.12.

Pandey Damyanti. 2002. *General Teaching Competency and Attitude of Economics Teachers' Relationship with Student Moral and Achievement-* A Research Study (Unpublished work). Ph.D. Thesis submitted to Delhi Univ.

Parmar, Shalini, Q. Haider. and Vibha Joshi. 2008. "Attitude of Student Teachers towards Teaching Profession and Teaching Competency" *University News*. 46 (17) April 28-May 04.

Robinson, Adjai. 1980. *Principles and Practice of Teaching.* Published – George Allen and Unwin Publishers Ltd.

Reddy, R.S. 1998. *Principles and Practices of Teacher Education.* Commonwealth Publishers, Ansari Road, New Delhi.

Ramasami. 2007. July 2nd-*Science Education: At the Core of National Development.* Professor G. Ram. Reddy Memorial Lecture. IGNOU, New Delhi.

Siddiqi and Siddiqi. 1983. *Aims and Objectives of Teaching Education, Teaching of Science.* Harman Publishing House, New Delhi.

Singh, R. S. 1992. *"Teachers' Effectiveness in India".* Chugh Publication. Allahabad.

Sharma, Shashi, Prabha. 2001. *"Teacher Education Principles, Theories and Practices".* Kanishka Publishers, Distributors. New Delhi.

Tarachand. 1991. "*Principles of Teaching".* Anmol Publication, New Delhi.

Teven, J. Jason and L. Trudy Hanson. 2004. "The Impact of Teacher Immediacy and Perceived caring on Teacher Competence and Trustworthiness". *Communication Quarterly.* Vol.52, NO1, winter 2004, pp. 39-53.

Secondary Teacher Education in Manipur — A Field Study

Madhulika S. Patel*
Saroj Pandey**

Abstract

The quality of teacher education continues to be a matter of concern all over the country and more so in the north-eastern region which suffers from numerous problems like regional violence, geographical remoteness, lack of proper connectivity and communications with rest of the country and inadequate infrastructure facilities. The problem is further compounded due to unqualified/ under qualified teachers serving at various levels of school education. The present paper is focused on the curriculum backdrop and tries to explore the existing pre-service teacher education for secondary school teachers in the North Eastern State of Manipur along with the constraints experienced by the State in organising pre-service teacher education programme. Suitable interventions are suggested for introducing desired changes in the curriculum and implementation of teacher education programmes in the State of Manipur. The information included in the paper could be of use to the policy planners and administrators for suitable interventions.

Need and Justification

Since the implementation of NCF 2005, the content and pedagogical approach of teaching and learning has undergone a major shift in the school education system. The NCF 2005 places demands and expectations on teachers requiring them to de learn their traditional teaching-learning approachesand to relearn new methods and approaches. However, the process of education involves a chain of connecting agents i.e. teacher educators, teachers and students. What and how students learn is

**Associate Professor,* Department of Teacher Education, NCERT, New Delhi
***Professor,* School of Education, Indira Gandhi National Open University, New Delhi

Chapter 4.indd 49 15-04-2015 AM 11:38:23

affected by the knowledge structure of their teachers, which in turn, is largely dependent upon the teachers' education programmes. The teachers' preparation programmes have an effect of grounding and legitimising the knowledge structures in them. In this context, the teacher education institutions have a key role towards improving the quality of education at school stage. This symbiotic relationship between education and teacher education calls for a change in teacher education curricula in tune with school education curricula to ensure effective implementation of policies and achieving desired results.

The quality of teacher education continues to be a matter of concern all over the country and more so in the north-eastern region which suffers from numerous problems like regional violence, geographical remoteness, lack of proper connectivity and communications with rest of the country and inadequate infrastructure facilities. The problem is further compounded due to unqualified/under-qualified teachers serving at various levels of school education. A preliminary review of the teacher education institutions and teacher education curricula of the north-eastern region reveals that of the total 73 secondary teacher education institutions in Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura and Sikkim, majority of institutions (64) are private institutions. Very scanty information is available about institutions in terms of any comprehensive study which can provide relevant information about the curriculum and the efforts made by these institutions to revise/ modify curricula in tune with the emerging perspectives, nature of school experience programme, evaluation system being followed, quality of the reform efforts, and constraints experienced by the teacher education institutions in the region. The National Council of Teacher Education, (NCTE) conducted a survey of teacher education institutions in 1999 and the NCERT commissioned a multi-centric research study on teacher education programmes of several states in 2006 but these studies included only a few institutions in the State of Assam excluding all other states and Union Territories in the region. The lack of systematic and comprehensive information is a limitation in planning quality improvement of teacher education in the North-Eastern region.

The present paper is focused on the curriculum backdrop and tries to explore the existing pre-service teacher education programme for secondary school teachers in the North Eastern State of Manipur along with the constraints experienced by the State in organising pre-service teacher education programme. Suitable interventions are suggested for introducing desired changes in

the curriculum and implementation of teacher education programmes in the State of Manipur. The information included in the paper could be of use to the policy planners for suitable interventions.

Methodology

The quantitative data was collected on questionnaires prepared for the purpose using survey method. All the secondary teacher education institutions of Manipur were approached to provide information on various dimensions of teacher education, such as the admission criteria, course structure and duration, transactional approaches, school experience programme, evaluation procedure, professional preparedness of faculty members, research and innovations undertaken by these institutions, infrastructural facilities, and financial and academic constraint, etc. The quantitative data were corroborated and supported by qualitative data obtained through field visits to institutions in the State by the investigating team and holding focused group discussions, and interviews with the faculty members and concerned functionaries. The data obtained through quantitative and qualitative methods were triangulated and given suitable statistical treatment to arrive at conclusions.

Teacher Education in Manipur

Manipur is a small state situated in the North East region of India. Manipur is popularly known as the 'Jewel of India' for its scenic beauty, and geographically divided into a valley at the centre surrounded by mountains. It is surrounded by Myanmar (Burma) in the east, Assam in the west, Nagaland in the north and Mizoram in the south. As per the Census of 2001, the state had a population of 21.67 lakh people, including 10.96 lakh males and 10.71 lakh females. The population of the state includes 27.32 per cent Scheduled Caste (SC), and 7.79 per cent Scheduled Tribe (ST). The literacy rate of the state was 79.8 per cent according to the Census in 2001 of which male literacy shared 86.5 per cent and female literacy shared 73.2 per cent which is higher than the national average level literacy of 74.04 per cent. The literacy of the state according to the 2011 Census has been reported to be-79.8 per cent Both the male and female literacy percentage of the state exceeds the national level male (82.14 per cent) and female (65.46 per cent) literacy level in 2011.

As early as in 1906, the need for giving training to the teachers was felt in Manipur. During that time, the Department of Education organised a training course for teachers which was of 4 months duration for the improvement of the method of teaching. Twenty primary school teachers attended the course. This was the beginning of teacher education in Manipur. Imparting training to secondary school teacher

began in the year 1928, when one of the teachers of Johnstone High School, Imphal was deputed to undergo B.T. Training outside the state. This marked the beginning of training programme for secondary school teachers. After 1947, the State Government took a keen interest in teacher training programmes. A humble beginning of training the primary and middle school teachers in Manipur was made in 1952-53 by starting Normal Training Institute at Imphal. The Normal Training School was substituted by Basic Training Institute in 1956. Since then, the Basic Training Institute (BTI) was giving training to elementary school teachers in the state. By 1958-59, there were one Junior Basic Training Institute and one Hindi Training Institute in the state with 80 enrolments in Basic Training and 10 in Hindi Training Institute. Training of Secondary School teachers was done by opening a B.T. Section in the D.M. College in 1959. The B.T. course was intended for graduate teacher and Certificate in Teaching (C.T.) course was for the undergraduate teachers. The B.T. section at D.M. College was converted into full-fledged training college and named as P.G.T. (Post Graduate Training) College which was affiliated to Guwahati University on 15th September 1972. Subsequently on 17 January 1997, the P.G.T. College was converted as D.M. College of Teacher Education as a member College of Dhanamanjuri Group of Colleges which is affiliated to Manipur University. After the implementation of National Policy of Education 1986, District Institutes of Educational Training (DIET) has been established in every district of the state to provide pre-service and in-service training to primary school teachers. Currently, Manipur has seven teacher education institutions offering B.Ed. course. The B.Ed. programme in the state is managed by the Department of Higher Education (Sumana Paul and Kh. Malemnganbi).

Results and Discussion

The state has seven teacher education institutions. The questionnaires were sent to all the seven teacher education institutions of the state, and responses were received from six institutions, only one institution did not respond. These institutions are:

- D.M. College of Teacher Education,
- Kanan Devi Memorial College of education,
- R.K.S.D. College of Education,
- Trinity Teacher Training College,
- Thokchom Ibotombi Institute of Teacher Education, and
- Institute of Rural Education.

The response was not received from the Government Hindi Teacher Training College. The profile of these institutions is given in the Table-1.

Table 1

Demographic profile of Teacher Education Institutions of Manipur

Name of College	*Year of stablishment*	*Year of Starting B.Ed. Programme*	*Total Student.-Intake*	*Number of Faculty Members*	*Number of Working Days*
D.M. College of Teacher Education	1972	1992	230	18	180
Kanan Devi Memorial College of Education	1993	1993	100	09	180
R.K.S.D. College of Education	2002	2003-04	200	21	180
Trinity Teacher Training College	2003-04	2003-04	100	08	250
Thokchom Ibotombi Institute of Teacher Education	1997	2000	100	09	150
Institute of Rural Education	1984	2010-11	100	09	200-210

The quantitative data received from the state were authenticated by field visits to four teacher education institutions in the state and holding focused group discussions with the principal and faculty members of the visiting institutions. These are D.M. College, R.K.S.D. College, Kanan Devi College and Trinity College.

Sample for Focus Group Discussion

Institutions	*Principal*	*Teacher Educators*	*Student Teachers*
D.M. College of Teacher Education	One	16	98
R.K.S.D. College of Education	One	14	90
Kanan Devi Memorial College of Education	One	06	56
Trinity Teacher Training College	One	06	76
Department of Education, Manipur University	Head of Department	04	-

In addition, the Department of Education, Manipur University was visited, reactions of some student teachers pertaining to issues related to B.Ed. curriculum, teaching learning process, efficiency of faculty to transact the curriculum in classroom, and practice teaching, etc were also taken. The results of interactions with various personnel i.e. with principals, student teachers and teacher educators of these institutions on various issues are presented below.

Admission Policy

According to the Manipur University regulations and Scheme of Studies for B.Ed. programme the *candidate seeking admission to B.Ed. course must have passed a graduation degree examination in sciences/social sciences/humanities of a recognised university with at least 45 per cent marks in aggregate provided that the candidate has offered the subjects relating to school education at first degree level.* Relexation is given in the minimum eligibility percentage to SC/ST candidates as per the Manipur University rules. In case of in-service teachers too, relaxation in marks is given by the University.

However, interaction with the principals and teacher educators of the institutions visited revealed variation in the admission procedure being followed in the state. While the D.M. College of Education, which is the oldest institution, gives admission to students for B.Ed. programme only on the basis of merit of candidate and the minimum eligibility qualification for admission in B.Ed. is 50 per cent at the graduation level, other institutions hold entarance examination test also, though there is no common entrance test in the state, and individual institutions hold their own examinations. Again in D.M. College, 20 per cent weightage is given for candidate's marks in Class X, 30 per cent weightage is given for marks in Class XII, and 50 per cent weightage is given for marks at the graduation level. The state of Manipur has huge backlog of untrained teachers, therefore, this college has a large number of (138) in-servics teachers deputed by the Directorate of Education, Manipur and 92 students were pre-service candidates. In total, the college had 230 students for its B.Ed. course at the time of visit by investigators. All other colleges also have provision of giving admission to in service teachers besides the pre-service candidates. ***One of the significant features of the teacher education system in Manipur is that all private institutions organise teacher education classes in the afternoon from 2.00 PM to 6.00 PM and six periods are held each day.***

Curriculum Development

Manipur has the Department of Education in Manipur University that is responsible for teacher education

curriculum development in the state. The Curriculum being followed in teacher education institutions of the state has been developed by the Curriculum Development Committee (CDC) having five members – three from the University Department of Education and one each from R.K.S. College and Kanan Devi College. Other colleges were not represented in the CDC for development of curriculum for B.Ed. programme, and they are expected to implement the syllabus developed by the CDC in toto without any modification.

The teacher education curriculum for B.Ed.was last revised in the state in 2006 and implemented from the academic session 2007. The interaction with Curriculum Development Committee, (CDC) members as well as the teacher educators of various institutions revealed their lack of awareness of the major thrust of NCF 2005 and NCFTE 2009. Majority of teacher educators in the state were only aware of the teacher education curriculum framework of 1998 and not the other frameworks, including the 2009 framework. Teacher educators of Manipur felt that teacher education curriculum of the state does not address the local issues and problems of Manipur education and adolescents. Only one unit in paper III dealing with 'Development of Education System in India' has been included, which is too general in nature and fails to prepare teachers to confront and handle the problems faced by Manipuri students. The Unit VI of paper III entitles 'Education in Manipur' and included content on:

- Development of Education in Manipur in pre - and post-independence period.
- Need of quality education in the state.
- Problems of vocationalisation of secondary education and failure to adopt modern techniques of evaluation at the secondary stage and remedial measures.

The themes given in the unit are clearly not sufficient to develop the understanding among student teachers on the problems faced by secondary students of the state and handle them in classroom situation.

Curriculum Transaction

The curriculum transaction remains lecture-based in all the institutions visited in Manipur. Use of any ICT facility in classroom transaction was rare. D.M. College of Education, which is also upgraded as CTE, reported rare use of ICT, though teacher educators try to give context specific examples for better understanding of students.

School Experience Programme

School experience programme of all the states of North Eastern Region (NER) appears to be the most weakest component and manipur is not exception to this general trend. The teacher education institutions of the

Student teacher teaching students in St Anthony High School during the School Experience Programme

state follow the Herbertian approach of lesson planning. The practice teaching programme is preceded by micro teaching, the duration of which has been found to be between three to five days in the institutions visited. Such short duration is toatlly inadequate for helping the student teachers to develop any teaching skills. Practice teaching in all the institutions is organised in one stretch and starts after the theory courses are completed.

As per the University norms, the duration of supervised practice teaching is prescribed to be of 50 days, however in practice, none of the institutions visited, follows this norm as, besides other constraints cooperating schools are not ready to give schools for such a long duration.Therefore, the duration of practice teaching is generally between 15 - 20 days. A total of 40 lessons (20+20) have to be taught by the student teachers. Student teachers teach two to three lessons per day and only 50 per cent lessons are supervised by teacher educators. The teacher education institutions have reported of facing difficulties in getting the cooperating schools for practice teaching. Following criteria are adopted for selecting cooperating schools:

- *Distance of cooperating schools from the institution:* It should be easily accessible.

- *Type of classes*: They should have secondary classes (Classes VI-X) irrespective of government or private management.
- *Medium of instruction:* Both English and Manipuri medium schools are selected for practice teaching.
- The difference in the academic calander of the practicing schools and teacher education institution sometimes creates problem in getting school for practice teaching.
- No formal orientation of cooperating schools' principals or teachers is organised by any institution and it was observed by these institutions that as every year student teachers go for practice teaching in the same institution, they have become familiar of their roles and responsibilities.
- There is no specific number of lessons to be supervised by the teacher educators, however, as reported by them, they supervise as many lessons as possible; but sometimes they are given two schools in different directions which create problem in commuting from one school to another.
- The head of school has the responsibility to supervise the lesson plans of student teachers in the absence of teacher educators.

Professional Development of Faculty Members

The interaction with teacher educators of various institutions revealed:

- Lack of professional development opportunities for teacher educators in the state, especially those working in private institutions do not have much opportunity for their own professional growth and development.
- Teacher educators in general were not aware of various teacher education curriculum frameworks developed by NCTE.
- The teacher educators of the private institutions reported to be getting a consolidated remuneration only instead of regular pay scale which is very low (Rs 3000-8000) affecting the motivation level of teacher educators. The major problem emerged during interaction was insurgency in the state and the institutions are required to pay 'protection money' to various insurgent groups to run the session uninterrupted. This results in shortage of funds in institutions and is reflected in cutting the expenditure wherever possible and teacher educators are the first victim. However, in spite of low salary and poor working condition only few teacher educators expressed the desire to leave the job for some better opportunity outside the state due to family reasons.

- Teacher educators in general were not engaged in any research or innovative activity. Even the faculty members of D.M. College, which is upgraded, were neither engaged in any research activity nor organised any in-service teacher training programme.
- The need for both orientation on emerging issues and concerns of education and teacher education and refresher courses to update knowledge and pedagogical content areas was felt by the teacher educators and institutions of the state.
- There is no provision in these institutions to financially sponsor any teacher educator to attend any seminar or conference, though they are given duty leave to attend such programmes.
- Teacher educators felt that the current one year duration of teacher training programme is adequate and should not be increased.
- Teacher educators and principals of all the institutions visited strongly expressed the desire to attend the professional development programme organised by national organisations, such as NCERT or NUEPA, etc. The areas in which they need training are ICT in education, emerging issues and concerns of education, reflectivity and constructivism, and use of CCE in teacher education.

Institutional Linkages

There is also lack of linkage between various institutions of the state; even the D.M. College which is located in close neighbourhood of SCERT reported lack of linkage with SCERT other than personal contacts of individual faculty members. Similarly, university department of education and teacher education institutions also appeared to be working in isolation with only occasional contact with each other.

What student teachers feel about teacher education curriculum and programme?

The team visited St. Anthony School where student teachers of one of the institutions were engaged in practice teaching and observed practice teaching of student teachers as well as interacted with them. On the basis of interaction with student teachers of D.M. College, Kanan Devi College and R.K.S. College following conclusions have been drawn:

- The student teachers felt that the course contents are more theoretical and practical aspects are being ignored, especially they felt that the courses of psychology, philosophy and sociological foundation should be modified and be more applied in nature.
- They felt that the presentation of content should be simple, which can be implemented in real class-room situation.

- They also felt that the present one year duration of BED programme is too short and it should be increased at least two years.
- As reported by student teachers, demonstration lessons were organised by teacher educators of the institution and micro-teaching of two to three days was also held before sending the students for classroom teaching, however the student teachers lacked the clarity of micro-teaching and various teaching skills.
- Though there is provision of 40 lesson plans (20+20) in each subject, in practice only 13-15 days are devoted to practice teaching due to various reasons such as frequent *Bund* and strikes in the state.
- Each student is required to take at least 2-3 classes per day; only few practice teaching classes are supervised by the faculty.
- The students strongly felt that there should be demonstration school attached to teacher training institutions to improve the quality of practice teaching.
- The student teachers expressed their concern over the theoretical nature of whole teacher education programme and felt that the course should be more practical-oriented with the provision of increased percentage of internal assessment, while some students felt that weightage to internal and external assessment should be equally divided i.e. 50:50, others felt it should be 60:40. However they were very apprehensive about the impartial assessment by the faculty.
- About the quality of faculty members, student teachers strongly felt that faculty members who come from subject background with no exposure to any education degree are unable to do justice with the method of teaching of a particular subject and observed that only those candidates having education background should be appointed as teacher educators.
- They also observed that some refresher course should be organised for teacher educators on new trend in teacher education so that they can do justice with their students.
- On the question whether they will continue in teaching profession after completion of the course, majority of them reported that they would like to leave the job if some better opportunities are available to them; the reason cited by student teachers was that the status of teacher in Manipur is very low and Primary Teachers and TGTs are getting the same scales, which is a demoralising factors for teachers to continue in teaching profession. This has been corroborated by faculty members of private colleges who are getting

Student Teacher teaching to students in St Anthony High School during School Experience Programme

only meagre consolidated salary ranging from Rs. 3000 to 5000, especially in the private teacher education institutions.

- Student teachers and teacher educators both expressed their dissatisfaction over the availability of infrastructural facilities in teacher education institutions and reported that these institutions lack adequate number of reference books, have no journals or periodicals, lack laboratory facilities in psychology and science equipments to facilitate students conduct experiments.

Suggestions given by faculty members/student teachers to improve teacher education curriculum

- The faculty members of Manipur teacher education institutions also felt the need to revisit the eligibility criteria in terms of minimum percentage of marks.
- The need for contextualisation of teacher education curriculum was further strengthened.
- The curriculum of teacher education should also focus on developing life skills, values

and peace education, guidance and counselling, and commerce should be included as a method of teaching.

- The applied nature of various contents taught in various papers should be emphasised.
- While student teachers felt the need of extending the duration of teacher education programme to two years, teacher educators felt that the present duration of one year is sufficient.

Conclusions

The State of Manipur of North Eastern region suffers from lack of any systematic study on teacher education curriculum and, therefore, the present study is a pioneer effort that provides comprehensive data on only teacher education curriculum being followed in the Manipur, but it also gives qualitative analysis of the ground realities and constraints being experienced by different players under the system - teacher education institutions, teacher educators, and student teachers of the state. On the basis of detailed analysis of teacher education, all the colleges that are currently offering B.Ed. programme, quantitative data obtained through administration of tools developed for the purpose, and qualitative data obtained through personal visits to selected teacher education institution and interaction with various stakeholders, presented in previous chapters, following conclusions have been drawn:

- The teacher education curriculum development process in the entire state has not addressed the thrust areas of various NCFTs developed by NCTE from time-to-time. The latest teacher education curriculum framework developed by NCTE in 2009 is still to be implemented across the country along with the NE state of Manipur.
- The recommendations of earlier curriculum frameworks also have not been effectively permeated into the system as was found after content analysis of the teacher education curriculum being followed Manipur State. For instance, all the curriculum frameworks emphasised the need for making the teacher education curriculum flexible to become relevant to the life, needs and aspirations of the children and the community to which they belong. 'Flexibility and relevance' had been at the core of all the curriculum frameworks for teacher education. But it is missing from curriculum being followed in Manipur.
- The analysis of course content of the university offering B.Ed. programme reveals the apathy of course developers towards the local/ regional issues and concerns in the teacher education curriculum. The university never tried to include any content or issue of the local or regional relevance, such as the societal structure or various tribes of the

state, issues and concerns of the adolescent students of the state, problems of insurgency or drug abuse, etc, or the status and growth of education in the state. In the absence of any detailed guidelines provided by the National Curriculum Frameworks for Teacher Education, that would have served as guiding principle for developing course content, the university has included course content according to their own convenience, and just added one unit on local issues and concerns of education of their particular state which is woefully inadequate to prepare teachers to handle the problems confronting their state, such as drug abuse, and violence amongst adolescents, insurgency, HIV/AID and vocational and career guidance to youth, etc.

- It can be clearly observed from the analysis of the course structure and content included in the teacher education curriculum of the state, that, teacher education curriculum reforms and changes in the region, have been carried out in an ad hoc manner instead of any careful task analysis of a secondary school teacher, or context specific needs of the state. The recommendations of 1978 Teacher Education Curriculum Framework have been most popularly followed by the university and changes in subsequent years appear to have been more influenced by the changes in the teacher education curriculum of neighbouring university than by the national level teacher education curriculum frameworks. The National Curriculum Frameworks for Teacher Education that are prepared with much rigour and provide guidelines for any curriculum revision have seldom been referred to. Hence, these National Curriculum Frameworks remain closeted in the libraries of various institutions and the actual implementers are often not even aware of the same.
- All the National Curriculum Frameworks of Teacher Education emphasised the use of relevant educational technology in the classroom, especially the Framework of 1998 and 2009 have stressed on integration of Information and Communication Technology (ICT) in day-to-day classroom transaction. However, institutions lack proper ICT facilities, especially computers, and whatever facilities are available in the institutions are also not put to optimum use in the teacher education institutions of the state as the classroom discourses are predominantly lecture-based.
- One of the important components in teaching learning process at the adult level is use of library facilities by both faculty members and students. However, the findings of the study reveal that majority

of teacher educators working in these institutions are not satisfied by the library facilities available in their institutions. While 53 per cent teacher educators felt that library of their institutions are well equipped, equally large percentage (47 per cent) did not support their colleagues. During the visit to selected teacher education institutions, the investigators also felt that the libraries of the institutions lack adequate number of latest books, journals, encyclopaedia and other educational periodicals.

- School experience is one of the crucial components of teacher education curriculum, however, it is one of the neglected areas of entire teacher preparation process in the Manipur state of North Eastern Region.
- Clear cut direction regarding the format of lesson plan and method of teaching had been observed. Confusion seems to prevail among student teacher education on how to develop lesson plan and execute it in classroom situation. Student teachers were of the opinion that the teacher educators never demonstrated how to adopt these learner-centred strategies in classroom. In some institutions, the student teachers were not even directed on how to prepare lesson plan. Consequently, during classroom observation of practice teaching, the investigators observed some student teachers themselves using the lecture method. This makes teacher education course difficult for student teachers and increases their curriculum load.
- Variations have been observed in the steps followed for lesson planning though the Herbertian method of lesson planning still dominates the state.
- The whole Manipur state in NE region is dominated by larger number of private teacher education institutions which outnumber the government institutions. While the government teacher education institutions do not face much problem in having cooperative schools for practice teaching/internship by student teachers; the reputation of the private institutions appears to play a major role in getting cooperating schools for practice teaching. Availability of transport facility, and the distance of cooperating school from the teacher education institution has been reported by all the institutions as one of the major criteria in selection of school.
- The teacher educators' profile of Manipur State of NER reveals that majority of teacher educators have only up to five years of teaching experience and are only working on consolidated salary which is often as low as Rs 3000/ per month. This needs immediate attention if the quality of education has to improve in the state.

- The whole region suffers from serious problem of non-availability of Science Graduates offering B.Ed. course. This has serious implications for science education in the state in future as the state may face shortage of science teachers.
- The teacher educators of the region do not get much opportunity for their own professional development and promotion as majority of them are working in self-financing institutions, on consolidated salary which is quite low. The qualification of teacher educators of the state also needs immediate attention.
- Teacher educators are seldom engaged in any research activity in addition to their regular teaching assignment. The teacher educators and principals of all the institutions visited strongly expressed the desire to attend the professional development programme organised by national organisations, such as NCERT or NUEPA, etc. The areas in which they need training are micro-teaching, action research, innovative practices, and computer application, etc.

Suggestions for Improvement

The study suggests the need for modification of teacher education curriculum at the secondary level to address the changes in the current education system of the country and prepare future teachers to reflect these changes in their classroom practice. Teacher education curriculum of Manipur State of NER needs to be modified in the light of National Curriculum Framework for Teacher Education (2009) developed by NCTE in the background of NCF, 2005 and Right to Education Act, 2009. This Framework articulates the vision of teacher education as: helping teachers to become reflective practitioners, providing opportunity to student teachers for self-learning, reflection, assimilation and articulation of new ideas, and facilitating student teachers to observe and engage with children and develop ability of critical thinking, etc. The curriculum of teacher education should focus on developing life skills, values and peace education, guidance and counselling, etc. The applied nature of various contents taught in various papers should be emphasised. Context specific issues and concerns of various states of the region need to be highlighted and integrated in more effective manner to help teachers become change agents in the real sense.

School Experience Programme (SEP) is an important component of teacher preparation but has been found to be the most neglected area of teacher education curriculum. Student teachers of the state where the team visited expressed their concern and dissatisfaction about the way practice teaching is treated

in their respective colleges. They were quite vocal regarding the lack of clarity about the format of lesson plan, and method of transaction. It is felt that teacher educators of the state need professional development programme specifically focussed on school experience programme. It may tremendously help these institutions of the national level like NCERT, NCTE or any university's Department of Education evolve training programme on SEP for training of teacher educators of the state.

A number of national level initiatives are directed towards quality improvement of education. However, it is pertinent to note that majority of teacher education institutions of the state are private and self- financing which do not come under the preview of any government initiative. This has created a very peculiar situation in the state, as while ensuring the quality of education is the responsibility of all – private or government; but professional development needs of teacher educators of government institutions are well taken care of, and the teacher educators of private institutions are left on their own. The faculty members of various private institutions expressed their concerns about lack of opportunities for them to update and upgrade their knowledge and felt that national level institutions like NCERT and NUEPA, etc should organise professional development programmes for both government and private teacher educators keeping in view that they are equal party in ensuring availability of good teachers in schools of the region. The North Eastern Council may therefore, evolve a comprehensive capacity development plan for all the teacher educators of the state in NER to bring quality improvement in education visualised in its Vision 2020 report for NER.

There is strong need to develop close institutional linkages between various institutes and university department of education of the state to bring quality improvement of education in the state. Preparation of well equipped and qualified teachers is must for brighter future of Manipur. In the context of present society, peace is the most important objective of the human beings. It is a must for all the developmental activities in any society. Thus, it seems pertinent that peace education be incorporated in the teacher education curriculum to train the would be teachers to teach school students about peace. Again for promoting the principles of 'Inclusive education', special education should also be added in the curriculum of Teacher Education Programme. Moreover, in order to develop professionalism among teacher trainees, the duration of B.Ed. training programme may be enhanced to two academic sessions.

REFERENCES

Delors Jacques. 1996. *Learning: The Treasure Within.* Report International Commission on Education for Twenty-first Century. UNESCO. Paris.

Government of India, Ministry of Education. 1948-49. Report of the University Education Commission. New Delhi.

_____, Ministry of Education. 1953. Report of the Secondary Education Commission (1952-53). New Delhi.

_____, Ministry of Education. 1966. Education and National Development: Report of the Commission (1964-66). New Delhi.

_____, MHRD. 1985. Challenges of Education. New Delhi.

_____, MHRD. 1986. National Policy on Education. New Delhi.

_____, National Commission on Teachers-1. 1983-85. *Teacher and Society*. Delhi.

National Council for Teacher Education. 1998. *Curriculum Framework for Quality Teacher Education.* NCTE, New Delhi.

NCTE. 1978. *Teacher Education Curriculum Framework*. NCERT, New Delhi.

_____. 1988. *National curriculum Framework for Teacher Education*. NCERT, New Delhi.

Pandey, S. 2009. Teacher Education Curriculum Reform since 1978: A Critique in *Teacher Education Reflection towards policy formulation***.** (Ed.) M.A Siddiqui., A.K. Sharma and G.L. Arora. NCTE, New Delhi.

Shulman, I.S. 1987. Knowledge and teaching: Foundations of new reforms. *Harvard Educational Review*, 57(1), pp 4-14.

Sumana Paul and Kh. Malemnganbi, Teacher Education in Manipur, available on http://www.aiaer.net/ejournal/vol20108/10.htm

Unfolding the Epistemological Meanings and Pedagogical Implications of Geography Textbook Questions

Rishabh Kumar Mishra*

Abstract

Textbook questions and exercises are quintessential part of every textbook. One can easily locate textbook questions at the end of the every chapter and also in between the text. What are they meant for? Usually we think they are meant for assessing learners' understanding regarding subject knowledge, providing clue to teacher to form other questions. However, besides these popular notions, textbook questions implicitly communicate messages about what is 'worth' knowledge and what learning is about? The present paper takes geography textbook questions as a unit of analysis and tries to analyse the nature of textbook questions with reference to content and cognitive processes perspective.

Textbook questions and exercises form an essential part of every textbook. It is easy to locate textbook questions at the end of the every chapter and also woven in between the text. What are they meant for? Ordinarily, we tend to think that they are meant for assessing learners' understanding regarding subject knowledge and to provide clues to the teachers to form further questions. However, one may take a pause here and try to gauge beyond these popular notions… do textbook questions also implicitly communicate messages about what is 'worth' knowledge and what learning is all about? A cursory reading of related literature informs us that learner comprehend the text with reference to textbook questions (Leonard, 1987). It provides them clues about the critical information and facts and engages them in various problems, thus nurturing their problem solving skills (Jo and Bednarz, 2009), and

**Research (Ph.D.)* Scholar, Department of Education, CIE Hostel, University of Delhi.

Chapter 5.indd 67 15-04-2015 AM 11:39:11

guiding learners' creative thinking process (Ornstein, 1994). Textbook questions helps teacher in designing pedagogic activities and assessment tools (DiGisi and Willett, 1995). However, it is also significant to note that teachers do not assess whether the questions are sensible or useful for their classroom (Wong, 1991). (Mc Carthy, 1995) found that many a time, textbook questions are not well designed. Learners need teacher's assistance to understand them. (Shodell, 1995) found that textbook questions are fact driven and based on input level thinking processes. It was found that most of the researches focused on classroom questioning, teacher's questions and the questions asked by students. But the nature of textbook questions was under- researched. Very few researches in this field have been found. However, most of the researchers used the Bloom taxonomy for analysing textbook questions and focused only cognitive demands posed by textbook questions (Davila and Talenquer, 2010), (Shepardson and Pizzini, 1991), (Dunn, 2011), (Kahveci, 2009)). The kinds of questions that are given in textbooks also influence the type of cognitive processes that students engage in as they grapple with the process of knowledge construction. Textbook questions reflect epistemological underpinning of the content as well as pedagogical implications for the classroom. Against this backdrop, the present paper analyse the geography textbook questions from content perspective as well as cognitive processes perspective.

National Curriculum Framework-2005 — Painting the Canvas of Education with Constructivist Brush

Until recently, classroom processes were dominated by the 'textbook culture', where the textbook is the ultimate source of knowledge. Under the influence of unquestioned authority of textbook, classroom processes are geared to match the learner's level of attainment of information given in the textbook. National Curriculum Framework (NCF)-2005 proposed an epistemological shift in understanding the process of teaching-learning and envisioned a transformation in classroom culture- from the 'textbook-culture' into a 'dialougic-culture'. NCF-2005 views teaching-learning as a process of co-construction of knowledge and classroom as a place which is not isolated from the wider socio-cultural context. It envisioned textbooks as not only a source of knowledge but also as an interactive space of learners, which facilitates the co-construction of knowledge. It is also seen as suggestive framework for teachers to design their pedagogic activities and for understanding the different critical issues in a comprehensive manner. This 'interactive space of learners' is interwoven with different activities and thought-provoking

questions. With the same spirit, NCERT textbooks comprise end text questions and activities for gauging learners' understanding and enabling them to make linkages within different concepts and contexts. In this way, textbooks have been seen as a significant pedagogical aid to change the approach of teaching-learning from imparting information to involvement of learners in debate and discussion.

NCF-2005 envisions that pedagogy of social sciences will be based on the constructivist teaching and learning which will propagate meaningful and conceptual understanding of concepts by connecting subject knowledge with everyday life experiences and thus enable learner to develop critical understanding of societal issues. At the school level, the content of social science is mostly drawn from the disciplines of history, political science, geography and economics. Here, the textbook questions and exercises of geography textbooks are under scrutiny. Geography as a school subject contributes in building learners' perspectives towards the people-environment relationship, resources, and their development. It engages students to understand the relationship between people and their environment and make them aware about the issues related to environment. The central thrust of the new textbooks is on providing the understanding of basic concepts and development of geographical skills. Adopting the constructivist approach, different activities have been given in the form of in-text and end-text questions and exercises are designed to help students develop necessary geographical skills, such as map reading and interpreting, analysing visual representations and data, making linkages between concepts, and drawing inferences and conclusions. Parallel to the NCF-2005 recommendations, new geography textbooks are not 'overloaded' with facts and it is strongly recommended that the facts and information given in the geography textbook should be used as 'means' rather than 'ends'. They also emphasise on real world situations as significant source of learning and embed the 'text' with real word problems. It is intended that such kind of representations will provide scope to the learners to connect their everyday experience with school learning.

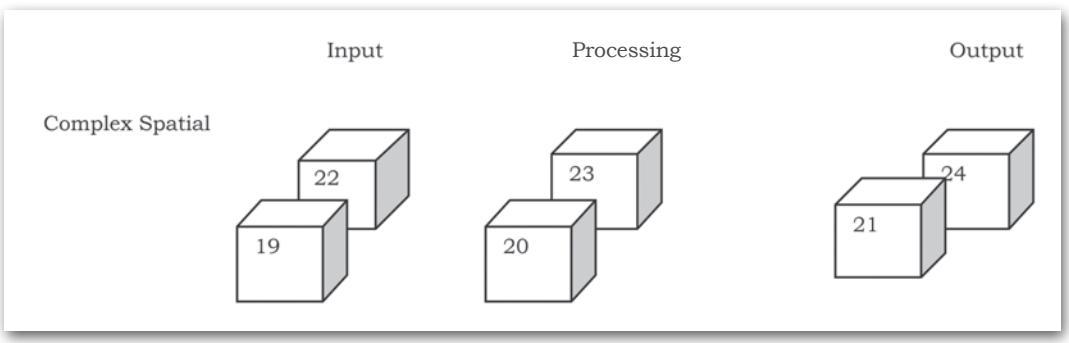
Methodology

The geography textbook of Classes 9th and 10th published by NCERT were selected for the analysis. The Class 9th geography book entitled Contemporary India-1 has six chapters-: India - Size and Location, Physical Features of India, Drainage, Climate, Natural Vegetation and Wildlife, and Population. The Class 10th geography textbook entitled Contemporary India-2 has seven chapters - Resources and Development, Forest and Wildlife Resources, Water Resources,

Agriculture, Minerals and Energy Resources, Manufacturing Industries, Lifelines of National Economy. Questions pertaining to all the chapters have been analysed. There are two locations of the questions in each chapter. First one is the in-text questions which are dispersed throughout the chapter, and second end-text question located at the end of chapter. There were total 293 questions. All of the questions have been content analysed. The taxonomy developed by (Jo and Bednarz, 2009) has been chosen for classifying the questions.

The Taxonomy for Classifying Geography Textbook questions—(Figure 1)

Most of the question-classification systems are composed almost entirely of categories based on the type of cognitive process required to answer the questions. Existing taxonomies classify questions on the basis of cognitive processes in which learner will engage while solving a problem. Yet while analysing questions, the nature of subject and tools of representation are also significant. In the present research, it is insisted to take into account the content dimension along with cognitive processes for analysing questions. The Taxonomy of (Jo and Bednarz, 2009) is suited to this need. In the present paper, taxonomy of spatial thinking developed by (Jo and Bednarz, 2009) has been used for analysing the nature of geography textbook questions. This taxonomy takes account of the three dimensions of geographical thinking: spatial concepts, tools of representation and the processes of reasoning. Any question will be based on some concept; will require some kind of mental operation and that operation will need to be done with some tool. This taxonomy comprises all these three dimensions, that is why it is informed decision of the researcher to use this taxonomy for the classification of textbook questions. The three primary categories were divided in two several sub-categories and finally this taxonomy consists of twenty-four categories. An overview of this taxonomy is as follows—



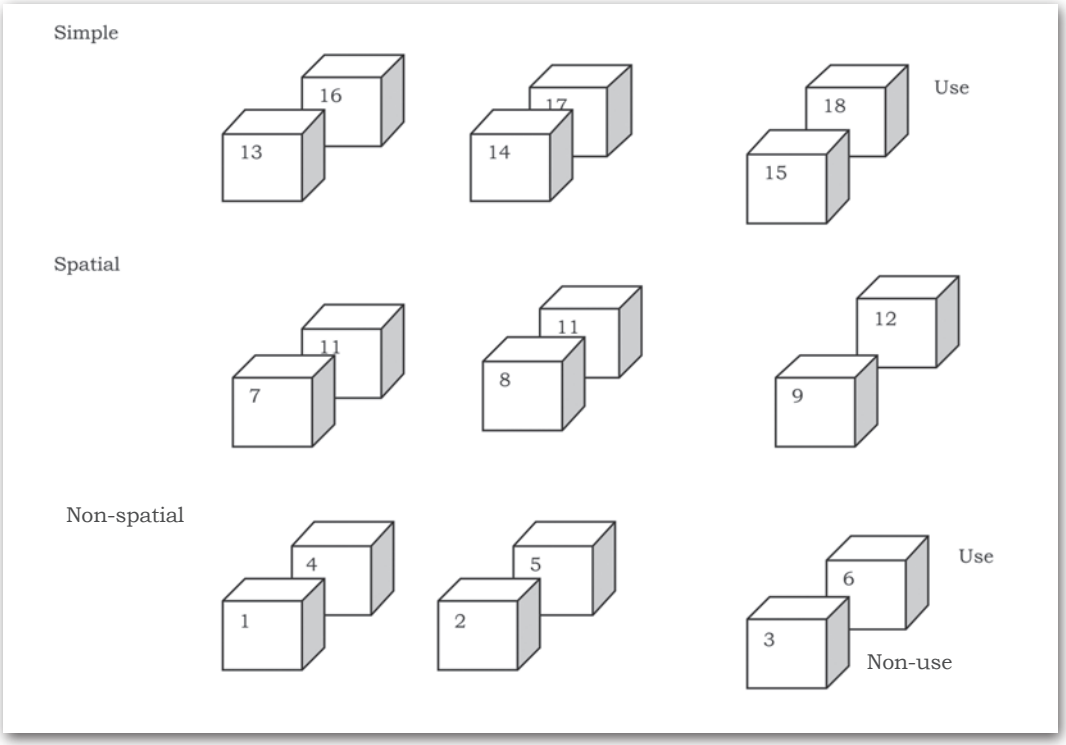


Fig.1: *Taxonomy for Questions Classification (Jo and Bednarz, 2009)*

Concepts of Space

Adopting (Golledge's, 2000) scheme of spatial concepts and classification, they categorise spatial concepts in the four categories-Non-spatial, Simple Spatial, Spatial Primitive and Complex Spatial. The first category comprises concepts not related to space. Spatial primitives represent basic and fundamental characteristics of an existence in space, such as place-specific identity, location, or magnitude. Simple Spatial concepts are concepts established by sets of spatial primitives (e.g., distance is the interval between locations). Complex Spatial concepts are derived by assemblies of sets of simple spatial concepts (e.g., the concept of hierarchy can be derived by combining location and magnitude with connectivity). They identified 31 essential concepts of spatial thinking and categorised them in these four categories.

Tools of Representation

Maps, diagrams, tables, graphs and models, etc. are considered tools of representation in this taxonomy. Two sub-categories have been developed - non-use of tool and use

of tool. For avoiding complexity of the taxonomy, they further did not form sub-categories of 'use of tool category'.

Processes of Reasoning

Three levels of thinking as proposed by (Costa, 2001) have been taken as three sub-categories for classifying processes of reasoning: the input level of thinking, the process level of thinking and the output level of thinking. The input level represents cognitive processes engaged to gather information from the senses or to recall information from memories, such as recognising, defining, identifying, recalling and listing. At the second level, the processing level involves mental processes, such as analysing, classifying, explaining or comparing information acquired at the input level. This type of cognition is associated with reasoning because it requires making sense of collected information, and therefore, going beyond the information. The third level of thinking, the output level, refers to generating new knowledge or products from the information obtained from the first two levels through the processes of evaluation, generalisation and creation.

The example of question coding is given here-
In which of the following states is black soil found?
Concept: Spatial Primitive Tool: Use
Cognitive Process: Input

To ensure reliability, questions were classified twice. There was fifteen days' time gap between these two classifications. Both the classifications were found highly positively correlated. Along with this, another researcher from the same field was asked to classify some of the questions and her classification was matched with the researcher's classification again. There were similarities between both the classifications.

Findings and Discussion

It emerged from the analysis of data that 80 per cent questions focused on non-spatial concepts. Only 4 per cent of total questions dealt with simple spatial and complex spatial concepts (fig.2). The very nature of geographical knowledge inherits to use tools of representation. In present study, it was found that only 22 per cent of the questions provide scope to use tools, such as maps, diagrams and graphs (Fig. 3). Among these 22 per cent of the questions, most of the questions are based on input level of reasoning. If we see the distribution of questions among reasoning classes, it emerged that 45.73 per cent questions are based on input level of reasoning, 32.08 per cent questions are based on process level of reasoning and only 22.1 per cent of total questions are based on output level of reasoning (Fig. 4).

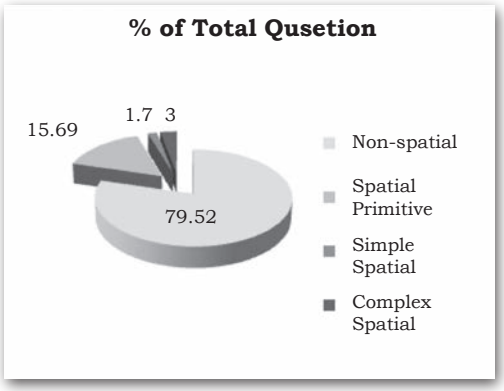


Fig. 2: *Classification of Questions on the basis of Concepts*

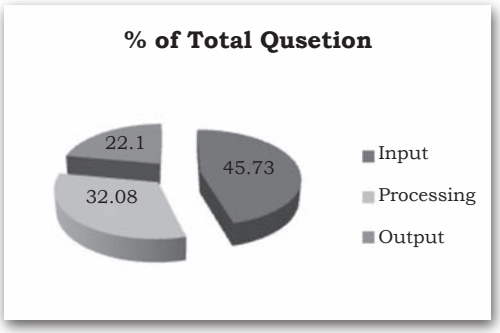


Fig. 3: *Classification of Questions on the basis of Reasoning Process*

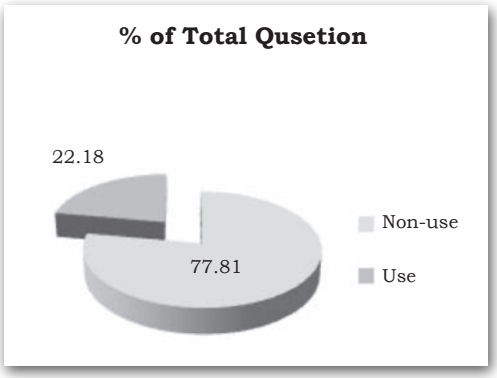


Fig. 4: *Classification of the Questions on the basis of Tools of Representation*

In comparison to other two categories, it encompasses all the forms of reasoning appropriately. Spatial thinking is a complex form of thinking in which a person should integrate knowledge about spatial concepts, abilities to use spatial representations in appropriate and effective ways, and reasoning skills (Jo and Bednarz, 2009). The Geography textbook questions are supposed to be the facilitators of spatial thinking. The cells 10, 11, 12, 16, 17, 18, 22, 23, 24 integrate all the three dimensions of spatial thinking (Fig.1). It is found that only 17.06 per cent questions are in these cells. Among these questions, 72 per cent questions are based on simple spatial and input form of spatial thinking (Fig.2 and Fig. 3). One can easily infer that spatiality of textbook questions is very poor.

There are five categories of end text questions - Multiple choice questions, Short answer type questions, Long answer type questions, Map work and activity/project (Fig. 5). Most of the questions (76 per cent) belonged to the categories of multiple choice questions, short answer type questions and map work. These questions are fixed answers type questions and their answers can be given in a few words or locating an exact point on the map.

These questions demand only input level of reasoning process and reflect that geographical knowledge is objective and given. Questions which are given under the category of long

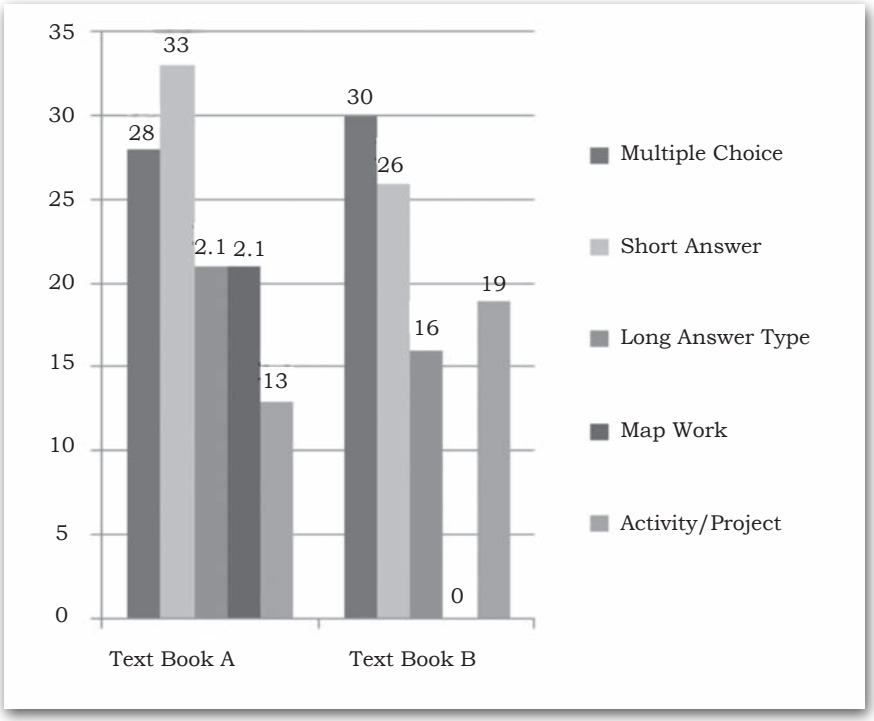


Fig. 5: *Types and Distribution of End-text Questions*

answer type questions use phrases/ expressions such as Explain……, Discuss….. Describe…….. Although these questions show that learner might be engaged in processing or output form of cognitive processes but in-depth analysis shows that they also demand a certain pattern of information inferred by the book in certain defined ways. They are based on given information in textbook and do not provide any scope for 'multiple explanations'. There would be uniformity in the answer of every learner which will be influenced by the information given in the textbook. The answers of these questions demand the argument as given in books and do not allow learner to go beyond it. Although every answer should be informed by facts or information get it should provide scope to learners to make linkages between their experience and understanding. Example:

'Why has the rate of growth population in India been declining since 1981?'

'Where and why is rail transport the most convenient means of the transportation?'

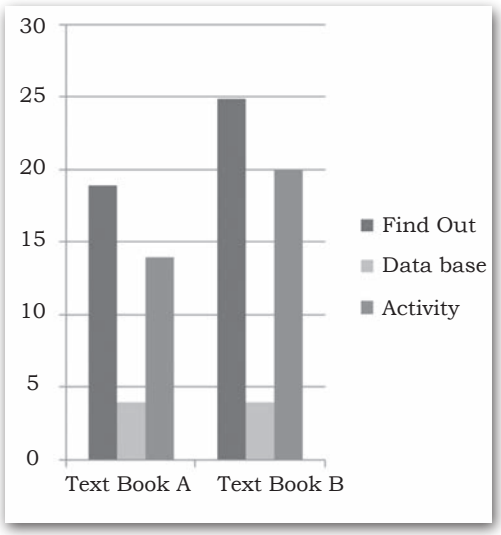


Fig. 6: *Types and Distribution of In-text Questions*

Seventy-five per cent questions given in the category activity/ project are the word games where learners have to find some key words and complete the puzzle box with those words. These forms of questions are only 'encyclopedic' questions which facilitate recall and retrieval of information. As social constructivists argue that activities should be 'authentic' and related to real world problems. The analysis of the activities revealed that essential critical geographical issues have been incorporated but they are loosely designed. The causal relationship has been reinforced and government has been highlighted as a problem solver.

The land under cultivation has got reduced day-by-day. Can you imagine its consequences?

Do you know why food grains production has remained stagnant or fallen for six consecutive years?

Find out from the above newspaper cuttings, the main concern highlighted in the given news items.

(ii) Collect more information about various endangered species from newspapers and magazines.

(iii) Find out various steps taken by the Indian Government to protect them.

The content covered by these questions shows that the importance of any spatial entity lies in its size, quantity and rank, etc. Where does this kind of learning lead the learners to?

Which is the largest river basin in India?

Which one of the following places receives the highest rainfall in the world?

Likewise, it also highlights the 'economic importance' as a dimension which is valued-

State some economic benefits of rivers and lakes?

Why are rivers important for the country's economy?

Why the means of transportation and communication are called the lifelines of a nation and its economy?

Here, we can see that the economic importance and locational importance are validated and

they cannot be questioned. It is objectification of knowledge as well as knower which impedes critical thinking. It promotes linear pattern of knowledge construction which does not allow multiple interpretation.

Most of the in-text questions fall in the category 'find out'. Mostly they focus on finding information regarding specific place, data, landforms, etc (Fig 6). Many a time, the needed information is not given in textbook. In a way, it follows the NCF's assumption to promote learner to move beyond textbook, but at the same time, it asks them to locate required information in certain other source. What source would it be? Does everybody have access to such sources? How does this information contribute in classroom discussions? Information is seen as authentic knowledge. Information can be stored in books; it means books are source of knowledge.

All the questions related to map work ask learners to locate places, rivers, mountains and other geographical features in map which basically reinforce map reading skills. Questions related to map construction and map interpretations are rarely found. The content of Class 10th can provide ample scope for map construction and map interpretation skills but I could not find any of such exercises. Even in map reading exercises, only 'locating' any physical feature is seen as geographical knowledge. It is also significant to note that there is hardly any scope of using map related skills in long answer type questions. It should be taken care of that maps and other tools of representation are very essential for geographical thinking.

If we see the questions from reasoning point of view, it shows an appropriate picture among three forms of reasoning (Fig. 3). It follows the assumption that higher level of questions should be followed by lower level of questions. Lower level of questions, basically input questions, provide base for processing and constructing newer knowledge.

The different kinds of questions are different in nature but, nevertheless, provide a picture of the approach to learning. It is tried to embed learning process within constructivist approach to learning but subject specific knowledge is not given so much focus. There is a mismatch between content approach and pedagogic approach. Most questions are short-answer questions that require the students to recall factual information, while only a small percentage of questions demand higher cognitive skills. In the present study, lower-order questions were most frequently presented in in-text as well as in end-text.

A closer look at the results shows that very less number of questions were concerned with eliciting pre-conceptions or alternative conceptions of students and the application of the learned material in novel or concrete situations.

This means that there is no scope to challenge students to review and resolve inconsistent ideas, or use in-text questions to guide learners to construct new ideas from existing knowledge. On the other hand, while a significant number of application questions were asked, they were not used as a part of the process of effecting conceptual change. They were often used to illustrate how the learned materials can be related to everyday life experiences, rather than to show how the newly constructed conceptions can be fruitfully employed to explain novel and realistic situations. Although it is attempted to give enough space to integrate the learner's personal experience in these questions yet they have to match their experience with pre-defined categories.

NCF-2005 recommends that geography as a school subject will enable learners to critically think about people-environment relationship. Analysis of the questions showed a different picture. In Class 10th, there is one chapter on 'Mineral and Ores'. There is not even a single question which is based on people-environment relationship. For question makers, it is significant to know where the bauxite could be mined. Why the solar energy does has bright future in India but the consequences of mining and other influence of such activities on human beings are not as significant knowledge. Likewise, the questions of the chapter 'Manufacturing Industry' focused only on heavy industries, such as iron and steel industry and its importance and contribution in development. Agro-based industry related questions are as follows-

> '*Why did Mahatma Gandhi lay emphasis on spinning yarn and weaving khadi?'*

This question signifies that yarn and khadi production is important for us because Mahatma Gandhi emphasised it. On the other hands one can find questions such as-

> *'Where would it be economically viable to set up the cement manufacturing units? Find out where the plants are located in other States of India. Find their names.'*
>
> *Find ten occupations getting raw material from forests and wildlife.*

It is the knowledge which is demanded to know where to setup industry and what the viable conditions are for the same without considering its influence on people. It also shows that people's perception or wishes are not significant for setting up an industry. Industry establishment is totally a profit-driven process.

Further, it is analysed how textbook questions position learners with regard to geographical knowledge and learning. For this analysis, the words and phrases used in questions were analysed by adopting the framework of (Elisenman and Wagner, 2007). It

was found that most of the questions were posed in three forms—

1. Verb +you
2. An inanimate object + an animate object + you (e.g., Make a list of all such goods made of steel that you can think off).
3. Without specifying any subject (e.g., Find out the current Railway zones and their head quarters).

The first form includes such phrases as 'Do you know', 'Do you think' or you find, you know, etc. these forms of questions are based on the assumption that there is something to be known which is 'common knowledge' (Edwards and Mercer, 1987) and with the help of these questions, learners will acquire that knowledge. The second and third forms of the questions obscure human subjectivity. It shows that knowledge is something that is constructed on its own without interference of human. While as in reality, it is the learner (person) who constructs the knowledge. It is seen that the auxiliary verb, verbs, adverbs and adjectives used in the questions have 'strong connotation'. Hedges were less used. It shows that questions have a voice of 'certainty' rather than any scope of possibility. (Rotman, 1988) identified two forms of imperatives generally used in text. Inclusive imperatives, such as describe, explain, discuss, etc.; it demands for reader to be a thinker, and exclusive imperatives, such as write, copy, enlist, etc; here the role of learner is that of a scribbler. Most of the analysed in-text questions used inclusive imperatives. Most of the end-text question used exclusive imperatives. Inclusive imperatives used in in-text questions allow learner's actions to be included in a community of learners whereas, excusive imperatives used in end-text questions exclude learners from learning community.

Textbook questions do not situate the content of the questions in any context. They present knowledge as 'truth' independent of context. It is hypothesised that intention of the questions will match the perception of the learner.

E.g.:

> *Study the figure 6.3 and compare it with figure 2.4 and figure 4.7. Do you find any correlation between these maps?*
>
> *What could be the reason of uneven distribution of population in India?*
>
> *Table 6.1 reveals that despite the decline in growth rates, the number of people being added every decade is steadily increasing. Why?*

(Scott, 1998) talked about authoritative and dialogic functions of classroom discourse. In authoritative function, questions demand information; responses to the questions typically consist of

single, detached word and factual information. Whereas, in dialoguic function, questions provide the scope to learners to put forward their ideas, explore and debate points of view. An alternation between these two types of discourses is important for developing conceptual thinking (Mortimer, 1998). The present analysis revealed that in-text questions work in favour of authoritative function as their answers are pre-determined piece of information that should be matched with teacher's expectation. Similarly, most of the project/ activities given as end-text questions also contribute in authoritative function. One of the roles of the in-text question is to help in classroom discussion by providing the scope for interaction and participation. Recall of the information should not be the end-product or goal. It should be the means to the end of achieving critical thinking. The input level questions which are usually recall type questions should be followed by processing and output-based questions so that they all can be used comprehensively for generating classroom discussion. However, it has been found that in-text input level questions were given in isolation. Mostly, they were followed by input level questions. Thus, they are can be used as 'measuring tool' of learners' knowledge and understanding but cannot open the discussion. Further, end-text questions were given as categorised in three sections. All input level questions were given in the beginning of the exercises in the form of multiple choice questions and short answer questions. In next section, processing and output based questions were asked. It is significant to note that processing and output based end-text questions were preceded by input based questions-

> *Make a list of items where substitutes are being used instead of minerals. Where are these substitutes obtained from?*
>
> *What is meant by trade? What is the difference between international and locale trade?*
>
> *Define monsoon? What do you understand by break in monsoon?*

It is found there are only five activities which are based on group work. The group work is necessary for learning processes as it provides scope for dialogue, experiences sharing and motivates learner to come out of their comfort zone. Analysis also revealed that there is a lack of inter-disciplinary questions. Geography is taught in schools as a subject under the social sciences. It is expected that all the sub-disciplines under social sciences will promote inter-disciplinary nature of their subjects.

Conclusion

This study explored one of the under-researched areas of textbook-analysis research tradition that is textbook questions and exercises.

Findings of the study revealed that, at the level of content, geography textbook questions mostly covered non-spatial concepts; at the level of cognitive processes, different forms of processes were represented; at the level of tools of representation, most of the questions focused only on non-tool use type of questions. The nature of content and tools of representations are two very crucial dimensions of geographical thinking. Geography textbook questions, supporting geographical thinking, should cover complex spatial concepts and encourage the use of geographical tools such as maps .The tools of representation should not only be used for graphic displaying but should also include processing and output dimensions of thinking. This study highlighted that textbook questions do not situate the content of the questions in any context. They present knowledge as 'truth' independent of context. The present analysis revealed that most of the textbook questions work in favour of authoritative function where the role of the learner seems only to match her/his knowledge with pre-established context-independent knowledge. Keeping these points in mind, it is suggested that textbook questions and activities should be used for two purposes - first, for gauging and exploiting the resources brought by the learners and, the second, for generating and leading classroom discussions. While using textbook questions and exercises, teacher should keep in mind these questions-

- Whose knowledge is getting reflected in questions and exercises?
- In which manner do the learners engage with the textbook questions?
- How do we provide scope to the learners to integrate their experiences, with subject specific conceptual knowledge and how do they make this integration an integral part of their thinking and acting?

Geography teachers should construct, and use such pedagogic activities which include different levels of spatial concepts from simple level to complex level and engage learners in using different forms of tools of representation. In this way, the classroom processes will become more dialogic, the learner will become capable of constructing knowledge and take an informed position regarding any geographical concept.

REFERENCES

Costa, A.L. 2001. Teachers behaviors that enable student thinking. In A. L. Costa (ed.). Developing Minds: A Resource Book for Teaching Thinking, 359-369. Alexandria, Virginia: Association for Supervision and Curriculum Development.

Davila, K. and V. Talanquet. 2010. Classifying End-of-Chapter Questions and Problems for Selected General Chemistry Textbooks Used in the United States, *Journal of Chemical Education.* 87(1), pp. 97-102.

Digisi, L.L. and J. B. Willett. 1995. What High School Biology Teachers Say about Their Textbook Use: A Descriptive Study, *Journal of Research in Science Teaching.* 32(2):123-142.

Dunn, J. M. 2011. Location Knowledge: Assessment, Spatial Thinking and New National Geography Standards, *Journal of Geography*. 110(2), pp. 81-89.

Edwards, D. and N. Mercer. 1987. Common Knowledge: The Development of Joint Understanding in the Classroom. London: Methuen

Elisenman, H.B. and D. Wagner. 2007. A Framework for Uncovering the Way a Textbook May Position the Mathematics Learner, For the Learning of Mathematics, 27(2): 8-14.

Golledge, R.G. 2002. The Nature of Geographic Knowledge, *Annals of the Association of American Geographers* 92(1), 1-14.

Jo, I. and B.S. Bednarz. 2009. Evaluating Geography Textbook Questions from a Spatial Perspective: Using Concepts of Space, Tools of Representation, and Cognitive Processes to Evaluate Spatiality, *Journal of Geography*. 108(1), 4-13.

Kahveci, A. 2010. Quantitative Analysis of Science and Chemistry Textbooks for Indicators of Reform: A Complementary Perspective, International Journal of Science Education 32(11), 1495-1519.

Kamen, M. 1996. A teacher's implementation of authentic assessment in an elementary science classroom. *Journal of Research in Science Teaching*. 33, 859–877.

Kang, W. and J. Kilpatrick. 1992. 'Didactic transposition in mathematics textbooks', *For the Learning of Mathematics*. 12(1), 2-7.

Leonard, W.H. 1987. Does the Presentation style of Questions inserted into the Text inflencece Understanding and Retention of science concepts? *Journal of Research in Science Teaching*. 24(1): 27-37.

Mc Carthy, C. B. 2005. Effects of Thematic-Based, Handa-on Science Teaching versus a Textbook Approach for Students with Disabilities. *Journal of Science Research in Teaching.* 42 (3): 245-263.

Mortimer, E.F. 1998. Multivoicedness and Univocality in the Classroom Discourse: An Example from Theory of Matter. International Journal of Science Education, 20, 67-82.

Mortimer, E. F. and P. H. Scott. 2003. *Meaning making in secondary science classrooms*. Maidenhead, UK: Open University Press.

NCERT. 2005. *Contemporary India -1*. NCERT, New Delhi.

_____ 2005. *National Curriculum Framework*. NCERT, New Delhi.

_____ 2006. *Contemporary India-2s*. NCERT, New Delhi.

_____ 2006.*Position Paper: Teaching of Social Sciences*. NCERT, New Delhi.

Ornstein, C. A. 1994.The Textbook-Driven Curriculum, *Peabody Journal of Education*. 69 (3): 70-85.

Rotman, B. 1988. "Towards semiotics of mathematics", Semiotica 7(2): 1-35.

Scott, P. 1998. Teacher talk and meaning making in science classrooms: A Vygotskian analysis and review. *Studies in Science Education*. 32, 45-80.

Shepardson, D.P., and E.L. Pizzini. 1991. Questioning levels of junior high school science textbooks and their implications for learning textual information. *Science Education*. 75, 673–682.

Shodell, M. 1995. The question-driven classroom: Student questions as course curriculum on biology. *The American Biology Teacher*. 57, 278–281.

Wixson, K.K. 1983. Post-reading question-answer interactions and children's learning from the text, *Journal of Educational Psychology* 30(3): 413-423.

Wong, S. L. 1991. Evaluating the Content of Textbooks: Public Interests and Professional Authority, *Sociology of Education.* 64(1): 11-18.

Some Viable Strategies for Classroom Assessment — A Field Experience

Vijayan K*

Abstract

National Curriculum Framework (NCF) 2005 and its position paper on 'Examination Reform' have recommended the implementation of Continuous and Comprehensive Evaluation (CCE) at all levels of school education for maintaining quality. RTE Act 2009 also stressed this aspect through its section 24(1)(d) and section 29(2)(h). Many state boards and national board like CBSE have already initiated the process of assessing students learning through different strategies as a part of Formative Assessment (FA) and Summative Assessment (SA). The present article elaborates some of the assessment strategies practiced by the author as a part of classroom activity during a three-month field work at Central School for Tibetans, Bylakkupe, Karnataka. The article illustrates experience of administering peer assessment, self assessment and quiz as classroom assessment strategies in an integrated way. These strategies can embed with learning activities in a learning environment which offers collaboration and cooperation. Peer assessment and self assessment are two effective strategies for encouraging students to involve in the learning process for improving their performance. Through the critical review of the work done by themselves, the students will be able to recognise the strong as well as weak areas of their learning during the activity. Here they are assessing critically both what and how they are learning. Even though most quiz programmes are summative in nature, one can innovate it by changing the procedure as an effective formative assessment strategy. This is also known as formative use of summative assessment. Here quiz has been used in the form of a group game to assess student's performance. It will help the teacher to assess the ability of each student to frame questions, derive the answers in group setting, ability to ask and respond to the questions. The whole process will help the teacher to get a clear idea about the level of performance of individual students in a particular topic. The procedure followed by the teacher and the feedback received from the students about these different strategies are elaborated in this article.

* *Assistant Professor,* Department of Teacher Education, NCERT, New Delhi

The Context

NCF 2005 and its position paper on 'Examination Reforms' examined in details the ill effects of the traditional system of evaluation in school and suggested viable method of student evaluation that is in tune with constructivist methodology. The framework emphasised the need of experimenting varied models of assessment beyond the paper-pencil tests. They also recommended the implementation of Comprehensive and Continuous Evaluation (CCE) at all levels of school education. While mentioning about the duty of teachers and the quality aspect of education, the RTE Act 2009 also emphasised the importance of student assessment through its two sections namely 24(1) (d) and 29(2) (h). Section 24 (1) (d) of RTE Act states that a teacher appointed as per the rules shall perform the duty of assessing the learning ability of each child and accordingly supplement additional instructions, if any, as required. Section 29 (2) (h) mentions that concerned academic authority should give importance to CCE of child's understanding of knowledge and her/his ability to apply the same while framing school curriculum.

As a consequence of the recommendation of NCF 2005 and based on guidelines of SSA and RMSA on quality concerns in school education, many state boards and national board, like CBSE have initiated the process of CCE at different levels of school education. Specific guidelines were developed by CBSE in order to implement CCE at different schools following their curriculum. The guidelines provided different suggestive strategies for Formative Assessment in order to help the teachers for implementing CCE in an appropriate way.

The Significance of Classroom Assessment

Assessment serves students' learning in various ways. Different forms of assessment will provide feedback to teachers as well as students and that will guide teaching and help them in modifying teaching strategies and materials to ensure student improvement. It assists teachers to monitor progress and diagnose individual and/or group difficulties throughout the teaching learning process. The feedback provided to students in the form of their progress reports will, of course, help them to enhance motivation and direction for further learning. Based on the occasion as well as purpose of assessment, it can be theoretically classified into two categories, viz, Formative Assessment (FA) and Summative Assessment (SA). Current trends in assessment focus on judging student progress in three ways: **assessment *for* learning, assessment *as* learning** and **assessment *of* learning**. Each assessment approach serves a different purpose. Many researchers

classified first two under formative assessment and the last one as summative assessment.

Assessment for learning is a teacher initiated student-context process and is integrated with each and every learning activity in the classroom. In this process of assessment, we can use a range of methods to collect data and to provide descriptive feedback to students to promote students' learning. Teacher can use it to bridge the gap between student's current status and the desired outcome.

Assessment as learning is a student-oriented process. Through the critical review of the work done, by herself or himself, the student will be able to recognise the strong as well as weak areas of their own learning during the activity. Here they are assessing critically both what and how they are learning.

After the end of an instructional process in order to find out the extent of learning and for informing about it to the different stake holders, one can utilise the assessment process, which is known as assessment of learning. It takes place at specific times in the instructional sequence, such as at the end of a series of lessons, at the end of a unit, at the end of a term, or at the end of a school year. Its purpose is to determine the degree of achievement of competencies in the subject. This also gives students, a chance to apply the concepts formed or demonstrates their new knowledge and skills in different situations independently.

Assessment Strategies — Trends in the Classroom

Three-month field work at Central School for Tibetans, Bylakuppe, Karnataka, has given the author an opportunity to observe and discuss about the classroom assessment practices followed by the teachers and experiment some of the strategies to know its feasibility in the classroom.

Assessment strategies used by the teachers were collected through different sources, viz, classroom observation, discussion withteachers and through students' feedback. The information received through all these sources show that predominantly teachers used paper-pencil class test as one of the important strategies for classroom assessment. During the discussion with teachers, they said that before every Formative Assessment (FA), they are supposed to conduct 4 such class tests. When I asked about the reason for conducting it, they replied that the CBSE is asking for the evidence of Assessment. Hence, the best way is going for a paper- pencil test. Apart from the class test, they occasionally use seminar, assignment, project and laboratory activities. The feedback given by students also supports these. Some of the feedbacks are presented below:

They conduct Test in class & give project to us
And oral, and in some they call us
to the board and tell us to write what you
know about this chapter. Some shows practically
of the chapters.

Different method of teacher used.
Semener, Test, Assignment, project, VIVA, Group
activities are used by teacher to make is in CCE.

We used to have only test in & project in
tibetan subject but in science, we have seminor,
class test, project. In english, we use to have
convessation, projects & assignment, class test &
having interaction between student & teacher.
In social, there are project & assignment, class test,
power point to get our interest.

Almost all the teachers use various methods like
projects, Assignments, Class test. Only in science we
have sometimes seminar. From all the subjects, Maths
is the most difficult subject to understand & learn.
The teachers follow the CCE rules and teach us
according to it.

The different assessment strategies used by teachers cited above were implemented in a manner by considering assessment

process as an independent activity. But the concept of assessment as learning and assessment for learning recommends for such activity that can be embedded with teaching learning process by integrating it with classroom activity. We can use a variety of such activities for assessing students. Observation, Conversation, Peer Assessment, Self Assessment, Quiz, Journals, etc are some of such activities.

Assessment as Learning – the Role of Peer Assessment

Peer-assessment involves one student's assessment of the performance or success of another student. It is an assessment strategy which involves students' decisions about others' work that would normally take place when students work together on collaborative learning activities. The value of peer assessment as a tool for formative assessment to enhance the learning experience and student achievement was supported by many researchers (Johnson, 2004; Butler and Hodge, 2001). One of the ways in which students internalise the characteristics of quality work is by evaluating the work of their peers. However, if they are to offer constructive feedback, students must have a clear understanding of what they are to look for in their peers' work. The teacher must explain expectations clearly to them before they begin.

Let me illustrate how I organised peer assessment as an assessment strategy in an embedded way. I experimented this in one of the sections of Class X while teaching the topic 'Basic Proportionality Theorem'. For helping students to comprehend the concept of basic proportionality theorem, I began the class with a group activity.

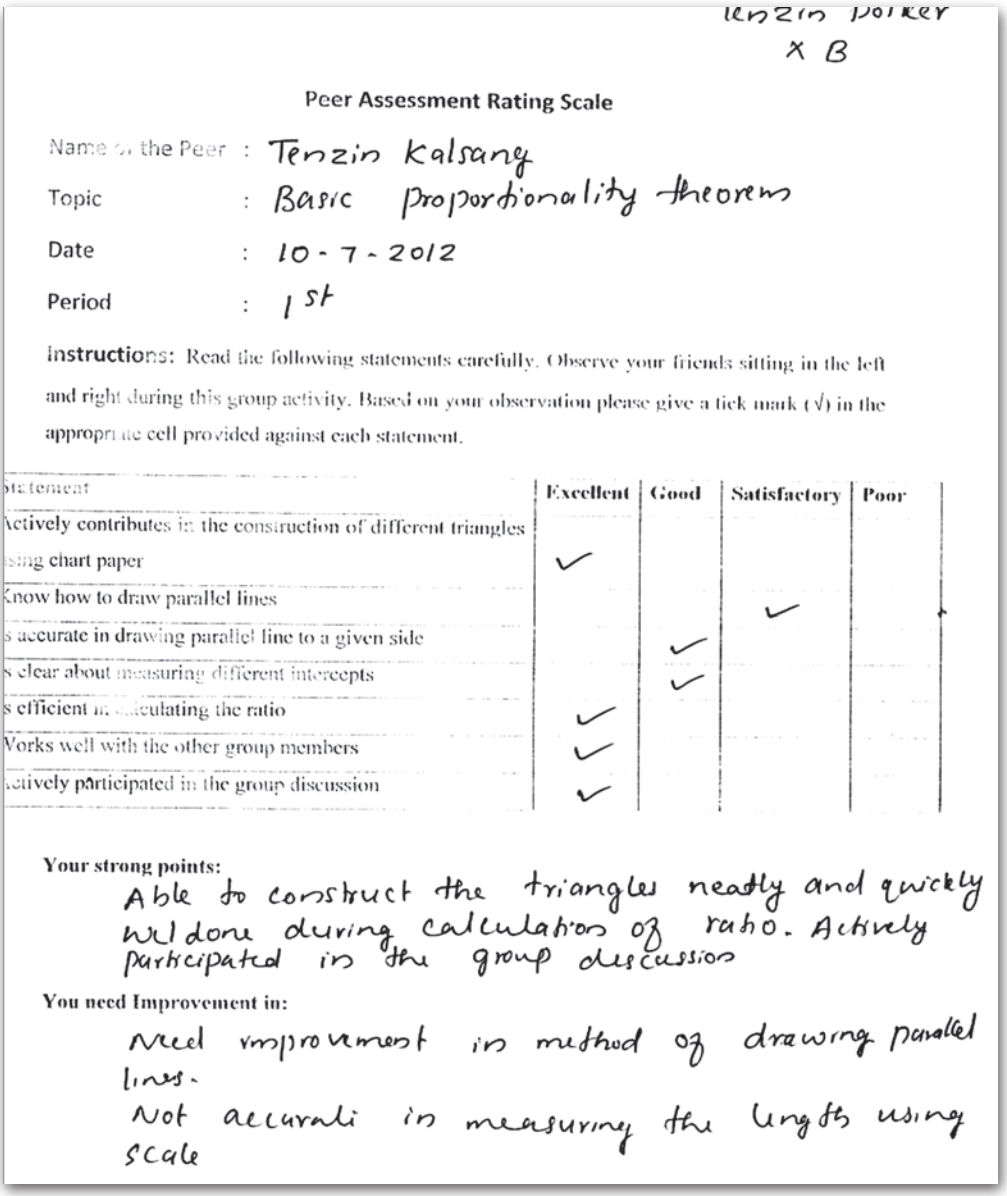
A brief introduction was given. Students were divided into four groups and one among each group was selected as leader. Each group was asked to cut different types of triangles from chart paper (at least five with different type) and told them to give the name like ABC, PQR, etc

They were asked to draw a line (with suitable name) parallel to any one side of the triangle by touching it other two sides.

In the next stage, they were asked to measure the length of the intercept made by the line with the other two sides and they were asked to prepare a chart which is given below

Triangle	*Length of Intercept made at 1st side*	*Length of Intercept made at 2nd side*	*Ratio of Intercept made at Ist side*	*Ratio of Intercept made at 2nd side*	*Relationship between the ratios*
Δ ABC					
Δ PQR					

At the same time, each student was asked to observe how her/his peers sitting either side performing in the group activity. They were



Tenzin Dorker
X B

Peer Assessment Rating Scale

Name of the Peer : Tenzin Kalsang
Topic : Basic Proportionality theorem
Date : 10-7-2012
Period : 1st

Instructions: Read the following statements carefully. Observe your friends sitting in the left and right during this group activity. Based on your observation please give a tick mark (√) in the appropriate cell provided against each statement.

Statement	Excellent	Good	Satisfactory	Poor
Actively contributes in the construction of different triangles using chart paper	✓			
Know how to draw parallel lines			✓	
Is accurate in drawing parallel line to a given side		✓		
Is clear about measuring different intercepts		✓		
Is efficient in calculating the ratio	✓			
Works well with the other group members	✓			
Actively participated in the group discussion	✓			

Your strong points:

Able to construct the triangles neatly and quickly
Well done during calculation of ratio. Actively participated in the group discussion

You need Improvement in:

Need improvement in method of drawing parallel lines.
Not accurate in measuring the lengths using scale

asked to fill the peer assessment proforma given to them for this purpose. The criteria used in the proforma and the method of filling it were also explained during the initial introduction. A sample of completed proforma is enclosed here under

Each student is supposed to assess and assessed by two students. Clear direction and assistance were given to students at each stage during the activity. After the end of the activity, the filled in assessment proforma were collected and analysed. In majority of cases, the pair of assessment done about a particular student was found to be somewhat similar. Only in few cases, it was found contradictory. The very next day, I had a discussion with students about their new experience. They all were enthusiastic about the activity but they told their apprehension of observing other students and simultaneously participating in the classroom process. The contradictory opinion regarding the performance of a particular student throws light on two important aspects to be considered while organising peer assessment. The first one is the need of proper training to the students about the procedure of peer assessment. The second one is the importance of ensuring objectivity in assessment. There will be some tendency of showing favours to the friends. This type of personal feelings will effect assessment. This can be minimised by giving students proper orientation about the importance of the peer assessment as a strategy for improving their learning, and clear guidelines for filling peer assessment proforma.

Assessing their own cearning
Self - Assessment

In a similar fashion, we can also organise self-assessment as an effective strategy for student assessment during classroom activity. This is nothing but reflection by the students about their own work. Self-assessment is the ability of a student to judge her/his performance, that is, to make decisions about one's self and one's abilities. It is a process in which student reflects on and reflects in one's own actions to identify the weaknesses and strengths. Here, the focus of assessment is to improve students' learning by evaluating themselves, their progress and difficulties. By giving students opportunities to reflect on their own actions, teachers may help them in developing metacognitive and other general learning skills.

A similar type of proforma can be developed and each one is asked to fill the proforma after completion of the activity. Even teacher can use checklist, rating scale, or rubric instead of a descriptive proforma like above-cited. Main advantage of self assessment is that it allows students to develop awareness of their performance as well as their gaps. This awareness will trigger

them to work out a plan for further improvement. The feedback will surely help them to set short-term goals as well as long-term goals. By properly prompting students to complete the self assessment tasks, teachers can support students to set the goals and encourage them to reach the goal.

I tried to incorporate self assessment strategy while teaching the chapter 'Statistics' for 10th standard students in a problem-solving situation. The students were asked to solve the problem. At the same time they were told to introspect about their work and fill the self assessment inventory and provide descriptive feedback. A sample inventory is given below:

Self-Assessment Inventory for Problem solving

Name of the student : NAGHAM @ POOJA, XA

Topic : STATISTICS

Date : 13-08-2012

Period : III rd

Instructions: Read the following statements carefully before starting problem solving. Based on your level of understanding please give a tick mark (√) in the appropriate cell provided against each statement.

Statement	Good	Satisfactory	Poor
I am able to understand the problem correctly	✓		
I am successful in analyzing the problem in terms of what is given and what is to be find out		✓	
I am able to use appropriate strategies/formula and method for solving problem		✓	
I am able to calculate the problem with speed and accuracy		✓	

My strong points:

— Learned all formulae and meaning
— Pooblem could understood.

I need Improvement in:

— Analysing the problem, I find difficult.
— I cannot use appropriate formulebecause move formula.
— Calculation difficult.

This strategy gives students an opportunity to assess their ability to solve mathematical problems. They can reflect on their ability to explain the problem, recognise meaningful information in the problem, their ability to use appropriate formula, difficulty level and about the speed and accuracy of problem-solving. Finally, students were asked to provide reflective feedback regarding the areas of concerns.

Assessment of Learning — Quiz

The most frequently used tool for assessment for learning is written test/examination. We can use quiz also for assessing the students' performance either after the completion of a topic or a unit or even after a term. I made an attempt to use quiz as a game for assessing student achievement in the other section of 10th standard after the completion of the chapter 'Statistics' Initially, the whole process started with an individual activity. I told the students to prepare at least five questions with answers from the chapter 'Statistics' as home work. Next day, the class was divided into four groups by using random method. For that, slips were prepared by writing different statistical terms (Mean, Median, Mode, and Class Interval). Accordingly, all students with slips inscribed Mean named as 'M', and others are 'Me', 'Mo' and 'Ci' respectively. After group formation, they were asked to sit in groups and told to discuss the questions they independently framed within the group about their style, difficulty and usability. Each group was directed to select best 10 questions with their answers from items they constructed independently. They were given about 25 minutes for this process. During that period, I spent rest of the time in explaining the different procedure of quiz competition to be organised next day.

Rules and Procedure of Quiz

- Match will be between two teams and other two teams will be audience.
- All members from each group will be seated face-to-face and the order of sitting will be decided by lots.
- First member from one group will ask the question from the last member from the other group.
- The entire group can spend maximum 2 minutes for answering the question, if she/he succeed in the attempt within the stipulated time, the team will get 5 points, otherwise the question will be passed on to the adjacent person. If she/he gives the correct answer and the allotted time of 2 minutes is not completed she/he will get 5 points; if the answer is right and the time exceed 2 minutes, she/he will get only 3 points.
- If all members from the group failed to give correct answer

then the question will be passed on to the audience. If audience succeeds in giving the answer they will get 5 points, if the total time not exceeds 2 minutes otherwise 3 points.

- If none of the members from audience gives correct answer, then the team who posed the question will get 3 points provided they should give correct answer with explanation. If they failed to give this, then a penalty of minus 3 points will be given to them.
- After the question by first team, the first member from the opposite team can ask the question to the last member from the other team.
- The process will be continued like this. Maximum time for one match will be 40 minutes.
- The team getting highest point will be declared as the winner of the match.

This strategy helped me to assess the ability of students to frame different questions, to review the whole concepts in statistics, capacity of problem solving in group setting, ability to ask and respond to the questions, and cooperation and competition in group setting. The whole process also helped me to get a clear idea about the degree of performance of individual students in the particular topic. The degree of involvement of students in the entire activity is another significant advantage of this activity. They actively participated and enjoyed it like a game.

Final Thoughts...

Considering assessment as an independent component of classroom teaching is one of the reasons for non-implementation of CCE in right spirit. The awareness and proper practical oriented experiences will help the teachers to make assessment as an integral part of teaching learning process rather than an independent component. The idea of assessment as learning and assessment for learning can be practiced in the right sense, only if, we are able to integrate the assessment procedure with day-to-day classroom activity. What I tried to experiment during my short-period field work was some possible way to integrate assessment with learning activity. The feedback I received from the students and their own performance in classroom activities give me lot of satisfaction in my venture. But I am sure that a single shot of an activity like peer assessment or self assessment will not give enough skill and confidence to the students. If we use these strategies periodically and collectively, the students will gain expertise and confidence in assessing themselves and their peers.

REFERENCES

Black, P. and Wiliam, D. 2006. Assessment for learning in the classroom. In J. Gardner (Ed.), *Assessment and Learning* (pp. 9-14). Thousand Oaks, CA: Sage.

Butler, S A. and Hodge, S. R. 2001. Enhancing student trust through peer assessment in physical education. *Physical Educator. 58* (1), 30-42.

Crooks, T.J. 1988. The impact of classroom evaluation practices on students. *Review of Educational Research. 58* (4), 438–481.

Government of India. 2009. The Gazette of India, No 39, Extraordinary, part II, section 1, August, 2009.

Johnson, R. 2004. Peer assessments in physical education. *Journal of Physical Education, Recreation and Dance. 75* (8), 33-41.

NCERT. 2005. National Curriculum Framework, 2005, NCERT, New Delhi.

Yin, Y., Shavelson, R.J., Ayala, C.C., Ruiz-Primo, M.A. and Furtak, E.M. 2008. On the impact of formative assessment on student motivation, achievement, and conceptual change. Applied Measurement in Education, 21, 335–359.

The Politics of Contemporary Publishing in India — Ought we to be Excited, Concerned or Despairing?*

Urvashi Butalia**

Abstract

The Indian publishing scene is widely acknowledged to be vibrant and dynamic today, and indeed, it is both complex and varied. After having adopted a policy of self reliance and indigenism in the years after Indpendence, the publishing sector today, like much else in the country, has opened up to foreign investment and some of the largest publishing houses in the world have a presence here. Is this a new form of colonialism? Should we be concerned about it or should we take it as inevitable? What will the presence of multinationals mean for indigenous publishing in India, and will English publishing, which seems to be dominant, outstrip Indian language publishing? How can Indian publishing hold its own, and should it do so at all? Where, if at all, do the excitements lie? Do independent publishers have anything to offer? Tracing her own entry into the world of publishing more than three decades ago, Butalia will focus, in this talk, on what has changed, both within the industry, and in the external conditions that impinge on it, and make an examination of whether this change has been positive or negative or a mix of the two. She will argue that the production of knowledge is a political act, and that the Indian State has done little or nothing to help the publishing industry produce books, and therefore knowledge, in order to reach the continuing hunger for it among Indians. She will further show how it is here that the contributions of the small independent publisher need to be recognised and supported.

A little over three decades ago I made my first, accidental entry into the world of publishing in India. A friend and I were playing a desultory game

* Written text of Sri Aurobindo Fourth Memorial lecture delivered on 31 August 2010 at Dorzio Hall, Presidency College, Kolkata by Urvashi Butalia and published by NCERT, New Delhi

** *Publisher and Writer* based in New Delhi

of table tennis while talking about what we were going to do with our lives. I was just finishing my Master's and wanted to make a decisive move away from English literature to something more 'relevant' to my life in the thriving, bustling, politically alive city of Delhi. The university was a hotbed of furious political debate, the women's movement was just taking off—surely, I thought, there has to be more to life than Spenser and Milton (much though I loved them—or Milton at least). My friend then worked as a secretary in the Oxford University Press in Delhi. Why didn't I, she suggested, try to do some freelance work there and see how I liked it. I thought her suggestion was brilliant.

At the time, a great deal of publishing activity in Delhi—and many of the larger Western publishing houses had moved to Delhi by then—was concentrated on two roads, a longer one called Asaf Ali Road that lay just outside the wall of the old city; and a shorter strip, Ansari Road, that lay just beyond. Ansari Road housed large and small publishers, and during the lunch hour many of them (almost all males) could be seen at the *samosa* and *paan* stalls, exchanging gossip or news, while small lorries and hand-drawn carts loaded with packets of books made their way to publishers' warehouses, often in the basement of their offices. While printing establishments lay some distance away, many of the other services were close by and a system of point-to-point travel by cycle or auto-rickshaw had sprung up to service the needs of publishers.

Those were the days when typesetting was still done by hand, using hot or cold metal, and the nearby main road in Daryaganj, or further along Bahadur Shah Zafar Marg, you could find hand-setting, as well as monotype or linotype machines. When phototypesetting made its appearance, units offering this service sprung up closer to Ansari Road. Block makers were concentrated at the northern end, going right up till Kashmiri Gate, where the best of them were to be found. And the paper market lay in between, in Chandni Chowk. Bookshops were few and far between, and generally not much to write home about, and most were filled with remainders purchased at heavy discounts from abroad. Most of us bought our books from the second hand stalls that sprung up on pavements in different shopping areas of the city—but even they sold mainly Harold Robbins and Mills and Boon.

I remember walking into my first job in the Indian branch of the Oxford University Press (OUP) in fear and trepidation. I was a young 21-year-old, straight out of university, and was going to fill in time by working in the OUP for a while until I decided what it was I wanted to do. The OUP was at that time adapting (they called it Indianising) a series of English textbooks called Active English, for

Indian schools. I was employed in the inglorious role of someone called a 'paster upper'—my task was to paste Indian names (at the time—our imaginations were a bit limited—we used the names Ram and Sita) over Western ones (John and Mary)—while an artist called Dean Gasper was employed to colour blond hair and blue eyes black, and to chop off the top halves of double-decker buses! That first experience with art pulls and rubber solution (things people in publishing will probably not recognise today) was enough to make all fear vanish without a trace and to start a love affair that has lasted until today.

The OUP in those days was a rather special place to work in. The remnants of British domination still existed in the shape of some individuals who worked there. A gentleman (and he was, and remains, a gentleman) called Charles Lewis ran the place, and two eccentric men (also British) ran the production and editorial departments. As well, a young, Oxford-returned man who chose to look different by wearing Indian kurtas and smoking thin Ganesh beedis, was the head of academic publishing. His name was Ravi Dayal. Ravi was slated to become the Head of OUP, along with a Bengali gentleman called Santosh Mukherjee, and the British directors were on their way out. In the post-independence scenario, publishing, like everything else, was required to 'Indianise' and ex-patriate employees of foreign companies had to leave, with the companies themselves reducing their shareholding to a maximum of 49 per cent (this did not apply to the OUP because it saw itself as a department of the University of Oxford, rather than the Indian branch of an overseas company, although, in the fullness of time, the OUP lost the battle to convince the Indian government of this).

One of the early projects I worked on in the OUP was the translation and publication, for the first time, of the Oxford School Atlas (OSA) into Hindi and Punjabi (Gurmukhi). Somehow the bosses had managed to bag a contract to provide 475,000 copies of the OSA to the Punjab government (the Punjab School Education Board) for use in schools in Punjab. At that time, such government and private sector collaborations were possible and could take place without any apparent corruption. I mention this history also because the process of 'Indianisation', so crucial to India's post-independence years, had already begun and this particular project was part of that. The project to publish the Atlas in Indian languages would also bring this money-spinner book to India for the first time, thereby keeping its income largely in India, and providing business to Indian printers. I was young and green then, but this project early allowed me to see how negotiations were done with governments, how important it was to get clearances on everything, and yet, despite this, how all of this could

so easily be thrown out the door by a political change or development. We used to have to travel to Chandigarh almost every week to meet with government officials who would check and recheck everything, and we did so royally, being driven there in the then OUP limousine (there were no SUVs then!), a battered old Standard Herald with no air-conditioning. We thought it was the height of luxury!

It was on the last of these drives, when we were heading to Chandigarh in a mild state of euphoria with the first few copies of the Atlas to show to the Punjab government, that we noticed, for the first time, advertisements on walls and roadside bunds for Atlas cycles, Punjab's most famous bicycle brand. And we noticed, to our horror that the word Atlas was spelt differently from how we had it on the copies we were carrying. What would happen now? The copies were all printed. Would they notice? We hoped not. But of course we were wrong. They noticed, not because they were vigilant, but only because the officer in-charge had changed and the new one had his own views on the Gurmukhi script, views that were in direct contrast and contradiction to those of the previous officer who had okayed the cover! It was that that made me realise that the legacy of colonialism was not so easily removed. It wasn't just a matter of Indianising the structures of business, we needed also to look at things like how our languages had been structured, whether or not their scripts and systems of spelling, put in place initially by the British, were free of political power struggles. And whether or not we wanted to simply work with those inherited systems or create our own.

The process of Indianising was not easy: the state had to create a fine balance of openness (based on the belief that knowledge should be free and easily available) and protectionism (based on the understanding that the Indian book trade should be allowed to develop). So, for example, while there were restrictions on almost everything else in terms of imports—you could not bring in a refrigerator, or a car, or even clothes—books were notoriously free of such restrictions, and the conditions governing their import were liberal. Liberal, that is for individuals like you and me who may have wanted to import books for our personal use, but within the book trade, there were some restrictions and booksellers/distributors were allowed to import up to 1000 copies of a particular title in one calendar year. However, booksellers are a notoriously clever lot and for those for whom ideology meant nothing and money meant everything, this and other such restrictions were there only to be got round somehow. So if you could bring in 1000 copies of x or y book in one year, under one name, many booksellers ended up opening three or four companies, which would import a thousand copies each of a particular book, usually at the

end of a calendar year, so that the moment the next year started, they could immediately start again. This, and the existence of something called remainders—heavily discounted unsold books that were dumped into India and that sold largely not only on pavements but also in stores—ensured that whatever bookshops there were had mainly imported books on their shelves. Of course this was the case with English, not with other Indian languages, some of which, like Malayalam, had their own distribution structures.

Publishing has changed beyond recognition since. It's not only that technological changes have transformed the practice of publishing, and metal typesetting, letterpress printing, blocks and galleys are now a thing of the past, but the change is so much more profound, so much more wide-ranging. A new entrant walking into Ansari Road today will see many of the same names—DK, Manohar, UBS, Oxford, Macmillan, Frank Brothers or, on Asaf Ali Road, Orient Longman (now called Orient Blackswan)—but much of the action has also moved elsewhere, to other parts of the city, and indeed across the border, to neighbouring Gurgaon (in the state of Haryana) and NOIDA (in the state of Uttar Pradesh). Ansari Road is no longer the only home for publishers in Delhi, there are just too many of them to fit in there. More importantly, Delhi isn't the only home either: Indian language publishers have always been located in the particular state to which the language belongs, but in the seventies, many English language publishers moved to Delhi. Today though, location doesn't mean the same thing, and publishers choose to work from Chennai, or Mumbai or Kolkata, or Thiruvananthapuram, or Kottayam, or up in the mountains and down in the plains, and they work with typesetters who are located in other cities, printers who might even be in other countries. The old rickshaw point-to-point system is no longer necessary—all you need is a computer and an internet connection.

The change isn't only geographical. In the early days when I began working in publishing, there were only two or three kinds of books that got taken seriously. These were school textbooks, academic books for use at the university level (which included social sciences, the natural and applied sciences, engineering, architecture and a whole host of other subject areas) and the odd novel, usually destined to take the textbook route. Trade publishing, or the publishing of books of general interest, hadn't yet made its presence felt. Very few publishers—in English at least—were publishing fiction, and although reasonably priced editions of classics by Western authors could be found in the market, they were not among the books that made money. It was around the eighties I think that things began to change. 1984 the

Orwellian year—was when we set up Kali for Women, India's first feminist publishing house. Having cut our publishing teeth mainly in academic publishing, my then partner Ritu Menon and I focused mainly on that even in Kali, although we tried to do so innovatively (publishing books on the Indian women's movement for example). But we also slowly began to publish fiction.

India's always been a large—and generally stable—market for exports of books from the U.K. and the U.S., so it wasn't surprising that our bookshops carried so many titles published outside the country. With the decline of the rupee against the dollar, however, this began to change a bit: dollar priced books became more expensive, with more rupees going out for each dollar, and bookshops began to look at other alternatives to fill shelf space. Enter Indian trade books in English: the late eighties and early nineties were the time when the profile of English publishing in India began to change, and trade publishing made its way into this market. (I should explain here that the term 'trade' in publishing jargon, is used to denote the general book, read by the general reader. So this can include fiction, biography, autobiography, non-fiction, books for children, etc.) Rupa, Kali for Women, Stree Publishers, Ravi Dayal, Orient Longman were among the pioneers in this field, but the big change actually came with the entry of Penguin India, who brought scale, size, marketing skills and a general 'sexiness' to trade publishing.

Nonetheless, over the next few years, the market still remained predominantly educational and predominantly Indian. The next big change came about in the nineties when India began to open up to foreign investment, and very quickly, as things became increasingly liberalised, large multinational publishers started to look towards this market – one of the few in the world which still shows considerable potential for expansion. Today, India is home to a variety of international publishers, many of whom are in joint ventures with Indian companies, and others who are fully owned by their parent corporations. While the real profits come from the scientific and technical, the medical and legal aspects of publishing, it's trade that gets much more attention. This isn't surprising for it's here that the excitement is palpable, as Indian writers get known both at home and abroad, the demand for their books grows.

But, while the large and medium sized 'foreign' actors worked hard to open up the space for Indian trade publishing in English, it was the Indian actors who actually often took the initial step of experimenting with new things. Rupa, a publisher and distributor, was one of the first to look at mass market books in English, moving away from the literary work, to the more popular one. The success of some of its young authors such as

Chetan Bhagat, whose books sell in hundreds of thousands, is by now well known. If Rupa made the initial foray into the mass market, publishers like Tara and Tulika broke new ground where children's books were concerned, just as Kali did where women's books were concerned. It wasn't only in content that you see the change. It's also there in how publishers position themselves. One of the most interesting and exciting experiments in recent years has been carried out by Seagull Publishers in Kolkata who have chosen to position themselves not as Indian publishers based in India, but as international publishers based in India (in their second avatar I mean). So they consciously publish non-Indian authors, distribute their books all over the world and are slowly making a name for themselves. This is an exciting development—if successful, it could begin, in a different way, the process of reversing the flow of information that has traditionally been from the West to the East, the North to the South.

In response to the growing numbers of books being published all over the country, large and small bookshops began to make their appearance, and at least half their shelves are stocked with Indian books by Indian authors. In fact, the difference in the retail trade is significant. Several years ago the British Council brought out a book which was a listing of 100 bookshops in India. They were hard put to it to find enough shops to make that number. Things are different today with three major bookshop chains—include Crossword, Odyssey, Landmark—and many individual stores that may well develop into chains. In the early days there were really only two 'chains' worth speaking about, and one of these was mainly concentrated in the south – Higginbothams, while the other, AH Wheeler and Co. was a railway station chain and therefore stocked only the kinds of things people pick up to read on long train journeys. But although the retail sector has considerably expanded today, it is unfortunate that its development has been somewhat slowed down because of the recession, so plans by Tatas and by the Future Group to add many more bookshops to the existing ones, have been put aside for the moment. Nevertheless the increased space meant that Indian books— initially only in English but then, over time, also in Indian languages—began to find their way into bookshops so that the profile of most shops today is very different from what it was, say, twenty years ago. I should add that I have mentioned only those bookshop chains that stock principally English books—and indeed that is what my lecture is mainly concerned about—but there are other chains that are important in different languages, one of these being the bookshops run by Deecee books in Kerala. With bookshops stocking books, publishers also put much more

attention to the marketing of books—something which, with textbook publishing being predominant, was not a particularly developed area of publishing. Today, author tours are common, not a week passes without a major book launch—in fact there probably isn't a five star hotel in the major cities that hasn't been host to a book launch in recent years, and many publishers put their attention into smaller, less high profile, but nonetheless important ways of marketing their books. And the publishing world is peopled increasingly with young, smart, intelligent, professional people, many of them women. And Delhi's not the only place where this is happening: change is visible across the many different languages in which India publishes.

Among the many changes in Indian publishing, is another one that hasn't received enough attention. This is the entry of increasing numbers of women into the profession. Years ago, when I made my hesitant way into the portals of the OUP, my Dad came with me. Unknown to me, he took my then boss aside and told him in no uncertain terms that he expected all the men in the office (and there were MANY of them) to behave, and if he got the slightest hint of anything wrong, he would see to it that they were taken to task! In turn, my boss, when offering me the job, said I needed to behave (by this he meant not get married immediately and become pregnant!) because, according to him, 'We have never employed a woman in an executive position before because women usually go away and get married'. He made it sound like a crime!

The situation is very different today. Not only are increasing numbers of small and medium-sized publishing houses headed by women—for example, Yoda, Yatra, Stree, Katha, Tara Books, Tulika, Karadi Tales, Women Unlimited, Zubaan—but women are the decision makers in many of the larger houses as well, such as, India Book House, Westland Books, Niyogi Books, Ratna Sagar, Random House, HarperCollins, to name only a few. Several of the bookshop chains are headed by women (Oxford Bookstores, Strand and others), and there are women printers, designers, typesetters—indeed the feminisation of Indian publishing is remarkable. And recently, when we set up India's Women in Publishing group, and decided to have a welcome party for its members in Delhi, we found ourselves sending out over 250 invitations, and nearly a hundred women turned up! And this was only in Delhi – if the numbers from other parts of India are added here, things will look very bright indeed!

In the seventies and eighties the focus on textbooks and educational publishing also meant that there wasn't much happening where translation was concerned. And given that, India has 23 official languages and publishes in 22 of

those, with many having rich, and strong literary traditions, you'd think translation would be a natural. But it wasn't—and when there were translations, they were seldom direct from one Indian language to another, rather they often went via a link language, such as Hindi or English. Today, translation forms a vibrant and lively part of Indian publishing. Rights are being bought and sold between Bengali and Hindi, Tamil and Telugu, Gujarati and Marathi, and all of those and more.

And then there's the entry of the adventurous young—long years ago when I left my job to think of setting up my own publishing house, people thought I was a bit mad. But today, young people are doing this all the time: a few years ago a group of young men and women came together to set up Blaft, a wonderful, dynamic publishing house that focuses on translations of pulp fiction; there's Navayana, set up by two men, to publish works by marginalised people, Phantomville which focuses on graphic novels, Kalachuvadu which publishes both fiction and non-fiction in Tamil, New Horizon, set up by two Silicon valley entrepreneurs who sold their stake in an enormously profitable website, Cricinfo, to concentrate on books, Panther Books, set up by one man (and his family) to bring the best medical knowledge to the world in electronic form, Ratna Sagar, a quality publishing house doing textbooks and books for children that is providing strong competition to the OUP… and the list goes on.

It's in recognition of these developments that Indian publishing now has such a strong profile internationally. Not only do Indian writers figure among the best international writers—and indeed recently, walking through the lanes of Venice, I was struck by the fact that virtually every small bookshop had at least one or more Indian (and not necessarily Diasporic) writers in their windows—there isn't a book fair in the world where you don't see a significant Indian presence. There are publishers offering books, printers offering print services and even—as was evident at the Abu Dhabi book fair recently—Indian entrepreneurs offering distribution services.

Let me turn now to another aspect of Indian publishing. Almost every piece of writing on Indian publishing tends to turn its attention now to trade publishing, rather than educational publishing. Trade is the new sector, it's where the growth is—some say it is as high as 30 per cent a year, while others put this figure at 10 (which is a high enough figure). Further, almost every piece of writing then attributes this growth, and the changes in Indian publishing to the entry of the big western giants – Penguin, HarperCollins, Random House, Hachette, and so on. There's no doubt these houses are publishing new and interesting titles, but I think it's important to recognise that the real innovations are coming from

elsewhere, that it is the independent, small (sometimes not so small) Indian publishers who are really the ones who should be credited with putting Indian publishing on the international map. They may not be making money hand over fist, but they're doing something they believe in, and something that actually is the change. Here are some examples:

Tara, a publishing house set up by Gita Wolf, and based in Chennai, began publishing some 20 years ago. Initially focusing on books for children, Tara chose to create beautiful, handcrafted, sometimes screen printed, illustrated books. It wasn't easy, they did not have pots of money—what they did have was a commitment to quality and a great deal of original thinking. Tara's books were, and are, expensive, but over the years, they have found a loyal audience and each year, they take their innovation a bit further. Beginning with books for children, they soon expanded their repertoire to begin to do visual books, bringing in tribal artists and illustrators whose works they showcased the world over. During the Salon du Livre in Paris in 2007 when India was the focus country, it was Tara's books and their illustrations that were displayed in libraries in the city of Paris, and Tara now regularly wins awards at Bologna. Yet, it was barely two decades ago that they began to attend international book fairs, in the early days looking for subsidies to make it possible for them to do so.

Another entrant into this field was Tulika, of about the same vintage and also based in Chennai. Tulika focused on children and worked hard to make connections with publishers in the Indian languages: today, several of their books are simultaneously translated into four or five Indian languages. Few international publishers have this kind of reach.

If Tara and Tulika tried one kind of experiment (and a smaller publisher, Karadi Tales, also from Chennai, took this further by publishing audio and 'touch' books), Seagull in Kolkata tried a different sort of experiment. Set up initially to publish books on the performing arts, Seagull rapidly expanded its list and recently positioned itself as not merely an Indian publisher, but an international publisher based in India. Today, its list boasts names such as Slavenka Drakaulik, Andrei Tarkovsky, Tariq Ali and a host of others, and it holds the world rights to well-known writers like Mahasweta Devi, who will only publish with Seagull first, and then look elsewhere.

Some years ago the OUP found it difficult to continue to employ two of its senior academic editors because they decided to marry, and Company policy did not allow for married couples to be employed. This became the catalyst for Anuradha Roy and Rukun Advani to set up Permanent Black, one of the most prestigious academic imprints in India today.

The history of feminist publishing in India is by now well known—Kali for Women, founded in 1984 by two women, Ritu Menon and myself, was the trailblazer in publishing books by and about women, an area that was all but ignored but that today forms one of the most profitable parts of most publishers' lists. Combining both academic and trade publishing, Kali, and its two later avatars, Zubaan and Women Unlimited, continue to hold their own in a market that is increasingly dominated by the big players. Navayana, a young publishing house set up recently, focuses on the area of caste, another area that has not seen much attention in Indian publishing. And of course there is Ravi Dayal's own imprint, set up under his name, that has published some of the finest books in India and that continues to be run after Ravi passed away, by Penguin.

This is only a taste of the richness and variety of independent publishing in India. I have not even begun to speak of the work of several others, such as Roli and Rupa, or Westland and New Horizon. More, these publishers have not remained inactive in terms of distribution and one of the most interesting aspects of such publishing is the kinds of connections that publishers are making. A few years ago, Penguin India and Zubaan set up a collaboration which has today become a model to be followed by others—the publication of a joint list to which both houses bring their unique strengths. It would be difficult to find in the world of publishing this kind of collaboration where the actors recognise their strengths and weaknesses and pool together their resources to explore the same market. There are already four such collaborations in place and several more in the offing (the four are the Zubaan-Penguin list, the Mapin-HarperCollins list, the Ravi Dayal-Penguin list and the Ratna Sagar-HarperCollins list). As well, a group of independent publishers have come together to set up a collective to work on distribution and marketing. Will they give the big players a run for their money—it's difficult to say, but what is certain is that so much that is exciting in the market is because of the independents.

But although the independents are at the cutting edge of change, there is no denying that in the present day scenario, the entry of large foreign companies is something to contend with. When the publishing sector began to open up, like everything else in India, publishers' associations fought hard to prevent this, and even today there are petitions pending with the government in which publishers who see themselves as 'Indian' have questioned the presence of foreign publishers in India, and many have accused them of being here illegally. The illegality or otherwise of multinational presence is a thing for the courts to decide but the questions that lie behind this age-old

debate are important. Can we really, as publishers, prevent the entry of multinational publishers into India? Can markets remain protected in these days? Patently not, and the more so because some of our own houses are now expanding into international arenas. If we want our presence to be strong outside, we cannot exercise different standards for people within India. But this brings then another question: is the presence of foreign houses a new form of colonialism? Will Indian publishing be able to hold its own in the face of competition from people who have established reputations and whose resources are much more abundant? One of the things that has already begun to happen in Indian publishing is the offering of an advance. While there is nothing wrong with this per se, the fact of the matter is that advances make sense in well-developed publishing markets, not in what are called 'emerging' markets. Here, if you have publishers who are able to offer large amounts of money to authors (and I am not saying authors should not get this money but simply that not everyone can make such offers), you are pushing up the bar to a point where the local, small, independent publisher will inevitably be pushed out and the old colonial pattern be set again. Further, foreign direct investment, foreign businesses are now a reality in India, so the real questions should be: how do we deal with them? This question is complicated by the fact that many of these businesses are in joint ventures with Indian companies, for example, India Today with HarperCollins, Penguin with Ananda Bazar Patrika, and so on. So Indian publishers need to be clear about whether they are against the *foreign* part of the business or whether they are against all *big* businesses. The Tatas, for example, recently entered into a joint venture with Landmark Bookstores and Westland Publishers, and the question is: is a totally Indian partnership (and the Tatas, though an Indian company are very much a multinational company) better than a foreign-Indian one?

A further issue complicates this picture. Much of the material being published by the foreign publishers, in fact virtually all of is, is by Indian writers, and although they began by publishing Indian writers in English, that has now expanded and changed. Penguin publishes in three or four Indian languages, Harper publishes in Hindi and English, all of them translate writers from Indian languages into English, and increasingly, they, and other smaller, independent publishers, have begun to work together with Indian language publishers to share and exchange rights on their books. Plus, with their resources, they are able to take Indian writers out of India to international book fairs, etc. which helps to put Indian writing on the international map although it has to be said that the exposure remains

limited mainly to authors writing in English—for the most part.

So the questions become more and more complicated as we go on. There is no doubt that the international recognition for Indian writing (even if it is mainly for Indian writing in English) has come about largely—though not wholly—as a result of the presence of many of the 'foreign' publishers. But equally, there is no doubt that in the international arena the interest in India will last only until it remains the flavour of the month or the year. For publishers within India, however, Indian writers and their works are what they are committed to, and the commitment is not temporary, and there needs to be both a recognition of this and a way to provide support to Indian publishing so that it can develop to its full potential. There are very few countries in the developed or developing world today where book markets are not saturated, and where there is still potential for expansion. India is one of them—all statistics tell us that the middle classes are growing and expected to grow at a phenomenal rate, literacy is on the rise, and if this is combined with the availability, at suitable prices, of good books, there is no reason why the book market in India should not become healthy.

While the growth of the middle classes provides some reason for hope, there are other things that are important to note. R. Satyanarayan, a Chennai-based publisher, on a post on his publishing house's website (www.newhorizonmedia.com) reminds us that the per capita book title output for the whole of India is about 8 titles per 100,000 population, far lower than what it ought to be when compared to the per capita book title output in the mature publishing markets like U.K., U.S.A., France and Germany. Of all the Indian languages, English tops at 23 titles per 100,000 speakers of English in India followed by Tamil at 11, Malayalam (8.7), Marathi (6.9), Bengali (6.3) and Gujarati (6.2), are all higher than Hindi at 5. Kannada (4.8) is higher than Telugu (4.2) and Urdu (3.9). Assamese at 7.7 is much higher than most other languages.

He goes on to remark that while Hindi may top the list in terms of the number of titles published (and there is no guarantee that these figures are indeed correct—they come from a publication by the Federation of Indian Publishers, and relate to the year 2004 and we are now in 2010) in terms of the potential size of its market, Hindi publishing needs to do much more than is currently being done. Tamil and Malayalam are the most active of the Indian languages with the other larger languages (in terms of speakers) like Marathi, Bengali, Telugu, Gujarati and Kannada lagging behind. Despite the number of titles published in Assamese being lower than all other major languages, Assamese publishing seems to be far more active than one would expect given

the fewer number of speakers. Sanskrit, Sindhi and Kashmiri have too few speakers compared to the other languages for their per capita output to be comparable.

Long years ago, Robert Escarpit, researching on book reading habits across the world, defined India as a region of 'book hunger'. Exciting though the publishing scene in India is today, as we stand poised on the brink of many changes and new developments, it's worth remembering that in a country where there are still millions of people who can't read, and millions who do not have access to education, there's much that remains to be done.

Relationship of Burnout of Upper Primary School Teachers with Locus of Control

Poonam*
Anuradha**

Abstract

This study describes relationship of Burnout with Locus of Control. The study was conducted among upper primary teachers of North-West District of Delhi, which includes 7 Government and 7 private schools of the same area. The numbers of the respondents were 140. The findings revealed that there is a significant relationship between Burnout and Locus of Control of upper primary teachers teaching in Government schools. There is a negative relationship between Burnout and Locus of Control. It means that the teachers having high Burnout Level have an Internal Locus of Control and the teachers having low Burnout level have an External Locus of Control. On the other hand, private schools showed no significant relationship of Burnout with Locus of Control of upper primary teachers teaching in North-West District of Delhi. In terms of Government and private schools, altogether, there is no significant relationship between Burnout and Locus of Control of upper primary teachers teaching in North-West District of Delhi. The Pearson Correlation - Mean, standard deviation and Sig (2 tailed) was applied for statistical analysis by using Statistical Package for Social Sciences (SPSS) to find the relationship of Burnout with Locus of Control.

Introduction

The first image that comes to mind on thinking of teachers is that of the classroom teachers, as an instructional input, custodian of knowledge and so on. In this concern, (Kauts and Saroj, 2010) in their work emphasis on the teacher effectiveness and occupational stress. They have described twenty-

* *Assistant Professor,* Department of Education, Maharaja Surajmal Institute, Delhi
** *Research Scholar,* School of Education, IGNOU, New Delhi

Chapter 8.indd 108 15-04-2015 AM 11:40:05

first century as a century of stress and strain. Since, perception towards education has changed and it is viewed as an instrument to develop the cognitive qualities, tolerance and understanding of people. They have also mentioned that education is an important key for the development of overall development of a child. To achieve objectives of education teachers play an important role. Teachers have to perform lots of functions or we can say teachers are the multitasking human resource. The traditional role of teachers has changed drastically with the advent to new phases of education.

All the above-mentioned tasks and responsibilities are not an easy task for a teacher to fulfil the expectations of the society. Such overload of work leads him or her/ him to the state of 'Burnout'.

Sometimes, in our life, we all face high level of exhaustion and diminished interest, which leads to increasingly helplessness and hopelessness. All these are known as the symptoms of psychological term called "Burnout". The phenomenon of burnout is mostly observed by the western world. Over the years, however, the definitions of burnout varied but its result remain same in form of anxiety, loss of energy and concern. etc. (Fredudenberger. 1974) was the first who characterise burnout as a feeling of failure and being worn out. After that, lot of books, journal articles and dissertations have been written on the subject. Some people define it as a progressive loss of idealism, energy, purpose and concern as a result of work (Edelwich and Brodsky, 1981), as a syndrome of emotional exhaustion, depersonalisation, and reduce accomplishment which is a special risk for individuals who work with other people in some capacity (Maslach and Collins, 1997).

(Shukla and Trivedi, 2008) have studied burnout with special reference to Indian Teachers. In his works they has mentioned the three stages of teacher burnout that are loss of enthusiasm, frustration and alienation with special reference to (Clouse and Whiterkar, 1981). They also quote (Maslach and Collins, 1977) who state that, "a worker becomes a petty bureaucrat, going strictly by the book and viewing clients as cases, rather than as people" (p. 12).

(Toppo and Manjhi, 2011) in their paper focused on the burnout study of para-teachers in India. Their study proved that due to inequity in payment, position and job conditions the para teachers experienced burnout.

A theory used in personality psychology known as Locus of Control refers to causation as perceived by individuals in response to personal outcomes or other events. This theory was developed by Julian B. Rotter in 1954, and become an important aspect of personality studies. The term Locus is derived from that Latin work which stands for "place

or location". Locus of control has two aspects — one is internal and second is external. People having internal locus of control never blame others for their failure. They always try to find out what happened to them at, that time which leads her or him to the failure. On the other hand, people having external locus of control always blame others for their failure. They believe that they are alone in this world and everyone is pointing out her or him.

In the case of Locus of Control, all the researchers, by defining the term, moved around the two pillars of Locus of Control, i.e., Internal and External Locus of Control. (Nowotwiak, 2005) in their work mentioned that locus of control is based on the three properties: properties of attributions, along with stability and controllability. (Flowers et.al., 2003) found relationship between levels of locus of control and educational aspirations. (Scheck and Rhodes, 1980) claimed that to select teachers and of students for teacher training programmes, internal-external control is an important factor. On the other hand, (Igbenghu and Popoola, 2011) found a significant inverse relationship between work locus of control and organisational commitment.

Works on relationship between locus of control and burnout has again a vast area in western world. Where people like (Sunbul, 2003) and (Bevis, 2008) saw teacher's burnout relating to the different aspects of locus of control like job satisfaction, etc. (Schmitz et.al., 2000) in concern to hospital staff nurses evaluated the effects of locus of control and work related stress on burnout. On the other hand, such kind of works, in Indian context, is limited to 2 or 3 readings. Among them, (Srivastava, 2011) found that Managers having internal locus of control are more satisfied with their jobs, therefore they are more committed towards their organisation. (Padayachee, 1992) in his work gained an overall estimate of the incidence of self-reported burnout among Indian secondary school teachers.

Statement of the Study

The problem selected for the present investigation is, "To Study the Relationship of Extent of Burnout and Locus of Control of Upper Primary School Teachers teaching in North-West District of Delhi."

Objectives of the study

- To study the relationship of extent of burnout and locus of control of upper primary teachers teaching in government schools in North-West District of Delhi.
- To study the relationship of extent of burnout and locus of control of upper primary teachers teaching in private schools in North-West District of Delhi.
- To study the relationship of extent of burnout and locus of control of upper primary teachers teaching in government and private schools in North-West District of Delhi.

Hypotheses

- There is no significant relationship between burnout and locus of control of upper primary teachers teaching in government schools in North-West District of Delhi.
- There is no significant relationship between burnout and locus of control of upper primary teachers teaching in private schools in North-West District of Delhi.
- There is no significant relationship between burnout and locus of control of upper primary teachers teaching in government and private schools in North-West District of Delhi.

Statistical Techniques

Pearson Correlation was used.

Tools and Techniques

Maslach Burnout Inventory — Educators Survey

Maslach Burnout Inventory Educators Survey (MBI-ES). To assess levels of burnout among the respondents, the Maslach Burnout Inventory Educators Survey (Maslach, Jackson, and Schwab, 1986) was administered in a questionnaire. The MBI-ES is designed to measure an educator's perceived levels of emotional exhaustion and fatigue, negative attitudes toward students, and feelings of personal accomplishment on the job. Specifically, the MBI-ES consists of 22 items that are divided into three sub-scales (emotional exhaustion, depersonalisation, and personal accomplishment) that reflect aspects of the burnout syndrome. Individuals are required to respond to each item by indicating the frequency in which they experience the feelings described in the items from a Likert-type scale ranging from zero (never) to six (every day).

Rotter's Locus of Control Scale

Locus of control assessed by Rotter's Locus of Control Scale prepared by Dr. Anand Kumar and Dr. Satyendar Nath Srivastava. The scale had 29 items and each item had two parts, that is, A and B. The subject had to tick either A and B according to her or his choice. There were 6 filler items, namely, 1, 8, 14, 19, 24 and 27 which were not scored. For the item numbers 2, 6, 7, 9, 16, 17, 18, 20, 21, 23, 25 and 29, one point was given to those subjects who tick "A" part. For item numbers 3, 4, 5, 10, 11, 12, 13, 15, 22, 26 and 28, one point was given to those subjects who tick "B" part. High score indicates external locus of control on internal-external dimension of the scale. The maximum possible score on Rotter's Locus of Control Scale is 23 and minimum being 0.

Data Analysis and Interpretation

In pursuance of objectives mean scores and standard deviation of burnout and locus of control have been computed for upper primary teachers teaching in North-West

District of Delhi. The Government and private schools have been selected for the collection of data. The objectives of the study and their corresponding hypotheses are presented first. These are followed by the analysis of data and the results. The results are presented in tabular form, which are followed by the hypotheses and are retained or rejected. This objective has been studied by computing the Pearson Correlation on Locus of Control and Burnout.

1. Relationship of Burnout and Locus of Control of Upper Primary Teachers Teaching in Government schools in North-West District of Delhi

In order to achieve objective 1—"To study the relationship of extent of burnout and locus of control in Government schools"—the following null hypothesis was formulated "There is no significant relationship between burnout and locus of control in Government schools". Mean scores and standard deviation of burnout and locus of control have been computed for teachers teaching in North-West District of Delhi. The calculated values of burnout with locus of control are shown in Table 1.

Table 1 indicates that the Pearson Correlation between Locus of Control and Burnout is–252*. Thus, it can be inferred that there is a negative significant relationship between locus of control and burnout among teachers teaching in North-West District of Delhi of Government schools. It means that teachers having low level of burnout have an external locus of control i.e., they blame others for their failure. Whereas teachers having high level of burnout have an internal locus of control i.e., they feel responsible for their own success or failure. Therefore, corresponding hypothesis is rejected and reframed as "There is a significant relationship between burnout and locus of control of upper primary teachers teaching in Government schools".

Table 1

Relationship of burnout and locus of control of upper primary teachers teaching in Government schools in North-West District of Delhi

Variables	*Number of Teachers*	*Mean*	*Standard Deviation*	*Pearson Correlation*	*Sig 2 tailed*
Locus of Control	64	8.80	3.814	-.252*	.044
Burnout		72.55	15.483		

**Significant at .05 level*

2. Relationship of Burnout and Locus of Control of Upper Primary Teachers Teaching in Government and Private Schools in North-West District of Delhi

In order to achieve objective 2—"To study the relationship of extent of burnout and locus of control in private schools"—the following null hypothesis was formulated "There is no significant relationship between burnout and locus of control in private schools". Mean scores and standard deviation of burnout and locus of control have been computed for teachers teaching in North-West District of Delhi. The calculated values of burnout with locus of control are shown in Table 2.

Table 2

Relationship of burnout and locus of control of upper primary teachers teaching in private schools in North-West District of Delhi

Variables	*Number of Teachers*	*Mean*	*Standard Deviation*	*Pearson Correlation*	*Sig 2 tailed*
Locus of Control	76	8.92	3.989	-.044NS	.709
Burnout		63.03	19.571		

NS= Not Significant

Table 2 indicates that the Pearson Correlation between Locus of Control and Burnout is -.44NS. Thus, it can be inferred that there is no significant relationship between locus of control and burnout among teachers teaching in North-West District of Delhi of private schools, therefore, corresponding hypothesis is retained. Hence, there is no significant relationship between burnout and locus of control in private schools in North-West District of Delhi.

3. Relationship of Burnout and Locus of Control of Upper Primary Teachers Teaching in Government and Private Schools in North-West District of Delhi

In order to achieve objective 3— "To study the relationship of extent of burnout and locus of control of all teachers teaching in Government and private schools in North-West District of Delhi"– the following null hypothesis was formulated–"There is no significant relationship between burnout and locus of control of all teachers teaching in Government and private schools". Mean scores and standard deviation of burnout and locus of control have been computed for teachers teaching in North-West District of Delhi. The calculated values of burnout with locus of control are shown in Table 3.

Table 3

Relationship of burnout and locus of control of upper primary teachers teaching in Government and private schools in North-West District of Delhi

Variables	*Number of Teachers*	*Mean*	*Standard Deviation*	*Pearson Correlation*	*Sig 2 tailed*
Locus of Control	140	8.86	3.897	-.124NS	.145
Burnout		67.38	18.384		

NS= Not Significant

Table 3 indicates that the Pearson Correlation between locus of control and burnout is -0.124 NS. Thus, it can be inferred that there is no significant relationship between Locus of Control and Burnout among teachers teaching in North-West District of Delhi, therefore, corresponding hypothesis is retained. Hence, there is no significant relationship between Burnout and locus of control of teachers in teaching in Government and private schools, together, in North-West District of Delhi.

Conclusion

The study found that there is a significant relationship between burnout and locus of control of upper primary teachers teaching in Government Schools in North-West District of Delhi. There is a negative relationship between burnout and locus of control. It means that the teachers having high burnout level have an internal locus of control and the teachers having low burnout level have an external locus of control. On the other hand, private schools showed no significant relationship of burnout with locus of control of upper primary teachers teaching in North-West district of Delhi. In terms of Government and private schools, altogether, there is no significant relationship between burnout and locus of control of upper primary teachers teaching in North-West District of Delhi.

Findings contradict (Bevis's, 2008) work where he found moderate correlation between the Rotter IE Scale, which measures locus of control, and the teacher burnout scale. Whereas, present study shows that there is a negative relationship between burnout and locus of control. These findings contradict (Schmitz et.al., 2000), where results support the hypothesised model and suggest greater work-related stress and burnout would be associated with poorer locus of control in nurses. The findings supported the notion that perceived degree of control is instrumental in enabling nurses to cope with stress and burnout. (Srivastava, 2011) contradicts the findings where the outcome derived

from their study do suggests that job burnout has a negative and significant impact on managerial effectiveness. (Padayachee, 1992) contradicts the findings and found no relationship between the personality construct of locus of control and burnout.

REFERENCES

Bakker, A. B. 2000. Burnout contagion processes among teachers. *Journal of Applied Social Psychology,* Vol 30 (11); Nov. pp 2289-2308.

Bevis, A. K. 2008. *Teacher burnout: Locus of control and its correlation to teacher burnout and job satisfaction*. Thesis submitted to The Graduate College of Marshall University.

Boms, S. 2009. Burnout (Illustration by Kevin Cornell) May 26, 2009 State of the web. A list Apart: Articles: Burnout. Issue No. 284. Retrieved from http://www.alistapart.com/articles/bunrout/ ISSN: 1534-0295 copyright @ 1998-2012 A List Apart Magazine and the authors.

Clouse and Whiterkar. 1981. Quoted in Shukla, A. and Trivedi, T. 2008. Burnout in Indian Teachers - *Asia Pacific Education Review*, v9 n3 p320-334 2008.

Edelewich, J. and A. Brodsky. 1981. *Burnout: Stages of disillusionment in the helping professions*. Human Sciences Press, U.S.

Flowers, L. A., H. R. Miliner and J. L. Morre. 2003. Effects of Locus of Control on African American high school seniors' educational aspiration: Implications for Pre-service and In-service high school teachers and counselors. *The High School Journal,* Vol 87(1), Oct-Nov, 2003, Special issue: Addressing the needs of multicultural populations in educational setting: Implications for teachers and counselors. Pp. 39-50.

Freudenberger, H.J. 1974. Staff burn-out. *Journal of social issues*, 30(1), 159-165.

Igbenghu, I. B. and O.S. Popoola. 2011. Influence of Locus of Control and Job Satisfaction on organisational commitment: A Study of Medical Records Personnel in University Teaching Hospitals in Nigeria. *Library Philosophy and Practice 2011*. ISSN 1522-0222.

Kauts, A. and R. Saroj. 2010. Study of teacher effectiveness and occupational stress in relation to emotional intelligence among teachers at secondary stage. *Journal of History and Social Sciences*.Volume: I, Issue: I, July–December.

Kumar, A. and S.N. Srivastav. 1986. "Manual for Rotter's Locus of Control Scale", Kumar Publication, Varansi. P.1-8.

Leiter, M.P. and C. Maslach. 1997. The truth about burnout: How organizations cause personal stress and what to do about it. San Francisco, CA: Jossey-Bass.

Mahajan, N. and J. Kaur. 2012. Relationship between Locus of Control of College Teachers and their job satisfaction. *International Journal of Applied Psychology 2012, 2(5): 98-103 DOI: 10.5923/j.ijap.20120205.04.*

Maslach and Collins. 1977. Quoted in Shukla, A. and Trivedi, T. 2008. Burnout in Indian Teachers - *Asia Pacific Education Review*, v9 n3 p320-334 2008.

Maslach, C., S.E. Jackson and R.L. Schwab. 1986. Maslach Burnout Inventory–Educators Survey (MBI-ES). Mountain View, CA: CPP. Inc.

Murthy, S. R. 2009. Understanding Burnout. *Indian J Psychiatry*, 2009 Apr-June; 51 (2): 165-166.

Nowotniak, P. 2005. *Relationship between supervisor locus of Control and Employee Satisfaction in a Residential Care Facility.* International Handbook of Research on Teachers and Teaching. Part One.

Padayachee, P. G. 1992. *Self- Reported burnout among secondary Indian School Teachers: - Role Related variables and Locus of Control.* University of Durban-Westville.

Schaufeli, B. W., C. Maslach and T. Marek. 1993. *Professional burnout: Recent developments in theory and research.* Chapter 1- Historical and conceptual development of Burnout. CRC Press.

Scheck, D. C. and G. A. Rhodes. 1980. The relationship between junior high school teachers' rated competence and locus of control. *Journal Article – Education*, Vol. 100 N-3, p.p243-248.

Schmitz, N., W. Neumann, and R. Oppermann. 2000. Stress, Burnout and xocus of control in German Nurses. *International Journal of Nursing Studies.* 84 (2), 248.

Shukla, A. and T. Trivedi. 2008. Burnout in Indian Teachers- *Asia Pacific Education Review*, Vol.9, N-3, pp.320-334.

Srivastava, S. 2011. Job burnout and managerial effectiveness relationship: Moderating effects of locus of control and perceived organizational support: An empirical study on Indian managers. *Asian Journal of Management Research.* Vol. 2 Issue 1, 2011.

Sunbul, A. M. 2003. An analysis of relations among locus of control, Burnout and job satisfaction in Turkish high school teachers. *Australian Journal of Education. April 2003.* Vol. 47 no. 1 58-72.

Toppo, R. M. and G. Manjhi. 2011. Burnout among Para-teachers in India. *MPRA (Munich Personal RePEc Achive)* Paper No. 43507 posted 5. January 2013 20:52 UTC.

Waugh, C.K. and M.R. Judd. 2003. Trainer Burnout: The Syndrome Explored. *Journal of Career and Technical Education*, 19(2), 47-57.

Websites used:

1. www.languageinindia.com-14.08.2013
2. Opensiue.lib.siu.edu/…/viewcontent.cgi?..20.08.2013.
3. www.mindtools.com/pages/article/newCDV_90.htm- 20.08.2013
4. www.ncbi.inm.nih.gov/…/articles/…- 25.08.2013
5. www.alistapart.com/articles/burnout/-28.08.13
6. en.wikipedia.org/wiki/Burnout_(psychology)-03.09.2013
7. Http: // hdl.handle.net//0413/2839- 06.09.2013
8. http://mpra.ub.uni-muenchen.de/43507/-12.09.2013
9. ipublishing.co.in /…/EIJMRS 2029.p…-20.09.2013
10. www.iacp.in/…/impact of locus of control.-23.09.2013
11. ibcs.ac.in/madhuchanda_mohanty.php- 25.09.2013
12. scholar.lib.vt.edu/ejournals/…/Waugh.pdf.-28.09.203
13. en.wikipedia.org/wiki/Locus_of_control- 02.10.13

Knowledge of Teachers and Students on Environmental Concerns from Elementary Eco-schools in Cuddalore District of Tamilnadu State

K. Sampath*
T. Sundaramoorthy**

Abstract

Knowledge of 110 elementary teachers and 156 students on environmental concerns was studied from 30 elementary ecoschools in Cuddalore district of Tamilnadu State from August 2006 to July 2007. A test was developed separately for teachers and students with questions under five dimensions namely biology, ecology, water resources, pollution and health & hygiene. The grand mean knowledge score of teachers recorded before interventions was 37.74 per cent and it increased considerably to 72.43 per cent after interventions. The overall mean score of teachers registered in the said five dimensions before interventions was 60.23 per cent, 63.5 per cent, 58.78 per cent, 65.70 per cent and 64.89 per cent, respectively. After interventions, the overall mean scores registered correspondingly for the said dimensions were 92.18 per cent, 89.14 per cent, 84.31 per cent, 87.12 per cent and 86.83 per cent. The grand mean knowledge score of students before interventions was 37.74 and, after interventions, it increased to 72.43 per cent. The overall mean score of the students for the said five dimensions before interventions, respectively was 37.11 per cent, 44.79 per cent, 33.20 per cent, 27.84 per cent and 39.77 per cent and the overall mean scores after interventions were 74.35 per cent, 77.28 per cent, 70.79 per cent, 66.58 per cent and 72.43 per cent. The considerable increase in the knowledge of both the teachers and students on environmental concerns was because of the introduction of the concept ecoschool and by implementing various interventions in the ecoschools.

* District Institute of Education and Training, Vadalur – 607303, Cuddalore District, Tamil Nadu
** C.P.R. Environmental Education Centre, 1, Eldams Road, Alwarpet, Chennai

Chapter 9.indd 117 15-04-2015 AM 11:40:26

Introduction

It is being realised that although adequate concepts on environmental concerns have been given in the textbooks and transacted, it has not succeeded to generate environmental values among student community that may lead to effective action for conservation and further improvement of the environment. It is because of failure on the part of imparting environmental concepts comprehensively at various levels of schooling as a result of lack of adequate competency and commitment among teachers in the area of science in general and environmental science in particular. Further, the reason may also be traced to promoting knowledge alone with the view to preparing students to face examinations. In general, teaching of any subject with the prime notion of imparting knowledge alone will not serve the goal of holistic development of any individual. Especially, in the case of environmental education, the practice of giving importance only on the cognitive domain will lead to preparing children devoid of environmental ethics (Singh, 2003 and Sharma, 2004). It is, apart from promoting knowledge among the children, essential to practise students to enable them nurture right attitudes, values and skills for a sustainable management of the environment (NCERT, 2001; Rajput, 2003 and Ramakrishna, 2003). After family, schools as socialising institutions are most important places to bring about positive behavioural changes in a sustainable manner. Because, it is generally recognised that childhood is the best time for children to learn environmental concerns (Laura, 1998 and Sampath 2007). Sampath (2007) carried out a study with the aim of promoting and evaluating knowledge of elementary teachers and students on environmental concerns from the ecoschools developed in Cuddalore District of Tamilnadu State.

Materials and Methods

Study Area

The present study was carried out from August 2006 to July 2007 by involving elementary teachers from 30 of the 50 elementary ecoschools and students from five of the elementary ecoschools located at the villages viz., Ko. Chatram, Mettukuppam, Nagammalpettai, Ponnankuppam and S. Pudhur in Cuddalore district of Tamilnadu State.

Sampling of Teachers

All the 110 elementary teachers, 51 males and 59 females, working in 30 ecoschools were involved in various interventions, including a two-day training programme conducted for the purpose of enriching their knowledge on environmental concerns.

Sampling of Students

In the conduct of one-day training programme on environmental

education in each of the five ecoschools selected for this study, students from VI, VII and VIII standards numbering 542 with 264 boys and 278 girls were involved. But, to evaluate the knowledge of students on environmental concerns, students of only VII standard, numbering 156, 73 boys and 83 girls were taken up. In the selection of teachers and students, purposive sampling technique was employed.

Development of Tools

To assess the knowledge of teachers and students on environmental concerns the following tools were developed:

Test for Teachers

The test altogether consists of 45 questions under three categories namely, yes/no, multiple choice and fill-in the blanks. The yes / no type category comprised 25 questions under five dimensions namely biology, ecology, water resources, pollution and health & hygiene. The number of questions in each dimension under yes / no type was 5, 6, 4, 5 and 5, respectively. The other two categories, namely multiple choice and fill-in the blank included 20 questions each with 4 questions in each of the said same five dimensions.

Test for Students

Similar to that of the test developed for teachers, a test for students on environmental concerns was developed. The test consisted of altogether 35 questions under three categories namely, yes/no, multiple choice and fill-in the blank. The number of questions in each of the categories was 15, 10 and 10, respectively. The questions were arranged under five dimensions namely, biology, ecology, water resources, pollution and health & hygiene.

All the questions for teachers and students were developed based on the concepts related to environmental concerns given in Classes VI and VII science and social science textbooks of Tamil Nadu State Board. All the questions carried 1 mark each.

Validity of Tools

Before being administered, the tools were given to ten teachers and ten students to elicited their responses. All of them agreed that the content of the items of the tools was valid.

Administration of Tools

With the aim of evaluating the impact of the training programme, the two tests developed were administered to elementary teachers and students of VII standard both before and after the interventions. The pre-intervention test was conducted without prior intimation to the teachers and students on the previous day of the training programme. The post-intervention test was conducted after the training programme was completed.

Eco-schools

With a view to promoting knowledge and developing positive attitudes and values among teachers and students towards the environment, an initiative is being made from 2002–03 onwards in the elementary schools of Cuddalore district of Tamilnadu State by involving them in the environmental education and conservation activities. In a phased manner, in two of the 14 blocks of Cuddalore district, 50 elementary schools are brought under this category. In these schools, which are termed "Ecoschools" based on the availability of open space in the campus, five to 30 saplings belonging to species namely *Pongamia glabra*, *Azadirachta indica*, *Alstonia scholaris, Cassia fistula, Feltophorum ferugenium*, *Atrocarpus heterophyllus*, *Terminalia catappa* and *Mangifera indica* were planted properly with sapling-guards made of bamboo spikes. The estimated cost of planting one sapling was a little over Rs.250/-. In all the 50 ecoschools, so far over 700 saplings were planted and taken care of by forming "Tree-mate" groups involving students. Furthermore, in all the ecoschools management of garbage is being carried out by providing with adequate number of green and red coloured dustbins to enable the teachers in practising the students in source segregation of garbage into degradable and non-degradable ones. Further, in each of the ecoschools, one garbage pit (5 x 5 x 5 feet) was dug for the disposal of segregated degradable garbage. The non-degradable waste is collected from all the ecoschools and sent to nearby Neyveli Lignite Corporation (NLC) for their use in laying roads. The garbage pits are cleaned up at the end of each academic year. In addition to these activities, the teachers from the ecoschools were empowered by giving training on environmental education periodically. Besides, the students from the ecoschools are involved in the observation of important world environmental conservation related events. The promotion of concept of ecoschool has made some desirable change in the performance of the teachers on environment conservation related activities in the schools (Sampath, 2007). Hence, it becomes imperative that the concept of ecoschool may be promoted in a wider perspective across the country and made them functional effectively.

Tree-mate Group

After planting of saplings, "Tree-mate" groups are formed in all the ecoschools. This novel concept is akin to the common terminology of classmate, roommate, etc. In the ecoschools, students from all the classes are made into groups with representation from all the classes. The number of students found in each group in these schools depends on the number of enrolled students and the number of saplings planted

in the ecoschools. Each of these groups allotted one sapling. As the "Tree-mate" group possesses students from Class I to Class VIII, the existence of the "Tree-mate" groups for the planted saplings is made a permanent one with the enlistment of new recruits to fill the gaps arisen due to grade transfer of students in the subsequent years. Such exercise is carried out to create a sense of ownership for the saplings and commitment in tending the saplings. These ecoschools are visited regularly and the performance of "Tree-mate" groups, and the growth of planted saplings are monitored.

Results and Discussion

Knowledge of Teachers

The knowledge of teachers and students on environmental concerns is very crucial for developing desirable attitudes, values and skill for sustainable management of the environment. In the component knowledge, the grand mean (mean of overall mean) score of the teachers recorded in the pre-test was 62.62 per cent. The overall mean score gender wise did not vary greatly and it was 63.6 per cent for male teachers and 61.64 per cent for female teachers (Table 1).

The record of grand mean score of above 50 per cent mark could be construed that teachers were possessed with considerable knowledge on environmental concerns. However, it needs to be further improved. The acquisition of knowledge of above 50 per cent mark could be attributed to involving them in environmental conservation activities through the development of the ecoschools. The enrichment of considerable knowledge among the teachers from the ecoschools is evident when comparing the score with that of teachers from non-ecoschools. In the study conducted by involving teachers from non-ecoschools, it was found out that the grand mean knowledge score recorded was 45.26 per cent (Sampath and Sundaramoorthy, 2007).

After interventions, the grand mean knowledge score of teachers increased to 87.91 per cent, an increase of 25.29 percentage points. Similar to that of pre-test score, here too gender-wise no marked variation in the overall mean score was recorded. The overall mean score of male teachers was 87.40 per cent and that of female teachers was 88.43 per cent (Table 2). The increase in knowledge score could be

Table 1

Percentage mean Pre-test scores of teachers in various dimensions

Gender	*Biology*	*Ecology*	*Water Resources*	*Pollution*	*Health & Hygiene*	*Overall*
Male	62.71	55.44	62.90	65.68	65.68	63.6
Female	57.74	66.00	54.65	65.73	64.12	61.64
Overall	60.23	63.5	58.78	65.70	64.89	62.62

Table 2

Percentage mean post-test Scores of teachers in various dimensions

Gender	*Biology*	*Ecology*	*Water Resources*	*Pollution*	*Health & Hygiene*	*Overall*
Male	91.04	87.90	86.43	86.63	85.03	87.40
Female	93.33	90.39	82.19	87.62	88.63	88.43
Overall	92.18	89.14	84.31	87.12	86.83	87.91

attributed to the impact of innovative teaching strategies carried out in the training programme. Even though the interventions made during the present study period and also interventions continued for the past 12 years enabling the teachers to have improved the knowledge on environmental concerns, their environmental attitudes and practices have not remarkably improved (Sampath, 2009).

Knowledge of Students

The grand mean knowledge score of students registered before intervention was 37.74 per cent. Not much variation in the overall mean score gender-wise was recorded. It was 38.56 per cent for boys and 36.92 per cent for girls (Table 3). The record of grand mean knowledge score of below 50 per cent mark could be adduced to ineffective classroom transactions made as a result of lack of adequate competency and commitment among teachers on environmental concerns. In the study conducted by (Sampath et al., 2005) from Pondicherry region and (Sampath and Sundaramoorthy, 2007) from Cuddalore district, they reported that the mean knowledge score of elementary teachers from non-ecoschools on environmental concerns was well below 50 per cent mark. The record of such a low mean knowledge score of teachers may be considered as an indication of prevalence of similar despicable situation in other non-ecoschools in the same district and perhaps all over the State of Tamilnadu. As teachers are considered as change agents, it becomes very essential for the educational administrators to facilitate in improving further the academic performance of the teachers, including knowledge on environmental concerns by conducting training programmes more effectively so as to enable them to hone up the knowledge of students which is the basis for the formation of right attitudes and values (Rajput, 2003 and Dhawan et al., 2005). With the view to enriching the knowledge of students on environmental concerns, training on environmental education is periodically conducted for elementary teachers from ecoschools under National Environmental Awareness Campaign and also teachers are sensitised during the regular visits to the ecoschools every month. Before interventions, nevertheless, the grand mean score

of teachers registered (62.62 per cent) was well above 50 per cent mark, as the grand mean knowledge score of students recorded (37.74 per cent) was far below 50 per cent mark, no correlation between the knowledge score of teachers and students was found (r = 0.0921).

the students more attentive. The study carried out by (Sampath and Sundaramoorthy, 2003) revealed the preparedness of teachers, especially women teachers in using ICT in the teaching of environmental education at the elementary school level. The effectiveness of ICT in the teaching

Table 3

Percentage Mean Pre-test Scores of Students in Various Dimensions

Gender	*Biology*	*Ecology*	*Water Resources*	*Pollution*	*Health & Hygiene*	*Overall*
Boys	37.77	45.68	41.63	27.52	40.23	38.56
Girls	36.44	43.9	36.77	28.16	39.32	36.92
Overall	37.11	44.79	33.20	27.84	39.77	37.74

After interventions, the grand mean knowledge score of the students increased to 72.43 per cent, an increase of 34.69 percentage points with that of pre-interventions grand mean score. The overall mean score registered for boys was 69.66 per cent and that of girls, it was 75.21 per cent (Table 4). A remarkable increase in the mean knowledge score of students could be attributed to impact of the training programme conducted by following Computer Aided Instructions which, it is perceived, might have made

of environmental science for primary school students was reported by (Paul, 2005). To cope with the fast changing academic environment, the ICT should be introduced right from the primary schools. However, the use of ICT may facilitate merely acquiring and promoting knowledge, the students need to practice rigorously on various aspects of environmental concerns with the notion of transforming the promoted knowledge into environmental attitudes and values and ultimately the desirable behaviour.

Table 4

Percentage Mean post-test scores of students in various dimensions

Gender	*Biology*	*Ecology*	*Water Resources*	*Pollution*	*Health & Hygiene*	*Overall*
Boys	73.34	75.12	69.83	64.7	73.33	69.66
Girls	75.36	79.45	71.76	68.45	81.01	75.21
Overall	74.35	77.28	70.79	66.58	77.17	72.43

Knowledge of Teachers and Students in Different Dimensions

Before the interventions, the difference in overall mean scores of teachers among the dimensions studied varied from 58.78 per cent to 65.70 per cent (Table 1). The lowest overall mean score was recorded in the dimension "Water Resources" and higher mean score was registered in the dimension "Pollution". After interventions, the registered overall mean score varied widely with minimum overall mean score of 84.31 per cent recorded in the dimension "Ecology" and the maximum overall mean score of 92.18 per cent was registered in the dimension "Biology" (Table 2). Similarly, for the students the overall mean knowledge score registered before as well as after interventions was the lowest for the dimension "Pollution" and highest for the dimension "Ecology" (Tables 3 & 4).

Biology

In this dimension, the registered overall mean pre-test score of teachers was 60.23 per cent. Between genders, the mean score of male teachers was 62.71 per cent and that of female teachers it was 57.74 per cent (Table 1). After interventions, a remarkable increase in the overall mean score was recorded and the score being 92.18 per cent, an increase of 31.95 percentage points over the pre-test score. The mean score registered for male and female teachers was 91.04 per cent and 93.33 per cent, respectively (Table 2).

The overall mean score of students registered before interventions was 37.11 per cent. The mean score of boys was 37.77 per cent and that of girls was 36.44 per cent (Table 3). After interventions, the overall mean score increased to 74.35 per cent an increase, of 37.24 percentage points over the pre-test score (Table 4). In the post-test, the girls outperformed boys and the mean score being 75.36 per cent and 73.34 per cent, respectively (Table 4).

Ecology

The overall mean pre-test score of teachers registered for the dimension "Ecology" was 63.5 per cent. A marked variation in the mean score of male and female teachers was recorded. The mean score registered for male teachers was 55.44 per cent and that of female teachers was 66 per cent (Table 1). After interventions, the overall mean post-test score increased considerably to 89.14 per cent, an increase of 25.64 percentage points over the score recorded in the pre-test. The variation in mean post-test score scores between genders was narrow and the mean score of male and female teachers was 87.90 per cent and 90.39 per cent, respectively (Table 2).

The overall mean knowledge score of students before interventions was 44.79 per cent (Table 3). As said elsewhere, this is the highest overall mean score recorded amongst all the five dimensions. Even though

the overall mean score was below 50 per cent mark, only in this dimension two schools crossed 50 per cent mark. The overall mean score registered gender-wise was minimal and it was 45.68 per cent for boys and 43.9 per cent for girls. After interventions, the overall mean score increased remarkably and it was 77.28 per cent, an increase of 32.58 percentage points with that of the score of pre-intervention period. Similar to that of pre-test, no marked difference in mean score was recorded between genders (Table 4). The considerable increase in the knowledge score of students could be attributed to innovative and attractive teaching strategies adopted in the study.

Water Resources

The overall mean pre-test score of teachers recorded in this dimension was 58.78 per cent. Between genders, a marginal variation in the mean score was recorded and the score being 62.90 per cent for male teachers and 54.65 per cent for female teachers (Table 1). After interventions, the overall mean score recorded was 84.31 per cent, an increase of 25.53 percentage points higher over pre-test score. In the post-test also, the male teachers outperformed female teachers. The mean score of the former was 86.43 per cent and that of the latter was 82.19 per cent (Table 2).

The overall mean knowledge score of students registered before interventions was 33.20 per cent. A marked variation in the mean score gender-wise was recorded and score being 41.63 per cent for boys and 36.77 for girls (Table 3). Among the schools studied, no school had recorded above 50 per cent mark, indicating that performance of students on this dimension needs to be further improved. After interventions, the overall mean score increased considerably and the registered score being 70.79 per cent. The impact of interventions is explicit from the increase in the overall mean score by 37.59 percentage points over the pre-test score. The difference in mean score gender-wise was minimal and it was 1.93 percentage points achieved higher by girl (Table 4).

Pollution

The overall mean pre-test score recorded for the teachers in the dimension "Pollution" was 65.70 per cent. No variation in the mean score of male and female teachers was recorded and the difference in scores between genders was only 0.5 percentage points higher registered by female teachers over the male counter parts (Table 1). After interventions, the overall mean knowledge score registered was 87.12 per cent, an increase of 21.42 percentage points over the pre-test score. The difference in mean score gender-wise was minimal with 0.99 percentage points higher score achieved by female teachers (Table 2).

The overall mean score of students registered for the dimension "Pollution" before intervention was the lowest of all other dimensions and it was 27.84 per cent. The difference in mean score registered gender-wise was negligible and it was 0.64 percentage points obtained higher by girls (Table 3). The overall mean score, after interventions, increased considerably and it was 66.58 per cent, with an increase of 38.74 percentage points over the pre-test score. The mean score gender wise differed by 3.75 percentage points achieved higher by girls (Table 4).

Health and Hygiene

The overall mean pre-test score of teachers recorded for the dimension "Health & Hygiene" was 64.89 per cent. The mean score of male and female teachers registered was 65.68 per cent and 64.12 per cent, respectively (Table 1). After interventions, the overall mean score increased to 86.83 per cent, an increase of 21.94 percentage points over the pre-test score. The difference in mean score between genders was narrow and it was 3.6 percentage points achieved higher by female teachers (Table 2).

The overall mean knowledge score of students registered for this dimension before interventions was relatively high and being 39.77 per cent. The difference in mean score gender-wise was negligible and it was less than one percentage point (Table 3). Similar to that of all other dimensions, here too the performance of students was found to have increased considerably after interventions and the overall mean score registered was 77.17 per cent with an increase of 37.4 percentage points over pre-test score. The difference in mean score gender-wise was 7.68 percentage points achieved higher by girls (Table 4).

Generally, in all the dimensions the performance of students was not highly satisfactory. The prevalence of such a despicable situation may be attributed as a cause for the continued degradation of our environment in many fronts. Even though improvement in the knowledge score was achieved considerably after interventions, such an increase in knowledge among students which was made through single-shot training will be unsustainable in nature. Hence, to achieve sustainability in the knowledge of students, the classroom transactions need to be made more effective. The activity-based teaching was found to be efficient in the teaching of environmental concepts as reported by (Satapathy and Dash, 2003) and (Jain, 2004). Further, the "National Green Corps" which has been introduced in secondary and higher secondary schools levels, especially in Tamilnadu State needs to be implemented in elementary schools also and all measures should be put in place to ensure its proper functioning.

Conclusion

The knowledge of teachers and students on the environmental concerns is crucial for sustainable management of the environment, as the knowledge is the basis for the formation of attitudes, values and skills amongst them. The various interventions made in the present study offered desirable impact on both the stakeholders is known from the increase in the knowledge scores of both the teachers and students. After interventions, the increase in grand mean knowledge score of teachers registered was 25.29 percentage points. In the case of students, the increase in grand mean knowledge score recorded was far higher than the score recorded for teachers and it was 34.69 percentage points. Even though, conduct of training programme helped promote the knowledge of teachers and students, the transformation of knowledge into right attitudes, values and behaviour could be achieved to the desired level only after sustained interventions for many years.

REFERENCES

Dhawan, S., L. Rawat and V. Sharma. 2005. Environmental education in pre-service teacher education, *Journal of Indian Education*. Vol. XXXI, No.2., pp.29-44.

Jain, M. 2004. Teaching of science at the elementary stage: Observation from a qualitative study *Journal of Indian Education.* Vol. XXIX No.2 pp.7–22.

Laura, 1998. Promoting environmental learning at school. Online. "The Green Lane", Environment Canada, http://www.ec.gc.ca

NCERT. 2001. Environmental Orientation to School Education – A training module for southern region. National Council of Educational Research and Training, pp.199. New Delhi.

Paul, Vincent De, S. 2005. Improving the achievement level of standard III children in EVS through power point. In: Proceedings of Quality Dimension Initiatives: Action Research and Innovative Practices, DEP-SSA, New Delhi. pp. 40-49.

Rajput, J.S. 2003. The values context in environmental education. *Journal of Value Education*. Vol.2, No.2, pp.5-13.

Ramakrishna, A. 2003. A study of environmental awareness among high school students. *Journal of School Science* Vol. XLI No.2, pp. 78–90.

Sampath, K. 2007. Ecoschool – A viable strategy for sustainable environment. *Newsletter*, Vol.7., No.1 pp. 2-13. District Institute of Education and Training, Vadalur.

_____. 2009. 'Improvement of Low Performing Ecoschools with Special Focus on Community Participation in Cuddalore district.' Research project report. Directorate of Teacher Education, Research and Training, pp. 150. Chennai.

Sampath, K. and T. Sundaramoorthy. 2003. Attitude of women teachers towards ICT-mediated environmental education in schools. Proceedings of the International Conference on "Women in the Digital Era: Opportunities and Challenges" Annamalai University, pp. 230–237.

_____ 2006 a. Development of Knowledge and attitude among primary school children on environmental concerns. In: Proceedings of National Conference on Environmental education (Abstract), Indian Environmental Society, pp. 16–17. New Delhi.

_____ 2006 b. Promotion of knowledge and attitudes among primary school children on some aspects of environmental concerns. In: Proceedings on "Innovative monitoring strategies for quality elementary education" IGNOU, New Delhi.

_____ 2007. Educational efficacy of elementary teachers on environmental concerns from Cuddalore district of Tamil Nadu. In: Proceedings of 94th Indian Science Congress: Annamalai University, Annamalai Nagar. Section - Anthropological and Behaviour Sciences. p. 55.

Sampath, K., T. Sundaramoorthy and V. Ramalingam. 2005. Educational efficiency of elementary teachers on environmental concepts – A study from Pondicherry region. In: Proceedings of Quality dimensions initiatives: Action Research and Innovative Practices, pp. 140–151. DEP–SSA, New Delhi.

Satapathy, M.K. and D. Dash. 2003. Activity-based classroom transaction and durable learning. *Journal of Indian Education.* Vol. XXVIII, No.4 pp. 69 – 81.

Sharma, R.C. 2004. Implications of environmental education in teacher education. *Journal of Indian Education.* Vol. XXX No.1, pp.5-13.

Singh, Man Mohan. 2003. School education vis-à-vis environmental values. *Journal of Value Education.* Vol.2, No.2, pp.56-73.

Al-Ghazzali – As an Educational Thinker

Najmah Peerzada*

Abstract

Al-Ghazzali was one of the greatest philosophers, thinkers and educationists. His philosophy of education laid stress upon the development of personality in which one should also know oneself. He wanted such type of education which would help a person to know himself and his relationship with his God and world. Therefore, education must contribute to the all round development of each individual—mind and body, intelligence, sensitivity, aesthetic sense, personal responsibility and spiritual values. All human beings must be enabled to develop independent critical thinking and form their own judgment. We find Al-Ghazzali forestalling Descartes method of doubt, Hume's skepticism, Kant's criticism of pure reason and the spiritual empiricism of some of the philosophers of religion of our own times.

Introduction

Abu-Hamid Ibn Mohammad al-Tusi al-Shafi Al-Ghazzali was born in A.D. 1058 in Khorasan, Iran. His father died when he was still at a very young age. But he had the opportunity of getting education in the prevalent curriculum at Nishapur and Baghdad. He acquired a high standard of scholarship in religion and philosophy and was honoured by his appointment as a professor at the Nizamiyah University of Baghdad.

Al-Ghazzali was one of the original thinkers not only in the history of Muslim philosophy but also in the history of human thought.

He was one of the leading Muslim thinkers who adhered mainly to the Sunnites, Ash–arites and sufis. He strongly opposed the Shi'ites, the mutazilites, the literalists and part of the theories of his contemporary philosophers. He has been sometimes acclaimed in both East and West as the greatest religious authority of Islam after the Prophet Mohammad (Peace be upon Him) and is by no means unworthy of this dignity. Muslims have given him the title of the Proof of Islam (hujjat–ul-Islam)

* *Assistant Professor,* Faculty of Education University of Kashmir (J&K).

and armament of religion (Zaynad-din). The period in which Al-Gazzali lived was marked by ferment in religious thought as well as in political conditions. Al–Ghazzali was born and bred in true Islamic environment. He made a determined bid to fight the forces of disruption in Islam at the intellectual level. He adopted teaching as his profession and imparted instruction in Islamic science.

His Philosophy

He was one of the greatest philosophers similar to the Western philosophers like Socrates, Plato Descarts, Kant, Hume and John Lock. He has advocated that revelation is essential to recognise the reality and that is granted to the Messengers of God only by Almighty Allah.

Ghazzali's major contribution lies in religion, philosophy and sufism. A number of Muslim philosophers had been following and developing several view-points of Greek philosophy including the Neo-Platonic philosophy. In philosophy, Ghazzali upheld the approach of mathematics and science as essentially correct. However, he adopted the technique of Aristotelian logic and the Neo- Platonic procedure and employed these very tools to lay bare the flows and lacunas of the then prevalent Neo-Platonic philosophy and to diminish the negative influence of Aristotelians and excessive rationalism.

Al-Ghazzali's ethical philosophy is based on the theory that the fundamental elements of human nature, i.e reason, self-assertion and a petition must work together in harmony observing the golden mean and under control of reason. In this case, virtues are produced. Further, he says that virtuous life is characterised by supremacy of the rational self and complete surrender to the will of God. Every act of a virtuous man is motivated by the desire to please God and to be near Him.

Al-Ghazzali divides virtues into two broad categories:

(a) Those which are means to higher ends such as repentance, patience, fear of God and piety, etc.

(b) Those which are means as well as ends, such as Absolute reliance on God (Twakkul) and thankfulness to God (Shukr).

Al-Ghazzali further says that knowledge has two aspects – the theoretical and the practical. The theoretical knowledge helps in the comprehension of transcendental world i.e. knowledge of God and mysteries of creation, etc. Thus, it includes metaphysics and the sciences. The practical knowledge lies in human conduct. The sciences are of two kinds viz, the religious sciences (Shariyya) and the intellectual sciences or philosophy (Aqliyya). The study of religious sciences is obligatory (Fard-Ain)

for all Muslims. While the study of philosophy and other sciences is obligatory for some people (Fard Ki faya), study of the former is obligatory for all Muslims because they are means of purification of soul which is ultimate end. The study of the latter is not binding on every Muslim if there are sufficient people to study these sciences to satisfy the needs of the community.

His Educational Philosophy

Al-Ghazzali has propounded his philosophy of education on the basis of his personal experience. His philosophy is very much similar to the philosophy of Plato. His philosophical thoughts and ideas had a considerable effect on education and his writings served to introduce logical thinking into the education thought. He has advocated that revelation is essential to recognise the reality and that is granted to the Messengers of God only by Almighty.

According to Al-Ghazzali, it is the prime duty of Muslims to reach reality through knowledge in accordance with Holy Quran. It is necessary to have religious vigour. He considers human mind as a simple slate that the teacher brushes. The understanding of Quran concerns not only the meaning and significance of its verses but also several broad problems related to it as a whole.

Al-Ghazzali's concept of knowledge represents the nature of knowledge in Islam. He believed that man has been endowed by God with all the powers needed for the acquisition of knowledge of ultimate reality. This knowledge was derived through the intellect which is the innate rational faculty of man and which distinguishes him from animals. The highest form of knowledge is spiritual knowledge. This knowledge depends on intuition as well as effort. When man acquires this knowledge it is necessary that man should control his lower faculties, such as appetite, anger and self assertion.

Al-Ghazzali's aim of education was the development of character which includes the promotion of moral and ethical qualities such as obedience, humility, simplicity abhorence of vice like pride, love of wealth and lying means, complete surrender to the will of God, reliance on God and thankfulness to Him.

The most important aim of education was to instil in the minds of the pupil the belief and ideas for which Islam stands. Al-Ghazzali entrusted the responsibility of training of the children to parents and teachers and they are held responsible for the shortcomings of the children under their charge.

Education is to draw out, not to cram, to unfold the capacities of the growing mind, strengthen the reasoning faculty, create an interest in the surrounding universe, in a world to excite a love of knowledge and impart the means of acquiring it. No educational system operates in a vacuum; it works in a given social, political and ethical milieu and supplies the required trained

manpower to community to run its profession.

The distinguishing feature of Islamic education is the place it gives to the Holy Quran and Hadith (Sunnah). The Holy Quran is the complete and final revelation so that it suffices for man's guidance and salvation and there is no other knowledge except based upon it and pointing to it that can guide and save man.

Al-Ghazzali makes it clear that intellect is the source and fountain head of knowledge as well as its fountain. Knowledge springs from it as the fruit from the tree, light from the sun and vision from eye.

True knowledge in Al-Ghazzali's views is knowledge of Almighty Allah, his books, his Prophets, the kingdom of earth and heaven as well as the knowledge of Shariah.

Al-Ghazzali had determined the aims and objectives of education in accordance with Islamic way of life. According to him, the objective of education is utility. His utility theory consists of individual as well as social phenomena. The objective of education is formation, construction and completion of manners so that man can distinguish between good and bad and abstain from evil. It will formulate the character of individual and reform the society.

The concept of curriculum by Al-Ghazzali is dynamic and flexible. He accepts spiritual as well as material curriculum for the students. If we go through procedures of teaching of Imam Ghazzali, we find that these very procedures have been suggested by modern western educational experts also. Imam Ghazzali has suggested that teachers should have full command over the subject matter when they go to the class. They should teach the lesson with active co-operation and participation of the students. He emphasised the importance of previous knowledge of the students. Teacher should have love and sympathy for his pupils and should be embodiment of good manners and may emulate his example and thus, indirectly he should mould their personality. Teacher has to practice what he preaches.

Imam Ghazzali has also given great importance upon physical education of the child because physical health is required for mental health. He advocated for proper physical growth and development of the children. Imam Ghazzali was in agreement with the saying "sound mind in a sound body".

Conclusion

Thus, it can be safely said that Imam Ghazzali had given thinking to the educational philosophy and problems in his days. Al-Ghazzali made major contribution in religion, philosophy and sufism. He discussed in detail the issues like reality or truth, human nature, mind and knowledge etc. His point of view and suggestions are very much similar to those which are presented by western thinkers and educationists.

REFERENCES

Ahmad, M. 1990. *Islamic Education: Redefinition of Aims and Methodology*. Qazi Publishers and Distributors, New Delhi.

Ahmad, M. M. 2005. *Encyclopedia of Islam.* Anmol Publication, Delhi.

Ahmad, S. 2004. *Islamic Education.* Anmol Publication Pvt. Ltd. New Delhi.

Alavi, S.M. Z. 1988. *Muslim Educational Thought in the Middle Ages*. Atlantic Publishers and Distributors, New Delhi.

Arnold, T.W. 1965. *The Preaching of Islam*. Lahore.

Attas, S.M.N. 1979. *Aims and Objectives of Islamic Education*. Islamic Education series, Hodder and Stoughton King Abdul Aziz University.

Deboer, T.J. (Tr. Edward R. Jones). 1903. *The History of Philosophy in Islam*. Cosmo Publication, Darya Gunj, New Delhi.

Fakhrey, M. 1983. *A History of Islamic Philosophy*. Colombia University Press.

Faris, N.A. 1962. (Trans) *Al- Ghazali's Book of Knowledge*, International Islamic Publishers, Saket, New Delhi.

Field, C. 1979. (Trans) *The Al-Chemy of happiness*, Kashmir Bazar, Lahore.

Field, C. 1979. (Trans) *The confessions of Al-Ghazzali*. Sh. Mohammad Ashraf Kashmir Bazar, Lahore.

Gaeirdner, W.H.T. 1981. *The Niche of Lights*. Kitab Bhawan, New Delhi.

Gillani, S.M.Y. 2002. *Knowledge – An Islamic Weapon.* Institute of Islamic Thought, Rawalpora Srinagar, Kashmir.

Karim, M.F. 1995. *Ihya 'Ulun-al-din* (Vol. I – IV) Islamic Books, New Delhi.

Khan, M.M.A. 1978. *Islam on Origin and Evolution of Life*. Idarah-i-Adabiyat, Delhi.

Khan, M.S. and A.S Muhammad. 1994. *Muslim Philosophy and Philosophers*. Ashish Publishing House, Delhi.

Masoodi, T. 2007. *Al-Ghazzali and Iqbal their Perspectives on Education*. Iqbal Institute, University of Kashmir.

Nadwi, M. 1946. *Muslim Thought and its Sources*. Idarah-i-Adabiyat, Delhi.

Nawab, M. 1988. *Some Religious and Moral Teaching of Al-Ghazzali Nusrat Ali Nasri*. Kitab Bhawan Publishing, New Delhi.

Nicholson, R.A. 1930. *Literary History of Arabs*. Cambridge

Qayoom, A. 1972. (Trans) *Letters of Al- Ghazzali*. Kitab Bhawan Pub. Nusrat Ali Nasri.

Qazi, M.A. 2000. *A concise dictionary of Islamic terms.* Kitab Bhawan Publishing, New Delhi.

Rafiabadi, H.N. 1998. *Muslim Philosophy and Science – An Introduction.* Cosmos Computers and Publications. Karan Nagar, Srinagar.

Rafiabadi, H.N. 2001. *Muslim Philosophy Science and Mysticism.* Saroop and Sons, New Delhi.

_____. 2000. *Al- Ghazzali and Western Thought*. Adam Publishers and Distributors, Delhi.

_____. 1991. *Some Aspects of Islamic Thought*. Sayam Publications, Dean Market, Main Chowk, Sopore.

Ross, J.S. 1942. *Ground work of Educational Thought*. Calcutta Oxford University Press.

Sharif, M.M. 1961. *A History of Muslims Philosophy*. Lahore

Sheikh, M.S. 1994. *Studies in Muslim Philosophy*. Adam Publishers, Delhi.

Tedesco, J.C. 1994. *Thinkers on Education*, United Nations Educational Scientific and Cultural Organization.

Umarruddin, M. 2001. *Some Fundamental Aspects of Iman Ghazzali's Thought*. Adam Publishers and Distributors, Delhi.

_____. 1996. *The Ethical philosophy of the Al-Ghazzali*. Adam Publishers and Distributes, Delhi.

Venkataiah, N. 1998. *Value Education*. APH Publishing Corporation, Daryaganj, New Delhi.

Watt, W.M. 1985. *Islamic Philosophy and Theology: An Extended Survey*, Edinburg University Press.

Watt, W.M. 1953. *The Faith and Practice of Al-Ghazzali.* London, Allen and Unwin.

Journals

Aligrah Journal of Islamic Philosophy. Department of Philosophy, Aligrah Muslim University.

Hamdard Islamicus. Hamdard Foundation, Pakistan.

Islamic Quarterly. The Islamic Cultural Centre and Central Mask 146 Park Road, London NW 87RG, England.

Journal of Islamic Studies. Oxford University Press.

The Americans Journal of Islamic Social Sciences, Jointly published by the Association of Muslim Social Scientists and the International Institute of Islamic Thought.

Collection Management in Senior Secondary School Libraries — An Analytical Study

Debabrata Das*
R. K. Mahapatra**
Suraj Panigrahi***

Abstract

The article states the status of the CBSE affiliated senior secondary school libraries and brings out the history and system of school libraries in Bhubaneswar, Odisha. It mentions the support and contribution of government and non- government organisation for the development of the CBSE affiliated school libraries. It also highlights the salient features of CBSE affiliated school libraries of Bhubaneswar. It also reflects on activities of school librarians for the development of school libraries in Bhubaneswar city.

Introduction

Education and library services are two inseparable elements. The importance of a secondary school library cannot be ignored. Among the three main functions of a library viz. collection, storage and dissemination of information, collection occupies the most pivotal position, as the document collection gives library a character more than either staff or building. Unless a library possess adequate recent collection of documents (both books and non–book materials) supplemented with latest reference and bibliographical tools, including electronic resources, it cannot serve its clientele. This is considered as the prime duty of every library and the librarian. As such, the librarian has to develop an effective collection for students and teachers through her/his professional competence coupled with the established philosophy of collection development and management.

* *Librarian,* SAI International College of Commerce and Economics (SICC), Bhubaneswar, Odisha
** *Professor* and *Principal,* College of LIS (Berhampur University) SMIT, Ankushpur (Gm.), Odisha
*** C/o K.C. Panigrahi, Palace Line, Near WESCO Office, Balangir, Odisha

Chapter 11.indd 135 15-04-2015 AM 11:41:11

Statement of the Problem

Ever since the dawn of library and information system in India, there has been a significant change in the scope of collection development. The activities have broadened, the function of libraries has transcended beyond the community, regional and national missions, the basic aim being the all round development of the individual, both in terms of her/his educational attainment and personality development. The collection development policies, programmes, evaluation, procedures, techniques of collection development and tools considerably influence utility and image of the concerned school library. Unfortunately, such ideal condition does not prevail in the school libraries for many reasons. This is especially pertinent to the collection development policies adopted by the secondary schools in the country. The problems of collection development are creational mainly from three basic reasons viz. inadequate financial resource; non–availability of the right kind of materials in the market and shortage of accommodation for keeping the library holdings; added to these, problems of the emerging changes in the user needs and the requirements of fresh procurement from time-to-time

Pupils of senior secondary schools, who shoulder the responsibility of nation building of future world, form a very dynamic and potential group of library users; need a strong foundation of education and vision with informative bent of mind. This phenomenon urges the need for assessing and evaluating library collection, examining their collection policy, and the type of library resources and services, which would be of great help to reshape these secondary school libraries.

Aims and Objectives of the Study

The collection should be adequate, effective and need–based; otherwise it may spoil the academic pursuit. The study on collection development leading to senior secondary school libraries of Bhubaneswar, therefore, will be of immense help. In this context, the primary objectives based in the present context are summarised as—

i to examine, how library collection helps the user-services in the present scenario of senior secondary school libraries.

ii to assess the utility of the library resources in terms of documents to satisfy the curriculum needs;

iii bring out the concept of collection development in senior secondary school libraries;

iv to find out possible solutions to the problems, encountered at the time of investigation; and

v Suggestions there to, for betterment of collection development programme in

the senior secondary school libraries of Bhubaneswar.

Scope and Limitations of the Study

The present study is primarily concerned with the quantitative as well as qualitative judgment of the existing state of library collection development of senior secondary schools of Bhubaneswar. The present study has been conducted in three major fields, namely a) The type of reading material in the library; b) The community served, and c) The purpose of collection. The scope of the present investigation is however limited to:

i this investigation includes the libraries of those senior secondary schools in the city of Bhubaneswar, which are affiliated to CBSE only.

ii the period of collection development of libraries till 2012.

iii the study covers only that information which is directly related to collection development of reading material in libraries.

Sample

Information to be collected from 13 libraries of senior secondary schools affiliated to CBSE, scattered geographically all over the Bhubaneswar city, constitutes the major database for the present investigation. The 13 Senior secondary schools consists of 10 public schools managed by private bodies and 3 Government schools- Kendriya Vidhyalaya, Sainik School and D. M. School one each.

Methodology and Data Collection Tools

A survey methodology with structured questionnaire followed by interviews with the librarians administered as appropriate tools of obtaining needed data from the 13 senior secondary school libraries affiliated to CBSE in Bhubaneswar city. The relevant data collected get classified, tabulated and then statistically treated to draw inferences. Besides that, a number of information sources were also consulted so as to achieve the survey objectives.

Analysis and Interpretation of Data

In the context of the present investigation, the tasks, such as sample selection and size, data collection methods, instrumentation, procedures, and ethical requirements and responses from the libraries were analysed and interpreted as to find the results as:

1. The Profile of the Schools

There are 11 (85 per cent) schools established before 2000, after this 2 schools came in. D.M School and Sainik School are the oldest schools established in 1964, SAI International School being the latest

(established in 2008). The type of management and governance show that, majority of 08 (62 per cent) schools i.e. out of 13 are managed by private bodies, and 05 (38 per cent) schools were managed by the government, Thus, the above background information becomes an indicator for an imbalance state of resources between these schools.

(i) Mode of Communication Available

In the IT age, 'communication' is considered a symbol of status and determines the image of an institution, state of services expected. Information pertaining to the type of communication technology elicited responses under four different modes of communication systems, all the sampled schools have websites, email, phone and fax services, which is quite encouraging.

(ii) Students' Strength

The strength of pupils determines the resourcefulness of an institution or expected to be. The elicited responses show the highest strength D.A.V. Public School Unit – VIII 2790 and the least being K.I.I.T. International School 349.

(iii) Status of the Librarians

Librarian is the true guide and facilitator of information and plays a curial role in successful functioning library. Information pertaining to the status of librarian along with details of the supporting staff, all the 13 (100 per cent) libraries have trained librarians and 5 of them have two or more trained librarians each, which is quite encouraging. However, the state of supporting staff is disappointing, as all the schools have only one or no support staff. 4 (31 per cent) schools have teachers as in-charge of the library.

(iv) Major Sources of Library's Finance

Finance is key to the success, and library being a non-profit institution, is not an exception to this dictum. The elicited responses received pertaining to the sources of finance under three broad categories, major sources of finance 'students fees' and lump sum amount sanctioned by the management in 07 (54 per cent) out of 13 schools surveyed, surprisingly, none of the 13 (100 per cent) schools receives any grant from any other sources.

(v) Fund Allocation for Library

A balanced and equitable allocation of funds provides good dividend to the library users. The decision for such allocation rests with different authorities. Erratic distribution leads to inconsistency, contrary to or inadequate for the users' interest. The allocation of funds found that the principals play a major role in allocating the funds. In 11 (85 per cent) schools, the principals were the decision makers 2 (15 per cent) have school committees allocating the funds. No school librarian plays

a decisive role in allocation of funds.

(vi) Use of Classification Schemes

Classification helps a user to identify and locate a document on the shelves, documents procured in a school library are classified and the specific scheme used in classifying the documents. 9 (69 per cent) of school libraries follow the DDC (Direct Digital Control) classification scheme, and the remaining 4 (31 per cent) follow their own classification schemes for the convenience of their users.

(vii) Cataloguing Codes Used

Cataloguing helps to meet the multifarious approaches of the readers, and provides the status of documents. Majority (69 per cent) follow AACR-2 code for the purpose of cataloguing and the remaining are using their own cataloguing codes for the sake of convenience.

(viii) Charging and Discharging of Documents in use

Lending of documents is one of the most conventional and basic services. Responses were collected under three broad options as depicted under for necessary statistical interpretation and analysis demonstrates 7 (54 per cent) follow conventional ledger system while 3 (23 per cent) follow computerised system; 2 (15 per cent) follow two-card system whereas only one (8 per cent) school follows both the card system and computerised system.

(ix) Mode of Access to Documents

Open access to documents play optimal utilisation of library resources, users get their desired materials directly. Open access also saves time. The elicited responses provided by the libraries depicted for necessary statistical interpretations, 13 (100 per cent) followed the open access system.

(x) Opening Hours of Libraries

Opening hours lead to greater use of library. The responses pertaining to the duration of opening hours are depicted for necessary interpretation, 7 (54 per cent) schools keep their libraries open for 6 to 7.5 hours, followed by 5 (38 per cent) schools kept open for 8 to 9 hours. Surprisingly, 1 opens for 13.5 hours, which is quite encouraging.

(xi) Services Provided

A school library is known by its services. The extent of popularity, usability, credibility and effectiveness of library, depends upon the timely, need-based, qualitative and user-friendly services. All the respondents of the sample i.e. all 13 (100 per cent) schools provide library books for home reading, in-house reference and newspaper clipping services; followed by 8 (62 per cent) schools provide internet service; 7 (54 per cent) schools provide photocopying service to their users; 5(38 per cent) provide reference service; 3 (23 per cent) provide serial and 2 (15 per cent) provide bulletin board service.

2. Library Collections Text (Print Format)

Collection development programme in the print format, in a senior secondary schools, mainly constitute of textbooks, reference books, maps and atlases, reports, Govt. publications and other such forms. Nine (69 per cent) libraries have a collection of less than 3000 textbooks in their respective collection; followed by 3 (23 per cent) a collection between 8000-10000 books; 1 (8 per cent) having collection of more than 10000 to its credit.

3. Library Collections Reference (Print Format)

Five (38 per cent) school libraries have a reference collection of less than 5000; followed by 4 (31 per cent) more than 10000 volumes; and 4 (31 per cent) between 5000 and 10000. The collection of back volumes found as 9 (69 per cent) have up to 2000; other 4 (30.76 per cent) do not go for back volumes. In manuscript collection, almost all the schools say no 12 (92 per cent) out of 13; only 1 (8 per cent) school library has a manuscript collection of less than 300 in number. Collection of cartographic materials in school libraries indicate that, 7 (54 per cent) not respond to the question making the analysis inconclusive; followed by 6 (46 per cent) libraries have cartographic up to 500 numbers. About Reports, it is found 11 (85 per cent) school do not include reports in their respective collection, while the remaining 2 (15 per cent) included. On the contrary, 12 (92 per cent) out of 13 libraries, reported to have not included collections as no data to this effect has been furnished by them, whereas only 1 (8 per cent) that goes for reprints collection of 254 reprints. Government publication find place in the collection indicate, 3 (23 per cent) out of 13 libraries opt for Government publications whereas, the remaining 10 (77 per cent) do not. In newspaper clippings it is found that 7(54 per cent) school libraries do not include newspaper clipping; whereas rest 6 (46 per cent) keeps newspaper clippings in their library collection. Surprisingly, none of the schools surveyed seems to have adopted standards. The print format in the library collection, however, consists of all the items mentioned above. The study further revels that 9 (69 per cent) schools have acquired documents in print formats between 10000 and 30000 and the rest 4 (31 per cent) having less than 10000. Thus, the overall state of print format collections in these secondary school libraries appear to be moderate as 13 schools together possess 51954 volumes of textbooks, and 96452 reference volumes, thereby, each of the schools, on an average, has a collection of 3996 volumes of text-books and 719 reference volumes. It is, therefore, clear that the secondary school libraries have to give more stress on reference volumes than text-books.

4. Collection of Non-book Materials

Non-book materials, which large special libraries today, are generally gaining space in almost every library system, for the school libraries underestimates. Non-book materials responses are depicted as:

CD-ROM today occupies an important place in school libraries like their book counterpart, 9 (69 per cent) school libraries procure CD-ROM for their libraries; whereas rest 4 (31 per cent) schools not yet adopted to library collection. Audio-cassettes are gaining popularity, yet 7 (54 per cent) schools do not include audio-cassettes in their collection policy; whereas 6 (47 per cent) opt for the same in collections. Collection of video-cassettes, the study reveals that, 7 (54 per cent) have included video cassette; other 6(47 per cent) school libraries have not included. Collection of DVD a more sophisticated version of the CD-ROM in the school libraries, found that 7 (54 per cent) school libraries have included DVD in their library collection and the other 6 (47 per cent) school libraries do not included them in their library collection. Floppy diskettes**,** that are educational in nature, also find place in the school's collection programmes, even though, it is a powerful and popular backup storage medium yesterdays, all the 13(100 per cent) schools surveyed do not have floppy diskettes. Microfilms, Microfiche also do not find place in the collection of school libraries, including slides also receive a support. On the whole, while considering the overall electronic formats used in the sample libraries observed, schools have given less important place to the documents in electronic formats for their library collection.

5. Magazine and Newspaper Subscriptions

Magazines and newspapers are the most important publications as they carry nascent information elicited responses pertaining to the collection of magazines and newspapers are depicted for necessary statistical interpretation and inference.

6. Pattern of Service Provided

As about magazines and journals indicates, 6 (47 per cent) schools subscribe 20 – 65 magazines, followed by 4 (31 per cent) 3(23 per cent) schools subscribing less than 10 titles. So far as newspapers are concerned, 10 (77 per cent) schools subscribe up to 10 daily newspapers; and the remaining 3 (23 per cent) subscribe more than 10 newspapers, which fall in the expected line. Interestingly, all the 13 (100 per cent) surveyed libraries subscribe both magazines and newspapers for their libraries, thereby helping their pupils to inculcate reading habits.

7. Recommending Authority for Library Collections

Though customarily, 'user' recommendations are to be given importance, but the complex management structure often changes

the collection scenario. The elicited responses to this effect under five broad groups of recommending books are depicted for necessary statistical inference.

8. Library Collection Pattern

Acquiring documents for library collection depends much upon the consensus of the school librarian, principal, faculty members, library committee and students' needs as well. A cursory view corroborates the fact that, 8 (62 per cent) school libraries acquire documents on the recommendations of their respective faculty members; 6 (47 per cent) by principals and library committee both; 4 (31 per cent) by the students. Unfortunately, 3 (23 per cent) honour the recommendations of their respective librarians. Schools surveyed have given no importance to the collection of such materials in their library collection. Like microfilm collections, projector mechanisms followed to check duplicate of titles. Checking of duplicate of titles is crucial event, but often neglected by acquisition librarians owing to several factors, like management pressure, personal bias towards author, laziness of the supporting collection staff, bias-prone motivation by the publishers, allocation of funds at the vague-end of the financial year, etc. The objectives of a library collection should be to provide maximum titles in least cost. Duplication, therefore, collection process in libraries is a very delicate process that needs a lot of precautions to avoid duplicate. Mechanisms followed in the CBSE affiliated school libraries to check such repetition of titles vary from one school to the other, 7 (54 per cent) school libraries reported that they follow the accession register and catalogue both; 2 (15 per cent) check the order file and 1 (8 per cent) refers book shelf. The above study further reveals that, some follow more than one mechanism to avoid duplication.

9. Mechanism Followed to Check Repetition of Titles

(i) Mode of Approval of Titles

Different libraries follow different procedures to approve the titles proposed to be procured for the parent library system. Scanning the contents of a document physically before purchase, however, proves most effective and provides better dividends to library clientele compared to others. The elicited responses collected under 5 board groups pertaining to mode of approval of titles are depicted.

10. Procedure Followed for Approval and Purchase

Procedures followed for purchase of books vary from one school to another ranging from the physical approval of titles from different booksellers, scanning book previews, publishers' catalogues, consulting books selection tools of both printed

and electronic forms, lists submitted by faculty members, to other such mechanisms under consideration. The resultant data relating to the purchase behaviour of libraries in the process 11 (85 per cent) follow the list submitted by the faculty members, followed by 5 (38 per cent) priority to the scanning of book reviews and physical approval of books; 3 (23 per cent) consult book selection tools of both printed and electronic forms. No schools, however, adopts any other mechanism for purchase of books.

11. Limitations in Procuring Multiple Copies

Libraries as practicable, should avoid duplication of titles. Procurement of multiple copies or any duplication effort in a service library gives rise to several inherent problems, particularly budget and community. This results in limited subject and title coverages. The elicited responses, pertaining to number of copies procured on each title, are depicted for necessary statistical interpretation and analysis.

12. Limitations of Number of Copies Procured

Several constraints, like allocation of funds and other factors impose limitations in procuring books. The sample survey highlights the procurement of copies of textbooks under such constraints reveals 9 (69 per cent) procure 2 to 5 copies for their libraries; followed by 4 (31 per cent) who buy 10 or more copies.

13. Mechanisms of Evaluation of Collection Deficiencies

The responsibility of acquisition by school librarian does not cease immediately after the procurement of documents and nor does the documents so acquired are to be for granted for all time to come. The collection, in order to be clientele-friendly , need-based, and purposive, need to be evaluated constantly to ascertain both their usefulness and their deficiencies. There are several mechanisms to evaluate such collection, such as user's survey and feedback through informal conversation, circulation statistics, etc. Since none of the above mechanism can be accepted as a fool-proof solution, any one or more than one mechanism need to be adopted, if better result is aimed at. The elicited responses depicted for necessary statistical interpretation. All the sample survey libraries are reportedly going for evaluation of their library collection; however, the mechanisms differ in view of removing the deficiencies and to reform the collection making the same user–friendly. Six schools (46 per cent) evaluate their collection through the user's survey and the feedback of informal chatting with the users each and subject experts, 5 (38 per cent) evaluate their collections through the circulation statistics, 3 (23 per cent) observe the users at their study desk.

14. Mechanisms Followed for Evaluation of Collection Deficiencies

The study establishes the clear trend that, all the surveyed libraries adopt some mechanism to evaluate their respective library collections. Similarly, none of the schools considers inter-library loan record or any other method as a source of evaluation of their library stock.

15. Weeding out of Materials

Weeding out programme is costly proposition which only large library system can bear. Libraries of all kinds and sizes in the west, however, weed obsolete and outdated documents from their respective collections periodically as a matter of routine, contrary to the abilities of the libraries. The procedure to weed out documents from the collection differs from library to library. The elicited responses pertaining to weed out programme in senior secondary school libraries are depicted.

Surprisingly, the weeding out is almost an imperative followed by all the senior secondary school libraries of the sample survey. The procedure followed for weeding out and the type of documents included under weeding out differs from school to school. The data highlight 13 (100 per cent) schools follow weeding out programme; 10 (77 per cent) weed out only old and obsolete editions, 3 (23 per cent) weed out the multiple copies.

16. Librarian's Satisfaction on Collections

Professional satisfaction is more vital than anything else. In spite of rich resources, huge collection, alluring budget, sound infrastructure, if librarian who being the head of the library, is not satisfied it proves that, somewhere is wrong in the system which need to be attended too. The resultant data are depicted for necessary statistical interpretation and analysis on satisfaction.

17. Evaluation of Librarian's Satisfaction about Existing Library Collection

The satisfaction on the prevailing condition of collection development 12 (92 per cent) are satisfied and 1 (7.70 per cent) expressed dissatisfaction.

Conclusions

Taking the existing data on CBSE affiliated senior secondary schools as indicate of the contemporary situation, the following suggestions are put forward, which if implemented, will certainly help to improve the existing conditions of the secondary school libraries and pave the way to make these libraries more purposive and user-friendly. To inculcate reading habits among the senior secondary students and to ensure the enrichment of their knowledge horizon, the school administrators should have a special allocation of funds to procure more newspapers,

popular magazines, and pictorial literature for children by which more and more pupils can be motivated. To have a better utilisation of valuable time and cost of both library staff and readers, the senior secondary school libraries should switch over to computerised circulation control. They senior secondary school libraries should keep a specific library hour for their students to facilitate internet browsing so as to acquaint them with the global resources in their respective fields of interest. The senior secondary school libraries should set a limit beyond which no multiplication of copies will be permitted. The existing trend of inconsistent policy for procuring duplicate copies may lead to a stage where such a huge collection may prove to be redundant in future, since the course curriculum gets changed at given intervals. Very few schools have a well written collection development policy; the consequence of this is the subjectively exercised by the individual librarians in developing the collection where the attitude towards collection development differs from school to school. So it is desirable for the libraries to draft a clear cut uniform and flexible policy statement for a better collection development policy minimising the effect of economic recession.

REFERENCES

Ahmed, B. 1995/96. Developing and Managing Academic Library Collection with User in Mind: A Review of the Practice. *Library Focus*; 13 and 14.

Apeji, E. A. 2001. The Role of School Library in Promoting a Reading Culture. *Library Herald*. 39 (4).

Despande, K. S. 1999. The Librarian, The Book Grade and Collection Development: Random Reflections, *Library Science with a Slant to Documentation and Information Studies*. 36 (4).

Farugi, K. K. 1997. Development of Collections in Libraries. Anmol Publication, New Delhi.

Mahapatra, P. K. 1999. *Collection Management in Libraries*. Calcutta, Ess Ess Publication.

Maheshwarappa, B. S. 1998. Problem of Collection Development among Academic Libraries in India. Herald *of Library Science*. 36 (3 – 4).

Shakuntala, K. A. 1993. Collection Development and Ranganathan's–A Pure Pattern and Resource Sharing, *Collection Development in the Context of Economic Recession*. IASLIC, Calcutta.

Stein buat, M. 1995. Development and Evaluation of the Library Collection in a Secondary School Library. Knjiznica, 39 (3).

The Practices and Challenges in Providing Psychosocial Care and Support to Orphan and Vulnerable Students in Ethiopian Context

Liranso Gebreyohannes Selamu*

Abstract

The aim of the study was to explore the practices and challenges in providing psychosocial care and support to orphan and vulnerable students (OVS). To achieve its objectives, the study utilised qualitative method to gather relevant, direct and rich information from participants. The study was conducted in two caregiver organisations of Hosanna Town. The study covered interviews with 12 key informants, four focus group discussions (FGDs) with 28 OVS participants, and used observation checklist. The participants were selected using purposive sampling technique. The collected data was analysed thematically. From the results of the study, majority of the respondents indicated that group counselling, spiritual practices, peer support and recreational activities were most frequently practiced to meet the psychosocial needs of OVS. But majority of the respondents indicated that individual counselling was not adequately practiced in the organisations. Even though, most respondent groups agreed that the spiritual practices and recreational activities are relatively operative in helping OVS, the major challenges that hinder the effectiveness of psychosocial care and support service are absence of OVS care and support guideline, low awareness, funding constraints, absence of evaluation systems, and low networking. Based on the results and discussion, it is generally recommended that creating awareness at all levels, empowering caregivers and enriching financial potential should also be given attention to provide well organised psychosocial care and support to OVS.

**Research Scholar and Consultant*, Addis Ababa University, Ethiopia, C/o Lideta 0910, Addis Ababa, Ethiopia.

Introduction

The issues of orphan and vulnerable students (OVS) have become a development crisis with serious social, economic, political, and health implications in many countries across the world (CSA, 2000). It is widely accepted that there is a vast gap in child mental health and psychosocial support provision in conflict affected Low and Middle Income Countries, given the consistently higher levels of psychological distress and mental disorders identified in such settings (Lasuba, et al. 2011). In Africa, more than half of the estimated 250 million people living within the Southern African Development Community (SADC) region are younger than 18. These children need care, protection and support. Many of them are not receiving it and are vulnerable to the destructive consequences, including harm to their physical and emotional well-being and to realise their potentials (SADC, 2010).

On the other vein, the numbers of orphans in most sub-Saharan Africa countries are increasing exponentially because HIV infection is still rising as adults continue to succumb to the pandemic. Among the sub-Saharan African countries, Ethiopia is one, which is most highly affected by the epidemic. The psychosocial situations of OVS are more multifaceted and complex in Ethiopia. OVC lack psychosocial care and attention, experience stigma and discrimination, experience long-term psychosocial problems, take drugs and other substances and become involved in crime and exposed to HIV/AIDS infections (MOLSA, 2004).

Besides, numerous studies indicated that in many regions of the country, psychosocial care for OVS is the most neglected dimension of OVS care provided. Psychosocial support to caretakers is practically non-existent (Policy Project, 2004). Since, the psychosocial development of OVS is poorly understood and not adequately addressed; as a result the OVS are exposed to severe psychosocial problems and disorders (USAID, 2008).

Furthermore, organisations at different levels tried to intervene to mitigate the multidimensional problems of orphan and vulnerable children, yet the programmatic coverage of the existing efforts in Ethiopia is insufficient. From comprehensive support of OVS, psychosocial support service is one and most important care and support for OVS in stressful situations. Thus, the psychosocial support systems of OVS in Ethiopia are not assessment based, incomprehensive and not based on the needs and priorities of the OVC. Rather it is based on traditional practices (HAPCO, 2004).

Therefore, the aim of this study was to explore the practices of and challenges in providing psychosocial care and support to orphan and vulnerable students because children are our future, and what happens to children from the very

early years affect their development and the development of the society at large. Psychosocial care and support provision to children has a foundational role and determines the kind of personality one will have. Different researchers have tried to assess the psychosocial problems of children in Ethiopia, but the remedy to psychosocial problems of OVS is still in its beginning stages to be explored. Since the study articulates the current psychosocial care and support of OVS and brings out all the ramifications and complexities compounding the service, it is hoped that the study may help various organisations that are working on OVS to develop shared understanding of the psychosocial support of OVS, which will help them to make sound decisions to plan and target resources for the unmet needs of children.

Methods

Study Design

The aim of the research was to describe the existing practices of and challenges in providing psychosocial care and support to OVS. To accomplish this, a phenomenological research design was employed. According to Creswell (2007), phenomenological research focus on describing participants' designates the phenomenon. Furthermore, this design helps researchers to obtain information at a time and describe what participants' response to the existing phenomena systematically. The study employed qualitative research approach to make description and the rationale behind the selection of qualitative method relies on the fact that qualitative research method describes the study phenomena as they occur naturally, rich and holistic data with strong descriptions and explorations of process in identifiable local contexts and physical interaction with collecting of research data (Beverley, 1998).

Study Participants and Sampling

In the study, five data sources were employed, namely OVS between 14-18 year old and their educational background range between 9-12 grade level, guardians, managers, counsellors, and social workers. OVS between 14-18 year old and educational background ranges between 9-12 grade levels was included in the study to get more effective responses about the psychosocial care and support provision. Because it is assumed that their understanding level is good to describe their experiences. In addition, guardians, managers, counsellors, and social workers were included in the study to obtain deeper understanding about the practices, challenges, and suggested mechanisms in the provision of psychosocial care and support to OVS.

According to Durrhin and Painter (2006), purposive sampling is often used when looking for particular types of participants. In light of this, this sampling technique was employed to identify the respondents with rich information appropriate for this study. Twenty eight OVS were selected using a criterion purposive sampling technique. Also, based on the roles, responsibilities and availability ranges six guardians and six experts (two counsellors, two social workers, and two managers) were also included.

Data Collection

The study employed three types of instruments: interview, focus group discussions and observation check list.

According to De Vos (1998) as cited in Yolandi (2003), stated that the face-to-face interview assists researchers to understand the closed worlds of individuals, organisations, and communities. The purpose of the face-to-face interview is hence to understand the interviewee's life practice or situation as expressed in his/her own words (De Vos, 1998, as cited in Yolandi, 2003). These advantages of interviews as method of data collection directly compliment the imagined aim of the study, which was to explore and describe the practices of and challenges in providing psychosocial care and support to OVS.

Moreover, focus group discussion was employed to verify and generate more information from organisations on the practices of and challenges in the provision of psychosocial care and support. The validity of instruments was prepared after passing many processes. The information obtained from literatures was carefully reviewed and the original instruments were designed, modified and conceptualise to use in settings. In addition, to prove content validity, the items of the instruments was commented by subject matter experts.

On the other vein, the results were analysed and discussed in categorised and summarised forms of major themes based on the research questions. According to Gergen and Gergen (1991) as cited in Yolandi (2003) found that the trustworthiness and internal validity of the analysis were enhanced by categorising and appropriating reflexivity to the researcher's role and subjective practices during the research process. Hence, thematic data analysis was employed in the study.

Results

Practices Psychosocial Care and Support Service

Interview was conducted separately with guardians, counsellors and social workers, and managers of the caregiver organisations. The practices the study result were presented as follows:

Guardians indicated that undertaking their care taking

responsibility to the children compromises their emotional wellbeing under a lot of stress. They mentioned that there is no professional development training. As a result, they have low confidence in helping children. In relation to these, the participants have indicated that they mostly relying on their faith (church ritual practices) to alleviate their stress and helping children to cope with the several challenges they experienced. Furthermore, they give emotional support based on informal knowledge/through contacting with religious leaders. In addition, guardians illustrated that their faith represented as a fundamental ingredient to personal emotions coping and providing care and support to the children. On the other hand, one guardian described that she provided psychosocial care and support service by communicating with counsellors and managers of the caregiver organisation. Furthermore, they practiced psychosocial support by getting advice from friends, religious leaders and media. For these caregivers, religion is a source of care and support that enhances their ability to remain strong and continue providing psychosocial care and support for the OVS. The following citation, illustrates further about the practices of one of the guardians.

Praying and attending church programmes helped me to provide the service for orphan and vulnerable children with a great deal of strength and motivation to move forward in spite of their difficult situations (Gu.3).

Additionally, counsellors of the caregiver organisations illustrated that they usually offer group guidance and peer education. However, they rendered individual counselling only in areas of educational achievements and as a conflict resolution. Generally, the counsellors admitted that the efficiency and appropriateness of the service provided for this OVS is very poor. They confessed that there is no individual counselling service targeted to provide psychosocial care and support to OVS. They indicated that psychosocial care and support service needs are not fulfilled. Both caregiver organisation counsellors illustrated that the main attention of the organisations was in providing the material support, not aware of psychosocial care and support service of OVS and their caregivers' empowerment.

Furthermore, counsellors show that group counselling and peer support plays a crucial role in alleviating the psychosocial problems of OVS interaction with friends and peers, and having a realistic feeling for one's own capacities equally contribute to their share in helping children cope with their situations. The important thing, therefore, would be strengthening of the group counselling and peer support system and developing the self-esteem of OVS through the life skill training and other intervention technique that could address their concerns and

issues. Interviews were conducted with the managers of the caregiver organisations to describe the major issues concerning the practices of psychosocial care and support service in caregiver organisations, and the following results were obtained. Regarding manager's roles in organisations, they replied that managers' roles in caregiver organisations were coordinating, planning and controlling.

In addition, the roles of managers in the psychosocial care and support service were facilitation and administrating support to the professionals. Moreover, the managers were asked to describe their "role in involvement of psychosocial care and support service," they replied that supervision of the service in caregiver organisations did not get due attention, except issues concerning material support. One of the managers responded that—

Psychosocial needs of the OVS in their organisation have been implicitly provided through the siblings, elders, guardians, as well as some staff members of the organisation through sharing information that appeared to be sensitive to the OVS future life (Mg.2).

Generally, managers described that there are no specific structure and organised psychosocial care and support provided to OVS and caregivers. While managerial support plays a crucial role in alleviating the psychosocial problems of OVS and helping children cope with their situations. They pointed out that the only support they provide was informal help from friends and peers, life skill and HIV/AIDS training that could address their concerns. Additionally, they indicated that they were believed to do more on recreation and sports activities that enable isolated orphans and other vulnerable children socially integrate.

Also, OVS were asked to explain the practices of psychosocial care and support service that are provided by the caregiver organisations to them. With regard to individual counselling, children indicated that inappropriate and disorganised service was rendered in their organisations. In addition, they reported that counsellors did not consult the guardians about their personal problems. In addition, they indicated that most of them did not get a chance to receive individual counselling. For instance, the following extract was expressed regarding individual counselling practice.

Occasionally, counsellors do not have confidence to treat our problems individually; they recommend us to play football and handball, and join church programs as the mechanisms of stress reduction (FGD 1).

As a result of the failure of the counsellors in providing individual counselling, OVS mentioned

various outlets through which they release their emotions when they encountered psychosocial problems. They described attending church services and listening to songs to reduce their stress.

I got limited support from the organisation to solve my psychosocial problems. My life is changed mainly because of attending church programmes and being in the presence of Jesus. Thanks to God, also I am a worship leader that helped me to make myself busy. Now, I am living a better life than before (FGD 4).

Furthermore, FGD 2 participants stated that:

I feel that reading the bible gives me comfort as it contains God's promise that he will heal my problems (FGD 2).

Moreover, children mentioned that to release their emotions, share experiences and peer support help them feel that they are not alone. The following quote elucidates the fact.

I forget my problems when I'm in a group counselling and discussing about common problems (FGD 3).

In addition, FGD participants of Beminet OVS care and support organisation have indicated that children have peer support sessions every weekend. The children meet together and discuss their problems.

I live respectful life with others. We are living, eating and playing together. We know each other; there is no shame, stigma and discrimination here. Because of this, I don't want to be separated from my friends (FGD 1).

Also, the organisations are trying to prepare favourable recreational places for sport activities. Furthermore, the children described that peer support have a greater contribution in alleviating the problems of OVS. This was further explained by the data sought from the FGD 1.

Generally, the above responses show that counsellors and social workers offered group counselling and peer support, and facilitation of recreational and sport activities and children most frequently. However, they did not prepare OVS through individual counselling. According to the researcher, individual counselling in the caregiver organisations were not rendering appropriate and organised services.

The respondents also highlighted in the focus group discussion that children rendered inappropriate and disorganised service in their organisations, and there is no conducive counselling office environment. However, in the organisations, children assist one another to meet their psychosocial need which is practiced through peer group where they can share similar experiences and support each other. These group atmospheres encourage children to lose their sense of isolation by playing and sharing experiences with children who are in similar conditions.

Challenges of Psychosocial Care and Support Services

To get more information on challenges that hinder psychosocial care and support service of OVS, data was collected from the participants. The result was as follows:

The guardians were asked to explain the major challenges in the provision of psychosocial care and support service while undertaking their roles and responsibility for the OVS. They indicated that they have their own psychosocial and financial problems. Furthermore, they repeatedly expressed and reflected upon the difficulties they experienced and the most visible challenges being financial constraint, health problems, and stress while helping the OVS. The following excerpt, from one guardian, illustrates the challenges faced by the guardians:

My burden of care for OVS is aggravated not only due to the insufficient income but also due to my health conditions because I am living with various diseases, which is a double and triple burden. The caregiver organisation does not cover any expenses for health treatment. In addition, as the age of orphans increases, their needs and problems also increase, yet my potential deteriorates thus, life becomes a misery for me and the children (Gu.2).

Another guardian also indicated that the behaviour of children demotivated her to be with them and to provide effective care and support. Some of these behavioural problems include: stealing, lying, crying unnecessarily and insulting. These problems of children brought greater challenges to the guardians. In line with this, the following quote illustrates the above challenge of guardian:

I am fear when I'm with male children because I am almost similar to their age. While I was carrying out my duty, once one male orphan tried to rape me. He is still in a poor relationship with me (Gu.6).

This, and similar experiences of guardians would leave children poorly socialised. From the above challenges of guardians one can understand that psychosocial support service to children is exposed to different problems and caregiver organisations support were poor. Moreover, guardians face skill gaps while they carry out their responsibility of care and support. Most guardians indicated that lack of effective psychosocial support from caregiver organisations. The following excerpt from one guardian illustrates more:

I am not able to properly provide the service to children because; I don't have the necessary skill. No training was given for me about psychosocial care and support. As a result, children are facing problems during an emotional outburst, because of skill gap to handle the problems. Generally, I am not being able to fulfill the psychosocial needs of OVS while trying to accomplish my responsibility (Gu.1).

Generally, the major challenges faced by guardians include insufficient income, burden of responsibility, lack of skill, poor relationship with children and lack of adequate support in all the above caregiver organisations.

On the other hand, counsellors of caregiver organisations were interviewed. Surprisingly, one counsellor's response indicated that managers did not have adequate knowledge and interest to work closely with children and their caregivers. Furthermore, he mentioned low skill and knowledge of guardians on how to handle children with behavioural problems. Lack of awareness and more attention was being given to material support by the managers, lack of communications with other caregiver organisations and concerned bodies was a major challenge. These challenges were perceived as great challenges despite their interest in providing formal psychosocial care and support to OVS. This shows that psychosocial problems, and its care and support of OVS are poorly understood, and not adequately addressed by caregiver organisations.

Also, counsellors and social workers described their primary role as identifying and treating children with emotional, behavioural, social problems, and facilitated communication between children and guardians. However, they point out that they are spending most of their time on administrative tasks. They also described that though they are interested in their profession and participate in professional development workshops and seminars, and practical skills training to perform their task more effectively, yet they lack opportunities. In addition, this finding illustrated that unawareness of the caregiver organisations about the role of caregivers in the service, and the caregivers' engagement with routine activities was perceived as challenges that hinder to carry out their roles in the psychosocial issues of OVS.

Additionally, counsellors and social workers indicated that other major obstacles in the adequate provision of psychosocial services to OVS are lack of awareness/ knowledge on how to properly care for OVS, insufficient financial capacity, lack of mechanisms to collect and systematise psychosocial data, low coordination among different actors who provide the services and lack of access to experience sharing. Furthermore, they reported that there was no longer any system, which can evaluate and create awareness' on psychosocial care and support practices, and this creates a big challenge to understand its status and improve accordingly. One of the counsellors described low awareness and evaluation gaps as follows:

We only exchange ideas informally about the service performance and weakness. However, this doesn't mean that we evaluate and hence

these create gap not to know the status of psychosocial care and support service and improve it accordingly (Cu.1).

They also indicated that psychosocial care and support service was not supervised and hence they did not get any professional training, workshops, and technical supports. Similarly, managers of the two caregiver organisations were interviewed to describe the major challenges observed and what they know in relation to psychosocial care and support service. At the same time, there is unwillingness of the caregiver organisations and counsellors to participate in several administrative and routine tasks also.

Likewise, the managers of caregiver organisations illustrated that the major challenges faced in providing psychosocial support include: low awareness on the issues at all levels, poor organisational structure and strategies, and financial limitation. This indicates that the service they rendered for OVS was not adequate and comprehensive. The major challenges of manager can be summarised through a statement given by one of them.

We can't do more on the area of psychosocial problems, needs of children, and psychosocial care and support service mainly due to the lack of awareness and financial constraints we face. (Mg.1).

To get rich information on the mechanisms that help to improve psychosocial care and support service of OVC, caregivers' interview was conducted. The outecome is—

Guardians were asked their views on the optimal ways to take care of OVS or provide psychosocial care and support service and to deal with challenges. They mentioned the following mechanisms as foremost ways to improve the services—providing service training to care takers, giving peer education and life skill training for OVS, strengthening the counselling services, creating awareness to the psychosocial problems of OVS, and creating networking to share experience with different organisations working in support of OVS. One of the guardians suggested the possible mechanism could be—

To make OVS life better, stigma must be removed; the government must be committed to supporting the organisations and their caregivers, strengthen and coordinate NGOs to solve the psychosocial problems. Needs of OVS should be assessed; OVS should get attractive training, education and balanced food; they must be protected from criminal acts so that they contribute their share to the psychosocial development of children (Gu.3).

Furthermore, counsellors and social workers were also asked to suggest possible mechanisms to overcome the challenges of psychosocial care and support service. With this regard, one counsellor reported that the

management of the caregiver organisations and other concerned bodies should work hard to bring awareness about the importance of the service. Similarly, a social worker stated that training should be given for caregivers on how to handle OVS with different problems.

Besides, they suggest "creating awareness on the importance of psychosocial care and support service for concerned bodies (NGOs, government and society)". One social worker suggested the possible mechanism:

The caregiver organisations should use different Media (TV, FM radios and print Medias) to create awareness on the role of psychosocial care and support service to the community, conduct research in the area of psychosocial problems of OVS, and the service challenges, and provide training to all members of the caregiver organisations (Sw.2).

Moreover, counsellors and social workers also mentioned that using different guidelines and literatures of psychosocial support and assessing organisation's plans and policies will improve the service. This is about how many activities of psychosocial support are applied when targeted organisations design and implement their own care and support system. Assessment and identification of the major needs of OVS for care and support projects and plan implement mechanisms before providing services should be considered as mandatory.

Results from managers indicated that adequate orientation to caregivers and community members on the role of psychosocial service is essential and transfer routine administrative tasks from counsellors to other staff members. They specified providing training to caregivers in life skill training for OVS, strengthening the counselling services, creating awareness to the psychosocial problems of OVS at all levels.

Overall, respondents suggested a number of major issues regarding improvement on the practices of and challenges in providing psychosocial care and support to OVS. They suggested mechanisms to ascertain the status of service within some frame of references and then based on this knowledge to improve its quality. Also, they indicate life skill training to OVS, psychosocial support training to caregivers', promoting awareness through workshops and media, enriching financial potential, empowering caregivers, encouraging peer support and spiritual practices of OVS, and advocacy and networking mechanisms.

Discussion

In this part, an attempt has been made to discuss the findings obtained in relation to the basic research questions and review of literature. The discussions focussed on the special results of the practices, challenges, and suggested mechanisms in the provision of the service.

The majority of respondents in the study noted that individual counselling is not practiced in a well-developed manner. This is reflected in lack of counsellors' confidence to treat children's problems individually. This means individual counselling service was not efficiently offered, controlled or staffed by qualified counsellors in a manner that could address the psychosocial needs of OVS and caregivers. This could be mainly due to lack of awareness and skill gaps to give effective therapy. Such gaps can be coinciding with Seleshi (2000) study who found lack of in-service training, i.e. caregiver organisations do not offer in-service training, organised workshops and conferences to enhance the service.

One of the specific objectives of the research was to identify the current practices of caregiver non-governmental organisations in the provision of psychosocial care and support to OVS. Hence, the researcher's observations match with respondents' report that care giving was not offered in a well-developed manner.

Generally, from the above patterns of discussions one can understand that counsellors and social workers offering group counselling and peer support, most frequently, did not prepare OVS through individual counselling for psychosocial well-being. This may be attributed to the caregiver organisations' focus on other support and lack of awareness of psychosocial counselling in OVS.

Furthermore, the researcher's observations agree with respondents' report; group counselling practices was considered in this study; counsellor taught orphan and vulnerable children about HIV/AIDS prevention, risk reduction, and peer education. On the other side, children meet and discuss every weekends in group counselling and peers support sessions. Thus, a researcher perceived group counselling and peer support plays a crucial role in alleviating the psychosocial problems of OVS, and having a realistic feeling for one's own capacities equally contribute their share in helping children cope with their situations.

Guardians illustrated that their faith represented as a fundamental ingredient to psychosocial needs and to their problems. They employed spiritual and own mechanisms to deal with their living situations. For instance, OVS and guardians' respondents used spirituality as a major mechanism to deal with life challenges both in times of worry and anxiety.

Further, the spiritual practices cited by OVS participants were: attending church services, praying and listening to songs helped them to live life with confidence and without worries. On the other hand, they used personal efforts as a major mechanism to manage life challenges. These indicated that they mostly rely on their faith (church rituals practices) to alleviate their stress, and to cope with the several challenges they experienced.

As part of data collection process, OVS and their caregivers were asked to report and describe the major challenges encountered in the provision of psychosocial care and support service. The challenges that organisations encounter can be viewed from different angles. Some of them were technical and beyond the capacity of the organisations. Based on their responses, the major challenges were described in the following key issues: absence of OVS care clear guideline, low awareness, funding constraints, absence of evaluation systems and low networking.

The suggested mechanism to improve OVS psychosocial care and support was also explored in the study such as improvement of service and views in relation to the practices and challenges in providing the psychosocial service. In broad sense of exploration, suggested mechanisms included creating awareness at different organisational level, community awareness, through media, seminars and workshops; enriching fund potential; empowering caregivers; encouraging peer support and spiritual practices and advocacy and networking for the service.

Conclusion

Based on the summary of the findings and discussion made, the researcher draws the following conclusions—

The results of the present study showed that individual counselling service was not well offered, controlled or staffed with qualified counsellors in a manner that could address the psychosocial needs of OVS and their caregivers. There is lack of awareness and skill gaps to provide individual therapy. The individual counselling service was the neglected part of psychosocial care and support for the organisations.

From the findings, it was also possible to conclude that group counselling, spiritual practices, peer support and recreational activities practiced as the psychosocial support of OVS in the caregiver organisations. Such practices have greater contribution to OVS to alleviate their problems among each other. However, these practices of caregiver organisations were not preferable to solve personal problems of OVS. The commitment of both caregiver organisations were low in providing profession based and well organised psychosocial service.

Furthermore, the study found out that the major challenges that hinder the effectiveness of psychosocial care and support to OVS include absence of OVS care and support guideline, low awareness, absence of evaluation systems, and low networking. Therefore, caregiver organisations have the low guarantee to the psychosocial issues of OVS and giving more attention to other services. In general, the organisations do not consider the psychosocial support as the mandate of other services. The main challenges faced by caregiver

organisations include lack of service training and insufficient income from the organisations resulting in hardships in providing care and support for OVS.

From the results of the study, it was possible to conclude that the mechanisms to improve the psychosocial support of OVS in relation to the practices and challenges in a broad sense of exploration are creating awareness, enriching financial potential, and empowering caregivers.

REFERENCES

Beverley, H. 1998. *An Introduction to Qualitative Research: Trent Focus for Research.* University of Nottingham, UK.

Creswell, J. 2007. *Qualitative Research Designs: Selection and Implementation.* University of Nebraska Lincoln. SAGE Published. London.

Central Statistics Agency. 2000. Population and Housing Census: Country Level Addis Ababa, Ethiopia.

Durrhin and Painter. 2006. *Sampling and Measuring: Research in practice:* Applied methods for social sciences. Cape Town: South Africa.

HAPCO, 2004. Comprehensive Community-based Care and Support Guideline for PLWHA: OVC Affected Families, Draft. Addis Ababa

MOLSA. 2004. Survey on the Support Guideline for PLWHA: OVC Affected Families, Draft. Addis Ababa.

Lasuba, A. 2011. Practice-Driven Evaluation of a Multi-layered Psychosocial Care Package for Children in Areas of Armed Conflict. *Journal of Community Mental Health* (pp 47:267– 268), Springer. USA.

Policy Project. 2004. Coverage of Selected Services for HIV/AIDS Prevention, Care and Support in Low and Middle Income Countries in 2003, USA.

SADC. 2010. Regional Conceptual Framework for Psychosocial Support for orphans and other vulnerable children and youth. Minimum Package of Services, PSS Conceptual Framework Draft. South Africa.

Seleshi, Z. 2000. Major problems of counselling in Ethiopia high schools: *Institute of Educational Research* 7(2). Addis Ababa. Ethiopia.

USAID. 2008. *Global Response to HIV/AIDS Epidemic:* Zimbabwe 2012 Statistics. Zimbabwe.

UN. 2001. The Declaration of Commitment General Assembly Special Session on HIV/AIDS. NY, USA.

UNICEF. 1990. World Declaration on the Survival Protection and development of Children. New York, USA.

World Vision. 2005. Guide to Mobilizing and Strengthening Community-Led Care for OVC. Mozambique.

Yolandi, S. 2003. Primary caregivers' experiences of rising children with autism: A phenomenological perspective. Rhodes University, Grahams Town.

Book Review

Pedagogy of Science
Textbook for B.Ed.
(Physical Science) Part 1

Type of Book: Textbook
Published by: NCERT, New Delhi
Author (s): Textbook Development Committee
(15 Members and Member-Coordinator, NCERT)
Total Printed Pages: XIV + 301
Price: ₹175
Year of Publication: 2013
ISBN: 978-93-5007-224-0

The book under review is a much awaited textbook on Pedagogy of Science for B.Ed. students by NCERT, the apex research organisation in the field of school education in India.

The book is divided into nine chapters namely Nature of Science, Science and Society, Aims of Learning Physical Science, Learning Objective of Physical Science, Exploring Learners, School Curriculum in Physical Science, Pedagogical Shift in Physical Science, Approaches and Strategies for Learning Physical Science and Community Resources and Laboratory.

The Chapter-1 tries to develop the concept of science, nature of science, scientific method, and talks about the role of science teacher. Chapter-2 discusses the science and society relationship with the sub-headings physical science and society, role of teacher and contributions of some eminent scientists. The relationships of physical science with environment, health, peace, equity have been elaborated very well along with interesting activities for learners. In Chapter-3, the book describes aims of learning science, knowledge and understanding through science, nurturing process, skills of science, development of scientific attitude and scientific temper, nurturing the rational curiosity, creativity and aesthetic sense, relating physical science education to natural and social environment, technology and society, imbibing values through science teaching, development of problem-solving skills and role of

science teachers with regard to the attainment of the aims of science teaching at school. Chapter-4 is devoted to learning objective of physical science covering the sub-themes as meaning of learning objective, developing learning objectives along with features of well-developed learning objectives, Anderson and Krathwohl's taxonomy of educational objectives, which is the revised bloom's taxonomy of educational objectives. It also describes the ways of writing learning objectives and gives illustrations on learning objectives for upper primary, secondary and higher secondary stages. Learning objectives in the constructivist perspective has also been discussed in this chapter. Unless the teacher develops the capability of exploring learners, she or he cannot be an effective teacher who makes her/his students explorative by nature i.e. the core of true science learners. Chapter-5 takes this into account and discusses on the same themes with sub-themes as each learner is unique, motivating learners to bring their previous knowledge into classroom along with their naïve concepts, how to involve leaners in teaching-learning process through appreciating dialogue among peers, generating discussion and argumentation in science; role of learners in negotiating and mediating learning in physical science, and how to encourage learners to raise and ask questions and to collect materials from local resources. School curriculum in physical science has been described in Chapter-6 along with the historical background of curriculum framework development, approaches of curriculum development i.e. subject-centred, behaviouristic and constructivist approaches, recommendations of NCF on science curriculum. This chapter also tries to differentiate between the curriculum and syllabus and puts light on the trends of NCERT syllabus and role of teacher in curriculum development. Chapter-7 highlights the pedagogical shifts in physical science and has given proper space in elaborating the shift from fixed body knowledge to process of constructing knowledge, critical pedagogy as a means of democratising science learning, inclusion, Information and Communication Technology (ICT), diversity in classes, etc. Approaches and strategies for learning physical science have been discussed in Chapter-8 along with brief details of the scenario between 1950 and1980 and post-1980. The approaches and methods included are constructivist approach, 5E learning model, Collaborative Learning Approach (CLA), Problem Solving Approach (PSA), concept mapping, experiential learning, inquiry approach, etc. The chapter also gives space to generating and dealing with cognitive conflicts, communication in science, analogy strategy and facilitating learners for self-study. The last chapter of the book i.e. Chapter-9 tries to develop

the understanding on how to use community resources and laboratory in science teaching and learning. The main themes covered in this chapter are: learning resources from immediate environment of the teachers and learners, using community resources either by bringing community to the class or taking class to the community by the means of field trip or visit; pooling of learning resources; improvisation of apparatus; science kits; laboratory use related facts, concepts and understanding; and developing skills of handling hurdles in utilisation of resources.

The proposed Part-II of the book (as indicated in this part) covers six chapters vis-à-vis print and ICT resources in learning physical science, tools and techniques of assessment for learning physical science, planning for teaching-learning physical science, lifelong learning in physical science, professional development of physical science teachers and teacher as a researcher.

All chapters are written in such a way that an average student can comprehend the book easily. Concepts are described and explained properly with easy to understand and daily life-linked examples. Diagrams used to describe concept and phenomena are organised, labelled and self-explanatory. Activities are also given at appropriate places for students' practice and follow learning by doing approach. The book is written to assist all science teachers, science teacher educators and science pupil teachers or teacher trainees in performing their task in more effective manner. It has been prepared taking into account the position paper on science education of National Curriculum Framework 2005.

All chapters are properly organised. Every chapter starts with a box indicating topics and sub-topics being included in that chapter followed by an introduction. All topics and subtopics are fully elaborated which can be understood by the readers easily. At the end of each topic/sub-topic, one or more activities have been given through which students can not only test their understanding, but also can have practical experiences and enrich their understanding and skills by doing the activity full heartedly. Each chapter ends with summary and exercise through which learners can assess their self-learning and achievement, and practice for their examination point of view.

The book is useful for all students of B.Ed. belonging to all Indian universities as it covers most of the part of the syllabus of Teaching of Physical Science at B.Ed. level.

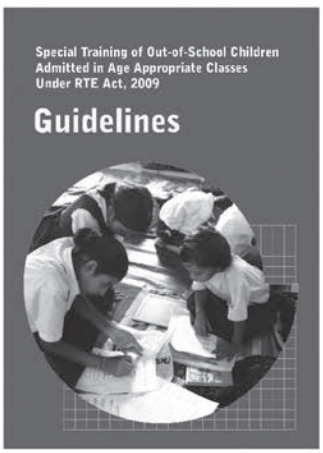
The get up of the book is also good. The quality of pages, diagrams, flow charts, type-setting, printing, indexing and use of various colours for highlighting the important things are praise-worthy. The price of the book (₹175) is reasonable and has

been kept within the reach of all students.

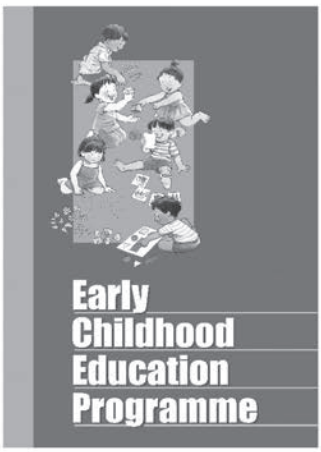
References or bibliography is not given in the book, may be to reduce the number of pages and hence to keep the price of the book controlled. If the book would have provided the list of additional reading material at the end of each chapter or at the end of the book, it would have been more useful to the learners. Overall, the book is very useful and will meet the requirement of the teacher-educators and pupil-teachers of B.Ed.

Dr Jasim Ahmad
Sr. Asstt. Professor
IASE, F/o Education
Jamia Millia Islamia
New Delhi-110025

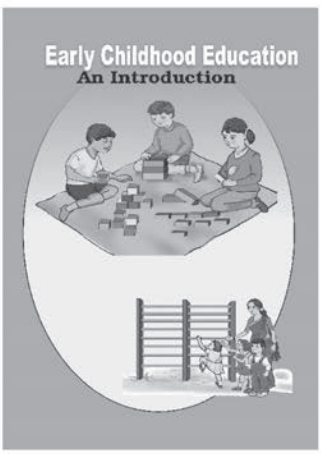
Some other NCERT Publications



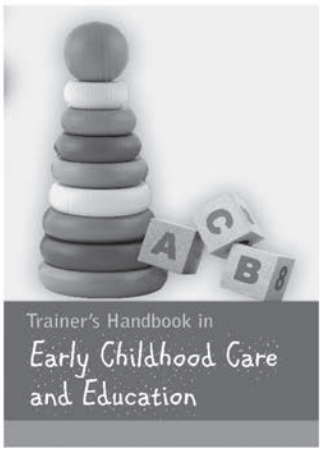
₹ 47.00/pp 54



₹ 195.00/pp 300



₹ 25.00/pp 38



₹ 110.00/pp 224

For further enquiries, please visit www.ncert.nic.in or contact the Business Managers at the addresses of the regional centres given on the copyright page.

NATIONAL UNIVERSITY OF EDUCATIONAL PLANNING AND ADMINISTRATION (NUEPA)

(Declared by the GOI under Section 3 of the UGC Act, 1956)
17-B Sri Aurobindo Marg, New Delhi-110016 www.nuepa.org

ADMISSION NOTICE 2015-16

(i) M.Phil. Programme (ii) Ph.D. Programme (iii) Part-time Ph.D. Programme

The National University of Educational Planning and Administration (NUEPA), a Deemed University fully funded by Ministry of Human Resource Development, Government of India is engaged in capacity building and research in educational policy, planning and administration.

NUEPA offers M.Phil., Ph.D. and Part-time Ph.D. programmes in educational policy, planning and administration from a broader inter-disciplinary social science perspective. The research programmes of NUEPA cover all levels and types of education from both national and international development perspectives. NUEPA invites applications from eligible candidates for admission to its M.Phil., Ph.D. and Part-time Ph.D. programmes for the year 2015-16.

Fellowships

All candidates selected for the M.Phil. and Ph.D. (full-time) shall be offered NUEPA fellowship. The NET qualified candidates, who have been awarded Junior Research Fellowship by the UGC and who fulfil the required qualifications, are encouraged to apply. However, part-time Ph.D. candidates are not entitled for any fellowship.

Eligibility Criteria

Full-time Programmes

(a) A candidate seeking admission to the M.Phil. and Ph.D. programmes shall have a minimum of 55% marks (50% marks for SC/ST candidates and Persons with Disabilities) or its equivalent grade in Master's Degree in social sciences and allied disciplines from a recognized university. Candidates possessing Master's Degree in other areas may also be considered if he/she has teaching experience or experience of working in the area of educational policy, planning and administration. (b) A candidate seeking admission to Ph.D. programme shall have an M.Phil. degree in an area closely related to educational planning and administration and/or exceptionally brilliant academic record coupled with publications of high quality. (c) M.Phil. graduates of NUEPA will be eligible for admission to the Ph.D. Programme after due scrutiny by a Selection/Admission Committee, if they obtain a FGPA of 6 or above on the ten point scale.

Part-time Programme

A candidate seeking admission to Part-time Ph.D. programme is required to meet the following criteria: (i) Should possess the educational qualifications as mentioned in Para (a) above; (ii) Currently, should be in full-time employment; (iii) Should be a senior level educational functionary with a minimum of five years work experience in teaching/research in educational policy, planning and administration.

It will be compulsory to attend one-year full-time course work by all part-time and full time candidates.

Mode of Selection

NUEPA will follow all mandatory provisions in the reservation policy of the Government of India. Admissions to M.Phil., Ph.D. and Part-time Ph.D. programmes will be made purely on the basis of merit following the prescribed criteria of the University.

The University reserves the right to decide the number of seats to be filled in the year 2015-16; the criteria for screening of applications; and the selection procedure of candidates for admission to its M.Phil. and Ph.D. programmes. The mode of selection of candidates will be as under:

Initial short-listing of applications will be carried out on the basis of relevance and quality of the brief write-up (in the prescribed format) in the proposed area of research to be submitted along with the application form. Short-listed candidates will be required to appear for a written test and those qualifying in written test will be subjected to personal interviews to assess their motivation and potential leading to final short-listing and preparation of panel of selected candidates, in order of merit.

Candidates must be possessing the eligibility qualification and submit marks statement at the time of written test on 20.06.2015.

How to Apply

Candidates may apply in the prescribed form for admission to M.Phil. and Ph.D. programmes of the University along with three copies of the brief write-up (in the prescribed format) on the proposed research topic of a contemporary issue within the broad framework of educational policy, planning and administration. For further details, please refer to the M.Phil.-Ph.D. Prospectus, 2015-16 of the University.

The application form and the Prospectus can be obtained from NUEPA by remitting a sum of ₹ 200/- (₹ 100/- for SC/ST candidates) by demand draft in favour of Registrar, NUEPA, payable at New Delhi if required by Post or purchased in person. The Prospectus can also be downloaded from our website: www.nuepa.org by making online payment of ₹ 200/- (₹ 100/- for SC/ST candidates) and attach the receipt/confirmation slip with the application at the time of submission to NUEPA.

Last Date of Applications

Application should reach the Registrar, NUEPA, 17-B, Sri Aurobindo Marg, New Delhi-110016 on or before **15 May 2015.** For further details, please visit our website www.nuepa.org

– Registrar

page 2 & 3.indd 2 15-04-2015 AM 09:36:45

R.N. 26915/75

Revised Rates of NCERT Educational Journals

(w.e.f. 1.1.2009)

Title	*Single Copy*	*Annual Subscription*
School Science A Quarterly Journal for Secondary Schools	Rs. 55.00	220.00
Indian Educational Review A Half-Yearly Research Journal	Rs. 50.00	100.00
Journal of Indian Education A Quarterly Journal of Education	Rs. 45.00	180.00
भारतीय आधुनिक शिक्षा (त्रैमासिक) (Bharatiya Aadhunik Shiksha) A Quarterly Journal in Hindi	Rs. 50.00	200.00
Primary Teacher A Quarterly Journal for Primary Teachers	Rs. 65.00	260.00
प्राथमिक शिक्षक (त्रैमासिक) (Prathmik Shikshak) A Quarterly Journal in Hindi for Primary Teachers	Rs. 65.00	260.00
Indian Educational Abstracts A Half-yearly Journal	Rs. 75.00	150.00

Subscriptions are invited from educationists, institutions, research scholars, teachers and students for the journals published by the NCERT.

For further enquiries, please write to :

Chief Business Manager, Publication Department
National Council of Educational Research and Training
Sri Aurobindo Marg, New Delhi 110016

E-mail : gg_cbm@rediffmail.com, Phone : 011-26562708 Fax: 011-26851070

Published by the Head, Publication Department, National Council of Educational Research and Training, Sri Aurobindo Marg, New Delhi 110 016, lasertypeset at ???????????