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CONTENTS

EDITOR'S NOTE

Indian society had lived for a millennium by a value system founded on division and hierarchy, classically manifested in the system of caste-feudal partriarchy. The post-independent India learning from her own experiences of the colonial period has widened her eyes on the issues of inequality and social injustice.

The Constitutional commitment to social equality and social justice was a step towards equal and just societies. The states assumed the necessary responsibility for compensating for histories of discrimination, exploitation and marginalisation along with guaranteeing equality of citizenship by providing essential and special support to the *dalit* and *adivasis*. Our recent efforts for educational reform showcase that historical inequality in diffusion has been mitigated to a great extent; however unequal provisions not only in terms of physical amenities but also in curriculum persist to some extent. The prevailing school curriculum does not relate knowledge that school provides with the life of children belonging to marginalised groups.

Exploring this very concept of education, the text of Nandini Sunder's lecture "Social and Politcial Exclusion, Religious Inclusion: The *Adivasi* Question in Education" (delievered for the Memorial lecture series of the NCERT) focusses on transformation of *adivasi* children in central India through formal schooling and also on the exclusions of their own knowledge of biodiversity from the school curriculum. Further in this series, two articles- one by Lungthuiyang Riamei and the other by Priti Chaudhari reflecting on school education in relation to marginalised groups are included. Marginalisation in terms of disabilities has also its own difficulties in school education which needs to be addressed through research studies. Vinay Kumar Singh, Geeta Singh and Masroor Jahan have made an effort in this direction through their research which explores study habits of visually impaired students in relation to their study related variables.

In the age of unprecedented levels of violence school education assumes the responsibility of strengthening the value system along with the task to

educate the children for resolving conflicts. In this crucial time and situation education system needs to be guided by the ideas of our great thinkers such as Vivekananda, J. Krishnamurti, Sri Aurobindo and Mahatma Gandhi. This volume includes paper deliberating on the relevance of educational thoughts of J. Krishnamurti in the context of education for peace. This paper is jointly written by Parmanand Singh, Parnita Singh and Jayashankar Yadav. We all in education community have strong feeling that for bringing qualitative improvement in our educational system; we need to work towards making our teaching/pedagogy more effective. This concern has been expressed in articles contributed by B.C. Das, K.K. Sharma and Saroj Sobti, Vandana Singh, Sarat Kumar Rout and Bharti Dogra. This volume also carries two research articles on varied themes: one is on "A Qualitative Analysis of State Level Tests of National Talent Search Examination" by K. Chandrasekhar and Mamta Agrawal and another one on "Learning Orientation and Perceived Parental Attitudes of Students at the Senior Secondary Level" by Letha Rammohan.

Finally, the journal brings out a book review "The Development of Teacher Education in Portuguese Goa" by Surendra Singh and a reportage about observations on Educational Research by Shankar Sharan.

Field of education is getting wider day-by-day with emerging ideas, innovations and reforms.The forum of Journal of Indian Education tries to capture a few of them contributed by you, for you.

Academic Editor
JIE

Social and Political Exclusion, Religious Inclusion

The *Adivasi* Question in Education*

NANDINI SUNDAR**

Abstract

The talk focusses on adivasi children in central India, their transformation through formal schooling and the way in which new kinds of knowledge comes to replace or co-exist with older forms. On the one hand, there are occasional acknowledgements that adivasis or indigenous people have great knowledge of biodiversity which can be of use in the emerging biotech industry, on the other hand, there is very little done to tap into this in a holistic or sustainable model. Indeed, the formal schooling system often destroys the knowledge that children already possess. Schooling is an important avenue for not just career mobility but identity formation and the creation of personal and professional networks. However, the focus of studies in India has been on issues of educational deprivation or at best on social exclusion and discrimination regarding access within the existing system. It has not looked at the content and effect of formal schooling with regard to indigenous knowledge, or the way in which adivasi identity is transformed through the kind of competitive proselytising that is undertaken through schools, by both the R.S.S. and other organisations. At the same time, a discussion of schooling implies some idea of 'normalcy'. In fact, in large parts of adivasi India, people live in a state of absolute abnormality, where the state has undertaken both large scale displacement and relentless repression. The paper asks if and what kind of schooling is possible in these circumstances, and what kind of citizen is ought to be produced?

I am grateful and honoured to be invited to give–2009 B.M. Pugh Memorial lecture. Prof Pugh is a model for us all not just in terms of his scholarship and dedication to institution building, but also a model of the best we can hope for

* This article was presented during the B.M. Pugh Third Memorial Lecture at The North Eastern Council Auditorium, Nongrim Hills, Shillong, held on 9 October 2009 and published by NCERT, New Delhi.

** Nandini Sundar is a Professor of Sociolgy, Delhi School of Economics, University of Delhi.

in terms of tribal, indigenous or *adivasi* education. In particular, I want to quote from a few lines about him: "During 1926-28, he worked with the famous entomologist Professor D. P. Clausen on *tiphia,* an insect also known as the Japanese beetle. B.M. Pugh incidentally had known an insect very similar to this early in his childhood at Laitkynsiew. His work with the Berkeley faculty yielded spectacular results, which were eventually responsible for saving the apple orchards of California from the marauding Japanese beetle." Not only did B.M. Pugh draw on his own practical experiences as a child, he translated this into scientific knowledge that helped people in a country far from his own. When I think of what I would like to see as the educational future for *adivasi* children, I think of a combination of indigenous knowledge, formal school training which gives one the confidence to compete with others, and a concern not just with helping one's own community, important as that is, but with contributing to the wider world.

Sadly, my lecture today is focused not on this optimistic future, but on the dismal present, the constraints that come in the way of realising this educational dream for the vast majority of *adivasis* in central India. The situation is, of course, different in many states of the North-East with their high literacy rates, but the problem of cultural destruction and political discrimination that underlies the educational process is perhaps not dissimilar.

One of the areas taken up by the National Knowledge Commission, set up in India in 2005 to enable the development of India as a knowledge-based economy has been 'traditional knowledge.' Arguing that principled commercialisation of our cultural, creative and legacy practices has the potential of generating employment for at least 100 million people and an annual revenue of at least Rs. 600,000 crore per year', it lists a number of aspects of 'traditional knowledge', many of which refer to tribal practices in medicine, art and agriculture.[1]

Thus scheduled tribes recognised as possessing traditional knowledge of a kind that is not only useful to them, but has implications for national growth and sustainable development more broadly. However, other aspects of government policy towards *adivasis* systematically denigrate any knowledge that they

[1] The principles and basic premises that should govern the documentation and use of our traditional knowledge, that is our creative, cultural and legacy industries. Plant based drug formulations of which we have over 40,000 that have come to us through the Ayurveda,Unani, shiddha, Tibetian (all documentd) and the non-documented tribal systems of medicine. Traditional agricultural practices of which 4,502 have been documented by the I.C.A.R in a series of volumes, with 86 have been validated and 38 cross-validated till December 2005. Our culinary traditions which use some 150 documented vegetables for which nutritional and other information is available, and an equal number of fruits. Culture-specific tourism for example, through indenification of tribal art centres, promoting authentic local performing arts and making use of the unusual sites and practices which ave been well-documented, for example in a book brought out by CBSE., New Delhi. Our traditional products, services and art forms that are not included above".

possess, and make it impossible for them to develop, leave alone adopting their path as the model for others. The large-scale displacement, and the growing deforestation and degradation of environmental resources, reduce the habitat in which indigenous knowledge survives. Equally importantly, the formal schooling system often destroys the knowledge that children already possess, and transforms social relations which are relatively equal in the direction of greater patriarchy and hierarchy. While schooling is an important avenue for not just career mobility but identity formation and the creation of personal and professional networks, it is not clear that, as they stand, these networks will help to tap into or enhance the knowledge of *adivasis*. Instead, there is a danger, that unless there are other factors that affirm cultural pride in *adivasi* identity, education will become a means for alienation from the *adivasi* community.

My lecture will attempt to illustrate the manner in which *adivasi* children in central India are transformed through formal schooling and the way in which new kinds of knowledge comes to replace or co-exist with older forms. It is important to keep reminding ourselves that 'educational processes are fundamentally culturally processes' (Luykz, 1999, xxxiii). The material for this lecture is drawn from 19 years (1990-2009) of fragmentary observation of schools in (undivided) Bastar district of Chhattisgarh as well as more specific research I did in 2001-2002 on schools in Jashpur district of Chhattisgarh. I have also drawn on writings by other scholars on *adivasi* schooling elsewhere in central India, such as Orissa or Andhra Pradesh. I regret that I have not looked into educational processes in the North-East, as that would have provided a useful foil.

The educational context for *adivasis* in central India is primarily one of social and political exclusion or discrimination. But there is a widespread desire for education, a need which is being filled by private schooling. According to NCERT (2007:15) there are over 40,000 unrecognised private schools in rural India. In many places, particularly urban or semi-urban areas, this proliferation of private schools has exacerbated social differentiation, with the poor being confined to vernacular government schools and anyone with the slightest ability to pay sending their children to private 'English-medium' schools.

There is also a growing religious or cultural gap between those who go to private denominational schools and those who go to government schools. The biggest organised players in filling the educational gap are Christian missionaries and Hindu chauvinist organisations like the R.S.S.[2] or soft Hindu organisations like the Ramakrishna Mission, or the Mata Rukmini Devi Sansthan (followers of

[2] As of March 2002, Vidya Bharati, a front of the R.S.S., had 17,396 schools across the country (both rural and urban), 2.2 million students, over 93,00 teachers 15 teacher training colleges, 12 degree and 7 vocational and training institutions.

Vinoba Bhave). All of them are interested in 'uplifting' *adivasi* children, and making the experience of educational social mobility a simultaneous experience of cultural transformation. On the one hand, these schools provide better education than most government schools (except Central Schools and Navodaya Vidyalayas etc.) in the sense of getting children through examinations, but on the other hand, the extra-curricular activities they engage in have significant consequences for *adivasi* self-understanding. Increasing class and communal divisions, promoted through differential schooling, thus diminish the promise of a more meaningful common citizenship held out by higher literacy levels (see Vasavi, 2000; Jeffery, et. al. 2002).

The critical need of the hours is a kind of education that enables children both to compete on equal terms in the world of formal employment and not just at the lowest levels, and to affirm their *adivasi* culture, languages and knowledge.When the government talks of 'Mainstreaming' it has only the former in mind, but even the mainstreaming is aimed at integrating them only into the lowest levels of the market economy.

The State of *Adivasi* Literacy and Education

As the following table shows, despite some improvement between 1991 and 2001, literacy rates among STs in India are abysmally low. The figures are not differentiated by region and if we take out states in the North-East where STs have high literacy rates, the figures will look even worse.

Literacy Rates

	2001	*1991*
Rural female ST	32.4	16.0
Rural female non-SC/ST	50.2	35.4
Rural male ST	57.4	38.5
Rural male non-SC/ST	74.3	63.4

Source: National Focus Group on Problems of SC and ST Children, based on Census of India 1991 and 2001 (NCERT 2007: 32).

Much of the existing research on *adivasi* education in the central Indian belt highlights the lack of educational access, or the poor quality of education received : the absence of conveniently located primary schools, teacher absenteeism, abysmal infrastructure manifested in leaking roofs, non-existent toilets, furniture, blackboards and educational materials such as textbooks, maps, etc. (Furer-Haimendorf, 1982; Ananda, 1994). In the early 1990s when I lived in Bastar, I even heard of a school where liquor was sold from the premises. The exact nature of the linkage between poverty and schooling is contested, with studies by Tilak (2000), Jha and Jhingran (2002) among others, arguing that poverty, with its attendant hunger, malnutrition and ill-health, is a major cause for low attendance. Other studies by Dreze et. al. argue that it is not the cost of absent labour power that is the problem but the cost of sending children to school, as well as the poor quality of education that makes it not worth the expense (PROBE, 1999; Furer Haimendorf, 1982 : 134).

Although the central government and state governments have a number of schemes for *adivasi* children, such as stipends, a book bank scheme, special coaching for entry into engineering and medical college, and construction of hostels (see National Commission for Scheduled Tribes 2006, Chapter 5), they do nothing to address the larger structural inequalities which are responsible for the poverty of *adivasis*. At an underlying level, literacy and the denial of minimum educational provision is clearly fundamental to the exclusion of *adivasis* from full-fledged citizenship rights - displacement for large infrastructural projects like dams is lubricated by illiteracy and having people thumbprint away their land, an influx of outsiders for skilled industrial jobs is facilitated by the absence of trained *adivasi* youth, and exploitation by traders and moneylenders is made easier by having a population without even functional literacy in accounts. The low literacy rates also have implications for people's ability to make themselves heard politically since they cannot then document their own problems, write in the media or send representations to government.

Educational Discrimination Blaming the Victim

Many of the supply problems regarding the poor functioning of schools are shared in varying degrees by non-*adivasis* in regions across the country (PROBE, 1999), but there are also some issues which are peculiar to *adivasi* areas, such as the language gap between students and teachers who do not speak any of the local languages, blatant discrimination or at the very least unequal treatment by teachers compared to non-*adivasis* or upper caste students, and general concessions which makes the educational experience particularly alienating. *Adivasis* are blamed for their own lack of educational progress, such as in the following extract from the Class IX Social Studies Textbook in Gujarati, Chapter 9 under the heading "Problems of the Country and their solutions:

"There is very poor socio-economic development among the Scheduled Castes and Scheduled Tribes in India, although they constitute one-fourth part of the total population. They have not been suitably placed in our social order, therefore, even after independence they are still backward and poor. Of course, their ignorance, illiteracy and blind faith are to be blamed for lack of progress because they still fail to realise importance of education in life" (reproduced in Patel et. al. 2002: 246).[3]

Contrary to this view, studies have shown there is a great desire for education among both *adivasis* and *dalits*. A study as old as 1977, of 9 villages in Utnur *Taluk* (Andhra Pradesh) by Abbasayulu (quoted in Furer-Haimendorf, 1982: 133) noted that while a greater number of non-*adivasis* sent their children to school compared to *adivasis* in the same villages, 98.46 per cent of *adivasis* thought education was a good thing compared to only 76.3 per cent among non-*adivasis*. *Adivasis* were often more interested in education than non-*adivasis* because they knew it was

[3] Reproduced in Padel, A.–2002, (246)–3.

their only option for 'advancement', but did not send their children to school either because of poverty or because the schooling process made their children feel inferior, or as Nanda shows, schooling, as practiced, was a waste of time. A study by Ranjit Tigga in 1991-92, comparing the background of children who went to two Jesuit schools in then Raigharh district – Loyola and Prakash – found that while over 80 per cent of children's families were agriculturists and had incomes under ` 10,000 p.a. and in the case of Prakash, 90 per cent of parents could not fund the education of their children, the vast majority of parents (90 per cent and 72 per cent respectively for Loyola and Prakash) sent their children to school willingly. The sample was 100 per cent *adivasi* (Tigga, 1992).

Displacement is a major factor in lower rates of schooling among *adivasis*.[4] Impending displacement often serves as an excuse for not providing schools and conversely, the lack of schools in *adivasi* villages has been cited as a justification for displacing them. The Supreme Court Judgement dismissing the petition of the *Narmada Bachao Andolan*, 2000 stated:

"Residents of villages around Bhakra Nangal dam, Nagarjun Sagar dam, Tehri, Bhilai Steel Plant, Bokaro and numerous other developmental sites are better off than people living in villages in whose vicinity no developmental project came in. It is not fair that tribals and the people in undeveloped villages should continue in the same condition without ever enjoying the fruits of science and technology for better health and have a higher quality of life style. Should they not be encouraged to seek greener pastures elsewhere, if they can have access to it, either through their own efforts due to information exchange or due to outside compulsions." (Maj. Judgement, pp. 172-73). "At the rehabilitation sites they will have more and better amenities than which they enjoyed in their tribal hamlets. The gradual assimilation in the mainstream of society will lead to betterment and progress" (Maj. judgement, p. 48).

In other words, *adivasis* in general, and not just their children, are seen as people for whom compulsion must be exercised in their own best interest. Inevitably, when it comes to children, then, the disciplinary and civilising aspects of schooling take precedence over the idea of opening them up to new intellectual experiences. The parallels with the schooling of Native Americans and Australian aboriginals are striking.

Language[5]

There are several policy documents and a constitutional provision (350A)

[4] A very conservative estimate indicates that during the last 5 decades approximately 21.3 million people have been displaced in the country owing to big projects such as mines, dams, industries, wild-life sanctuaries, field firing range etc. Of this, at least 40 per cent, approximating 8.5 million are *adivasis*. Considering that *adivasis* are approximately 8.1 per cent of the country's population, this is an unacceptably high proportion (Ekka and Asif, 2000)

[5] Some sections, like this one, are taken from an earlier note on *adivasi* education I had written, and which was replicated verbatim in NCERT (2007), the report of a a focus of which I was a member.

recognising that linguistic minorities should be educated in their mother tongue at primary level. However, even languages like Bhili, Gondi or Oraon which are spoken by over a million people (Nambissan, 1994 : 2747-48) are not recognised in the 8th Schedule of the Constitution, and Bodi and Santhali which are spoken by 1.2 and 6.5 million people respectively, were added only in 2003. Correspondingly, there is practically no education in *adivasi* languages. Although states in India were organised on linguistic grounds, in the absence of political power, none of the major *adivasi* groups managed to carve out states for themselves. Consequently, these groups are distributed across state boundaries and the languages they are taught in, are those of the state in which they live, so that even if they share the same customs and have marriage relations across state borders, the educated youth of these states do not develop a sense of oneness. Coupled with the fact that only 6 per cent of primary teachers are from *adivasi* communities, and several do not bother to learn the language even after several years of being posted there (Kundu, 1994 : 31, personal experience), the general picture at primary level in *adivasi* areas is often one of mutual incomprehension for students and teacher.

In common with stories of indigenous people's education in Australia and America, *adivasi* children in India have been punished for talking in their own languages (Saxena and Mahendroo, 1993; Kundu, 1994 : 31). Quite apart from the pedagogic problems this creates –such as destroying the child's self-esteem, and reducing the possibilities of successful learning in later years–the denigration of *adivasi* languages amounts to denigration of *adivasi* worldviews and knowledge.[6] Even outside the confines of school, educated youth often speak to each other in the language of the school, perhaps also to mark themselves off from their 'uneducated peers'. As one Halba student at Dilmilli ashram school in Bastar said *Jyada shikshit hote ja rahein hain to hindi bolte hain*. (The more educated we become, the more Hindi we use). Where Hindi is the medium of education, *adivasi* languages are themselves changing to use more Hindi words, and Hindi grammar.

Even where *adivasis* are passionate about their own language, they do not expect schools to teach in them. Indeed, for many *adivasi* parents, the main advantage of schooling is that it gives access to the regional languages, and enables people to deal with the bureaucracy and non-*adivasis* (Grigson, 1944 : 398; Patwardhan, 2000 : 82). Tigga (1992) notes that in his survey 58 per cent of both teachers and *adivasi* parents saw tribal language as a barrier to their children's education. On the other hand, if *adivasi* languages were given official recognition by the state and if they were connected to job prospects, there might be more people who would

[6] Although there are 400 *adivasi* languages in India, several languages, especially those spoken by small numbers, are dying out. Given that so much knowledge is stored in a particular language, particular words for things that have no existence in other languages, (Geertz, 1983:88), loss of a language means the loss of a certain way of knowing the world.

want education for their children in their own language (Nambissan, 2000 : 197). And indeed, wherever *adivasis* have been politically mobilised to celebrate *adivasi* identity, they have been more clear and open in their demand for education in indigenous languages (Patwardhan, 2000; Nambissan, 2000 : 213). One of the reasons why the Maoists are so popular across the central Indian belt is that they have developed Gondi literature, and have cultural troupes which perform Gondi songs and dances, which makes their message accessible to the people.

There is a concrete problem, however, in determining which language will be taught in primary schools as the 'mother tongue', given the common feature of several *adivasi* communities inhabiting the same village but speaking different languages. Using the local *lingua franca*– Sadani or Nagpuri in Jharkhand, Halbi in Bastar, etc. – is one option, but even this will not address the problem. Finding teachers who will teach in the local language is another problem, unless *adivasi* teachers are more heavily recruited. Currently, there is no political will on requiring non-*adivasi* teachers to learn *adivasi* languages. One positive feature however, is the emergence of a large literature in some *adivasi* languages like Bodo and Santhali. Curiously, the growing commercial culture of music videos and low budget films enabled by digital technology, have led to a proliferation of media in *adivasi* languages like Nagpuri, Santhali, Mundari, Halbi etc. Although the themes remain modelled on Hindi films, and they are usually of very poor quality, popular demand has ensured a certain engagement with various vernaculars. Many of these films also incorporate some degree of ethnographic description. It is possible then, that where official apathy has failed, market forces may come in to atleast somewhat save *adivasi* languages.

Curriculum and Textbooks

Adivasi children are not only denied their own languages, but also their culture and history. The curriculum is usually based on the experiences of urban middle class children, and the kinds of objects they refer to, are often unlikely to be found in a rural home (see Kundu, 1994: 61). Not only is the knowledge and linguistic or cognitive ability that *adivasi* children possess ignored e.g., the capacity to compose and sing spontaneously, to think in riddles and metaphors and their intimate knowledge of their environment- but schooling also actively encourages a sense of inferiority about *adivasi* cultures, which persists into later life.

Adivasis rarely feature in textbooks, and when they do, it is usually in servile positions to upper caste characters; or as 'strange' and 'backward' exotica (Kundu, 1994 ; Kumar, 1989 : 71). Nanda quotes from a second grade textbook that Bonda children are made to learn: 'Bonda life is very strange indeed. They live in tiny huts built of mud. The entrance to these huts is rather narrow. They enter the huts by bending forward. For the upliftment of the Bondas, the government has planned development programmes. Cash loans are being extended to the Bondas for the purpose of improved agriculture and animal husbandry. There is now a steady improvement in condition. Hunting in the forest is no more their primary occupation. There are changes in their

disposition and diet. Now they know how to count cash.' (State Board textbook quoted in Nanda, 1994 : 173). In a marvellous essay titled, 'Learning to be Backward', Krishna Kumar points out the cleft position that such texts place *adivasi* children in. If children fail to answer questions about *adivasi* backwardness based on readings from the text, they are judged educationally backward. If they acknowledge that the texts are correct, they accept an external judgement about their cultural backwardness. Either way, 'there is no escaping the label of backwardness. As a social institution, the school has set up a situation in which the tribal will acquire responses that match his description in society as a member of a 'backward community' (Kumar, 1989: 68).

While the general problem is with the absence or denigration of *adivasi* culture, in RSS schools, there is a more specific problem with the use of additional textbooks that have a communal slant meant to promote Hinduism and denigrate other religions. Among private religious schools, only the RSS seems to pose this problem.[7] In the Ramakrishna Sharada Sevashram, Jagdalpur, the Principal explained that there was no question of teaching outside textbooks because the students are unwilling to learn more than the bare minimum and even colleges use guidebooks. In the Gyanodaya school in Jagdalpur, run by the Catholic community, while the school has its own textbooks for Classes I and II, these do not have any religious content and are chosen because of their large format and illustrations. Most of the Vidya Bharati (RSS) schools are affiliated to CBSE or their local State Boards. In general, these schools follow the syllabi (and the textbooks) published by the NCERT But in addition, Vidya Bharati brings out its own textbooks, which 'supplement' and 'correct' the history that is taught in the official books, working as much by selective emphasis on certain figures as against others, as by crude propaganda against Muslims and Christians. *Itihas ga Raha hain* (history is singing) for Class V blames 'internal disunity' for the invasions by the Turks, Mongols and Mughals, but notes that even in the medieval period the 'freedom struggle' was kept alive (Singh, 1997 : 9). While professional historians point to the presence of Hindu generals in Mughal armies and the fact that Shivaji, the archtype Hindu king had a Muslim general, as evidence of the fact that medieval power struggles cannot be understood in religious terms, the RSS sees this as a betrayal of Hindus and reserves its greatest criticism for such 'collaborators' (Singh, 1997 : 78). Christian pastors are described as one of the main instruments of colonialism (Singh, 1997 : 27), thus strengthening the association in children's minds between Indian Christians and anti-

[7] This observation is based on a survey I carried out among five schools in Bastar and Jashpur districts of Chhattisgarh, including the Loyola boys school in Kunkuri; Nirmala Kanya Unch Madhyamik Shala, Navatoli, Kunkuri; Mata Rukmini Devi Sansthan, Dimrapal and Chhindgarh; Ramakrishna Sharada Sevashram, Jagdalpur; Gyanodaya school, Jagadalpur.

national activities and laying the roots for divisions between Hinduised and Christianised *adivasis* (for more discussion of the content of these textbooks, see Sundar, 2004).

All students from Class III upwards in the Vidya Bharati schools also take the Sanskriti Gyan Pariksha, a cultural general knowledge test once a year, for which they get certificates. The examination is, on the face of it, a disinterested test of knowledge about the country's geography, history and culture based on the Sanskriti Gyan primers published by Vidya Bharati at Kurukshetra. The primer is in question-answer format, and has sections on pilgrimage sites, actual and mythical Hindu figures, events from the *Mahabharata, Ramayana* etc., including some pure inventions such as the idea that Christ roamed the Himalayas and that Homer's *Illiad* was an adaptation of the *Ramayana*. Needless to say there are no references to anything Christian, Muslim or *adivasi*, and the version of Indian culture that is produced is thus an exclusively Hindu upper caste (mostly Northern) culture.

Hidden Curriculum

In all schools, however, textbooks are only one instrument for transmitting cultural messages–most of this takes place through the composition of students and teachers, with both Christian and Hindu schools engaged in some amount of boundary keeping,[8] extra-curricular activities like morning and evening prayers, especially in those schools which have hostels attached, and the general atmosphere of the schools (see Sundar, 2004, 2006). The communicative function of schooling extends much beyond the actual curricular content, through what Corrigan calls a 'repertoire of forms' that include space, time and textuality (Corrigan, 1990 : 160).

The fact that, even in regular government schools, most teachers are Hindu influences the manner in which annual days or other school events are celebrated. Breaking a coconut and lighting incense at the base of the flag pole on Republic or Independence Day is common practice. When teachers talk about imparting 'sanskriti' to *adivasi* children, they usually have in mind upper caste, non-*adivasi* practices, and this is something that is internalised by *adivasi* teachers as well. In one scene at examination time in a primary school in Bastar, I was witness to this. Ranu Nag, one of the few Dhurwa school-teachers, and keen to revive the use of Dhurwa, was acting as external examiner. He asked the children their names. Yet as they called out each distinctive *adivasi* name, like Gagru or Aitu or Devli, he ironed it out to standard Hindu names like Gagru Ram, Aitu Ram, Devli Kumari etc. On the other hand, government schools are not marked by the kind of intense religious exposure that private schools provide, and beyond one or two pictures on the wall of Gods or Goddesses, there is no strong effort to culturally transform the children. It is true that children who go to these schools come out thinking for example, of Diwali and

[8] For example, in the RSS schools the children were predominantly Hindu, while in the Loyola School in Kunkuri they were largely Christian.

Holi as more important than their own festivals, because they are 'national holidays', but this is as much due to the way the academic calendar is structured and the wider media, as due to the specific efforts of teachers.

By comparison, even in those soft-Hindu schools which see themselves as 'secular', ideas of cultural change are so engrained that they seem synonymous with schooling. At a school run by the Mata Rukmini Ashram in Chhindgarh, the girls were taught to observe *Makar Sankranti*, *Ganesh puja*, and so on, and the money that was collected from their sale of tamarind was used to buy the *Ramcharitmanas*. Statements like these from a school teacher from Uttar Pradesh are common: "If people hadn't come from outside and taught them, how else would they have progressed" or "earlier their parents used to insist they come home for the seed sowing festival – but now they don't. The girls have learnt all our festivals".

In RSS organisations, we see the most conscious attempt to turn *adivasi* children into Hindus. This is carried out not only through the schools, but especially through hostels. The RSS, following the Church before it, sees hostels as nodal points for Sangh extension activities in the villages:

We know that not all students of our *chhatravas* (hostel) will become full-time workers. But all of them will have received our *sanskars* ...of all our activities, the most important one is the running of the hostels. The rationale behind our hostels is different from the usual ones. We want to make our hostels the focus or centre of attention for the region. Through this medium we want to bring about awareness in the whole region (Deshpande, 1990 : 17).

A handbook for the private use of *Vanvasi Kalyan Ashram* workers notes that in addition to the hostel warden, an additional worker should set up a centre in or near the *chhatravas* to keep in touch with a circle of 20-30 villages around and organise them through pre-school centres, *eklavya khelkud kendras, gram samitis*, dramas, etc. (A.B.V.K.A.; Sapre, 1991). Children are trained to hold *bhajan mandalis, satsang kendras, shakhas* and other activities when they go home for the long summer vacations.

The hostels are in much demand and even some Christians apply. Although the surroundings are shabby and food is basic, there is a proliferation of Hindu visual imagery–all of which is part of a carefully planned design to expose children to Hindu idioms. At the same time, there is an attempt to integrate what they call '*vanvasis*' into the wider Hindu fold, by saying that the hostel should be named after a famous *vanvasi* man or woman. At the pre-school centres (*Balwadis* or *Bal sanskar kendras*) children learn the rudiments of reading, writing and *sanskars*, including learning to say *pranam* instead of their own *adivasi* greeting *johar*, and singing the *Saraswati Vandana*. Not every child understands what they are chanting, but sustained exposure to these centres inevitably inculcates respect for Sanskrit as a language worth knowing, and a belief that 'civilisation' consists in Hindu markers of behaviour. More important than the actual information that children may or may not remember is the symbolic message transmitted at the *Eklavya khel kud centres* for older youth. The *sangh* teaches the children 'indigenous' games

with names like *Agnikund* and *Rama-Ravana*. Here, as in the *shakha*s, the referee calls out directions in Sanskrit. While local languages are not forbidden in RSS schools and hostels, Sanskrit and Hindi are glorified. Like the Catholics before them, who set hymns to local tunes, the Sangh may keep in references to the Singbonga or local gods in their *bhajan*s, but Hindu gods like Ram and Krishna inevitably involve pride of place. There is a real reluctance among Kalyan ashram students to admit to knowing *Kurukh*.

Much of what the RSS schools are doing was done by the Christian mission schools in the early part of the 20th century. Now, however, the Catholics confine their religious teaching to their own community. Non-Christian children do not have to attend Cathechism classes, and can carry out their own prayers or study during prayer time. For the Catholic children, however, the education is deeply Christian. The model, overall, is modern Western culture – when children see fathers in Loyola school, Kunkuri, eat with forks and knives, this becomes something to aspire to.

Each type of school has its own version, thus, of what constitutes suitable culture for *adivasi* children to learn, but there is very little attempt to find out what *adivasi* culture itself is, and how it can enrich the school curriculum.

School Regimen

In all private schools, whether R.S.S., Christian, or otherwise, the hostel regime emphasises discipline and prayer, creating a totalising and intense experience. Government schools are far more relaxed. In these private schools, children normally wake up at 4:30 a.m., pray for an hour or so, then bathe and breakfast, and attend classes. They may do some exercise either in the morning or evening, but are bound to pray again in the evening. So much prayer is in sharp contrast to their homes, where there is no such practice of daily prayer, and life is far less regimented. The following two timetables show how regimented and prayer filled the school day is:

***Dainadin Karyakram* (daily programme) of the *Vanvasi Kalyan Ashram*, Jashpur, as pasted on the wall**

Pratah (Morning)	
4:00-4:30	Jagaran Prarthna;
4:30-4:45	Ekatmata Stotr;
4:45-6:00	Surya Namaskar;
6:00-6:30	Ramayan Path;
7:00-9:00	Swadhyay;
9:00-10:30	Bhojan;
10:30-4:30	Pathshala.
Sayan (Evening)	
5:00-6:00	Khelkud, Vyayam;
6:00-6:45	Kirtan, Bhajan, Aarti;
6:45-8:00	Bhojan.
Ratri (Night)	
8.00-8.30	Sawadhyay;
9.30-9:45	Prarthna Deep Nirvan.

Note

1. On Sundays, children are given information of national and social happenings, stories and life histories of famous people.
2. Children must maintain cleanliness in the *chatravas* and its compound.

Daily Time-Table at the *Loyola* School, Kunkuri, as related by students

A.M.	
4:45-5:15	Wake up and wash
5:15-6:00	Prayer in Church for Catholics (non-Catholics worship separately in classroom or study)
6:00-7:15	Study in hostel
7:15-7:30	P.T. drill
7:30-8:15	Cleaning hostel premises, collecting vegetables from garden
8:15-8:30	Bathing
8:30-9:15	Breakfast (dal and chawal)
9:15-9:30	Religion class (in classroom)
10:00-10:15	Assembly prayer
10:15- 4:00pm	Classes (with three short breaks)
P.M.	
4:00- 5:00	Hostel high school games
5:00-5:15	Washing up
5:15- 6:00	Dinner
6:00-6:15	Church prayer
6:30-10:00	Study (with two 15 minute recess Breaks in between)
10:00 pm	Sleep

In general, both Sarangpam and Padel point to the way in which the school regimen of timing, discipline, hierarchy is alien to children socialised in a world where individuality is respected from early on and where parent-child interaction are relatively egalitarian(Sarangapani, 2001 : 24-27: Padel, 1995 : 224).

Kundu(1994) points out that testing procedures too are based on urban middle class values—the competitiveness and system of rewards that examinations represent is often culturally anomalous to *adivasi* children who are brought up in an atmosphere of sharing in classroom interaction too, non-*adivasi* children dominate, even they are in a minority, by virtue of their greater social confidence. In one classroom interaction I observed at Loyola school in Kunkuri, two of the boys who were very vocal turned out to be from the local trader community, and it is they who set the terms of debate,. One of them complained that it was impossible for children these days to go into medical school as seats are reserved. But when I pointed out that this would not be a problem for most of the children in the class, who were *adivasi*s, they again spoke up and said 'but we are not'. The complaint of the upper caste is thus used to silence the experiences and claims of the rest of the children.

Learning among *adivasi* children is usually intimately connected to the work process - children learnt the names and medicinal uses of many plants and trees while accompanying their parents on foraging trips in the forest (Sanrangapani, 200 : 41). When children are away at schools, they lose connection with this world of labour and their capacity to learnt form it. Nanda describes a walk in the forest with Bonda children in eastern India. While some children wandered off to explore the forest and collect edible items, those who had been to the residential schools, kept to the path and were indifferent to their surroundings (Nanda, 1994:177). Parents used to be reluctant to send their

children to school because they lost the capacity to engage in agriculture (Nanda, 1994 : 173). However, with high unemployment rates, many hostel returned *adivasi* youth have no option but to stick to agriculture or do manual wage work.

Given such a 'demeaning educational experience' (Kumar, 1989: 76) in a setup which privileges the 'visions and meanings' of dominant groups in society and teaches *adivasis* subservience, it is hardly surprising that drop-out rates among *adivasi* children are much higher than those of other students and literacy rates much lower (Nambissan, 1994 : 2747).

Education in a Time of Counterinsurgency

The logic of using education or the lack thereof, to justify displacement has also been used in counterinsurgency operations in central India, where villagers have been herded into camps as a form of strategic hamletting. In Chhattisgarh, since 2005, the government forces in collaboration with civilians whom it has armed and christened the Salwa Judum, euphemistically calling it a 'people's movement', has been burning villages, killing people and raping women. Officially 644 villages, comprising some 3 lakh people, have been affected by Salwa Judum, and live under the daily threat of attack and displacement. Some 50,000 were forcibly herded into camps, similar to the regrouping that happened in Nagaland in the 1950s and Mizoram in the 1960s. Those who escaped the regrouping – a lakh or so – migrated to Andhra Pradesh.

In 2006, all the children in Dantewada were promoted for the academic year 2005-06, because no examinations could be held. Curiously, in 2007 while this mayhem was still ongoing, the Dantewada administration got the National Literacy Mission-UNESCO award for spreading adult literacy. In 2007, I visited a Salwa Judum camp on the border of Andhra Pradesh and Chhattisgarh at Maraigudem. The teacher in-charge of the ashram school said that the population in the hostel kept fluctuating because their parents would bring the children in when conditions were particularly disturbed, and then take them back again.

One of the big casualties of this war has been school buildings, in a region where they were scarced to begin with. The security forces use schools as military camps because they are the only *pucca* building in the villages, and in turn the Maoists blast schools to prevent this happening. They bring in villagers from neighbouring villages to destroy the schools, since they know people find it hard to break buildings they have themselves built. In one place, a strong local leader prevailed upon the Maoists not to destroy the school in his village, but then the CRPF moved in and children were moved out. In response to a court ordered investigation, the NHRC recommended that the security forces be moved out of schools, but the Chhattisgarh government has done precious little on this.

But even where the school buildings exist, the government has moved all the teachers and children from affected

zones to camps, ensuring that if children are not in camp, they have no access to education. In 2007, the government also issued directives that the children would not be allowed to go home for the summer. Ostensibly this was for their own safety; but also worked as a way of forcing the parents to come to camp if they wanted to be with their children. Most of the people have now come back from the camps to their villages, but schools and teachers continue to work only in the camps, and not in the villages where the majority of children are now. Salwa Judum leaders refer to teachers as 'their property': "These teachers belong to our government. We have kept them (teachers) all together in one place. Those who don't join the Judum will get no school or be allowed to go to school." As a further attempt to 'capture' the children, and wean them away from Maoist influence in the villages, the government is building 1,000 seater ashram schools. These, however, are next to Salwa Judum camps and police stations, ensuring that their education will take place under the watchful eye of these Salwa Judum leaders. The physical space of the schools is also restricted, with rooms in narrow lines.

Even the UNICEF has colluded in the argument that children are better off in camps, with a UNICEF film made for educational purposes noting how great it was that these *adivasi* children who were in Salwa Judum camps had now learnt to brush their teeth with foaming toothpaste. At a time when these children had lost their homes and in many cases, seen their relatives or co-villagers killed before their eyes, learning to brush with toothpaste which they can ill-afford, as against their traditional *datun*, would hardly seem like a big achievement for either UNICEF or the Indian state. UNICEF tents, meant purely for educational purposes, are being used for shooting cover and to house paramilitaries; and yet UNICEF has been silent on these violations.

For the teachers themselves, always reluctant to travel to interior villages, the Salwa Judum has been a period of pay without work . Officially, the government claims that it is the Naxalites who have driven teachers and other government staff away, but this is denied by many villagers. In December 2008, I was shown a threatening letter written in red ink, in a purposely illiterate hand, ostensibly from the Naxalites to the school principal, commanding him to shut the school down within two weeks or else! On enquiring into the issue in the village concerned, we learnt that it had originated from a disgruntled teacher, upset with the principal's insistence that he come to work on time!

Many teachers, who are either outsiders, or educated tribals, who have got alienated from the poor villagers who comprise the Naxal base, have been active with the Salwa Judum and made enough money to become contractors. The Salwa Judum leader in Kutru, Madhukar, was a middle school teacher, who by his own admission, rarely attended school or only *beech-beech-mein*, whenever he could spare a few hours from his Salwa Judum activities. Following court cases against Salwa

Judum,[9] the government woke up to the need to signal accountability. An article in the Indian Express describes the bewilderment of one 'leader', Soyam Mooka, who was served notice:

Soyam Mooka, a teacher in a school being run by the department, is among the frontline leaders of 'Salwa Judum', ever since the anti-Naxalite campaign was launched in South Bastar in June 2005 to isolate the Maoist rebels and to create awareness among the masses against the Naxalite menace. Like Mukka, a number of other school teachers of Konta and Bijapur regions are closely associated with the movement.

The state Government, which has been extending support to 'Salwa Judum' terming it as a spontaneous movement by the locals against bloodshed and violence in the tribal region, had encouraged these Government employees to actively participate themselves in the movement during the last three years…

Mukka told The Indian Express that he had received a notice from his department asking why action should not be taken against him for making 'political statements' at 'Salwa Judum' meetings and not attending to his duties. "The department knows of my association with Salwa Judum for the last three years", he added.[10]

Luckily for Soyam Mooka the government was never serious about implementing the notice against him and recently has strongly defended him in the Supreme Court on rape charges, a defence it has mounted by virtue of simply asking him to justify himself and dismissing the girl's complaint on this basis. In other words, these Salwa Judum leaders have got rich on government salaries, contracts, as well as relief money they have siphoned off from camps, and it is they, rather than the government, who effectively run the local administration where then is the question of doing anything as mundane as teaching?

Consequences of Schooling

But dismal as this picture sounds in terms of *adivasi* identity and indigenous knowledge, the consequences of formal schooling are often considerably complex. Even as residential schooling creates a certain 'educated *adivasi*' identity that makes it difficult for ashram school alumni to relate to the occupations of their parents (agriculture or the gathering of forest produce), the interaction with children of other castes and villages that residential schools make possible, allow new networks or 'new epistemic communities' (Bayly, 1999) to develop. It is interesting, for example, that many of the male youth activists of the Communist Party of India

[9] WP 250 of 2007, Nandini Sundar and others versus Government of Chhattisgarh, and WP 119 of 2007, Kartam Joga and others versus Government of Chhattisgarh and Union of India.

[10] Tribals see conspiracy in notice to Salwa Judum leader before election. Joseph John, *Indian Express*, 16 October 2008.

in Bastar came to know each other in the residential schools, and it is these networks that have helped them to organise for land rights and in defence of a particular *adivasi* identity. Again, although Christian missionary education often led to an initial loss of *adivasi* identity, culture and religion, it is often in the areas where such education has had a long history that we now see the strongest movements for tribal autonomy and identity (e.g. in the North-East or Jharkhand). Educated *adivasis* take the lead in such movements, which in turn creates a demand for the institutionalisation of tribal languages in schools (Nambissan, 2000: 212-213; Devalle, 1992 : 175-176). Inevitably, however, the language they seek to preserve may not be the language as it is actually spoken, but a more 'civilised' version that follows the structures and written codes of the dominant languages (Devalle, 1992 : 177). In short, formal education may both destroy and create 'indigenous' identities and claims to possess indigenous knowledge.

Advocates of indigenous knowledge and concerned educators argued that it is possible to combine formal schooling with a concern for the preservation of indigenous knowledge, such as the curriculum developed by the Maori in New Zealand and the *Inuit* in Canada which draw on culture-specific learning expectations, use local languages etc. (Michie, 1999; Bartels and Bartels, 1995). In India, however, although there have been some attempts, such as the Dhumkuria school in Kanke, Bihar, based on the indigenous dormitory system among Oraons and in which children were taught both local crafts and prepared for state board examinations (Toppo, 1978) or the attempt by Kundu to use *adivasi* riddling practices to develop curriculum–such efforts are still rudimentary. There is also the danger that unless such efforts are part of a political agenda that is led by indigenous people themselves and aims to empower them, the transmission of indigenous knowledge through schools will amount to no more than the colonial model of schooling in which crafts and agriculture or hygiene and applied sciences were seen as the most suitable subjects for native children (Grigson, 1944; see also Simon, 1998). While education was seen as essential to enabling *adivasis* to avoid exploitation, it was also felt that too much literary education would alienate *adivasi* children from their own culture (Prasad, 1994: 276-277). As Kelly and Altbach argue, in the absence of appropriate history and science education and by denying native children skills for anything other than what s/he had traditionally done, such schooling 'represented a basic denial of the colonised's past and withheld from them the tools to regain the future' (1978 :15). To reiterate then, what I started with – the model for *adivasi* schooling that we should aspire to is one where children are introduced to new skills and knowledge but in a manner that builds upon their existing knowledge and culture rather than in a way that destroys it. And here, I must once again mention B.M. Pugh as the inspiration for such an endeavour.

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Christian Missionaries in Educational and Social Change
A Critical Study on the Nagas

LUNGTHUIYANG RIAMEI*

Abstract

The main thrust of the missionaries in India during the nineteenth and early twentieth century was education and spread of Christianity. The paper provides historical overview of Christian missionaries amongst the Nagas. Education at the mission field reflected the dominant old humanist tradition. Christianity has always been associated with education during the colonial period. However, where mission's education acts as social control, it also tended towards as a social transformation. The article deals about the mssionaries activities in the Indian administered Naga areas. The study brings about how the changes occurred in the Nagas' society after the coming of the Christian missionaries.

Introduction: A brief History of the Nagas

The Nagas live in Nagalim which literally means "land of the Nagas". It is mostly a mountainous region with some of the most beautiful scenery in the world. The area's natural beauty is reflected in their cultural folklore and traditions. Nagalim is strategically located in between South Asia and South East Asian region. Nagas live in the Indian states of Assam, Arunachal Pradesh, Manipur, Nagaland and Burmese North-West state of Kachin and Sagaing sub-division. Ethnically, Nagas are an Indo-Mongoloid folk living in the North-Eastern hill of India and North West of Burma, divided into a dozens of languages and dialects, formerly notorious for head-hunting, which is almost the only thing most people know about them, but today awake and stirring, anxious to progress. They are fine people, of whom their country is proud, strong and self-reliant, with the free and independent outlook characteristic of highlanders everywhere,

* *Doctoral Fellow*, Centre for West Asian Studies, School of International Studies, Jawaharlal Nehru University, New Delhi-110067

good to look at, with an unerring instinct for colour and design friendly and cheerful with a keen sense of humour, gifted with splendid dances and love for song (Elwin V 1961:1). E. W Clark also reminisces of his early days among the Nagas: "they were short, sturdy men; naked but for a small apron and to our eyes exceedingly drity." His description of the Nagas suggests that despite their dirty looks and they wore bits of white cotton symbolising their love of beauty (Bowers, A.C 1929:197-98).

Other than the occasional British civil servant, the only outsiders with whom the Nagas came into contact in the early years were Christian Missionaries who not only proselyted among the various tribes but also concerned themselves with social welfare activities which led to the rise of an element that subsequently played a prominent part in the Naga nationalist movement (Ghokhale, B.G 1961:37). The British administration left the Nagas undisturbed except when they had to be restrained from over-indulging in head-hunting.

Advent of the Christian Missionaries in Naga areas

Missionary urge for Christianisation of India was fermented in England long before the 1813 Charter Act. In 1793 William Carey reached in Bengal at Serampore, with missionary spirit without proper permission from the British Company. Originally he was a cobbler by profession and turned out to be a Baptist missionary and became instrumental to the general missionary spirit that prevailed over England (Grover and Grover 1994). In between, the theory of imperialism did not remain an insulated political position in Britain; it became a religious and ethical theory and an integral part of cosmology (Nandy 1998). Education as a means of evangelisation was chosen for pragmatic reason. The history of Christianity varied in the different regios of India. The missionaries were never from the same denominations or from the same nationality. In the same way, their relation with the British varied. In the context of Nagas, the British had observed that the introduction of Christianity would be sine-qua-non for the upliftment of the Nagas, whom they portrayed as backward and uncivilised (Sema Piketo 1992:67).

Miles Bronson was the first missionaries designated for the Nagas. He visited the Naga areas for couple of times and established a mission among them. He moved his family to the Naga Hills on March 13, 1840 and commenced his work among the Nagas at Namsang village (now in Arunachal Pradesh) in the Tirap Frontier Division of the North East Frontier Agency (Gammell 1850 : 219; Downs, 1971 : 21-21). But his family was afflicted with severe illnes an obliged to abandon the mission station, after which the work among the Nagas ceased.

The reopening of Naga mission field was the work of two men- Godhula Brown and E. W. Clark. Clark had come to Sibsagar to work among the Assamese in 1869. In addition to maintaining the station activities he had, in 1871 become involved among the tea garden gardeners. During these years he had become interested in the Nagas—mostly Aos—who frequently attended the

Sibsagar bazaar. Clark soon discovered that it was difficult to maintain Christian discipline in the Naga village due to constant raids (Downs, 1971: 63, 66).

The first missionary who came to Naga areas in Manipur was William Pettigrew. He came to India under the sponsorship of a private society, the Arthington Aboriginese Mission. He first toured the Songson, Mao Naga village in 1895 but couldn't establish the mission field (Hepuni 1976:3). Then, Pettigrew went to choose the Tangkhul area to start his mission work which seemed to be the will of God for him and for the benefit of the people (Lolly, 1985:24).

However, when the Naga political problems in North East worsened in the early fifties, the fate fell upon the missionaries' activities in Naga areas with the consequence of a sudden expulsion. The troubles and suffering faced by the innocent people during those days were unspeakable. When the Naga Hills were declared as the disturbed areas, free movement was extremely difficult. The Church leaders often failed to continue with their mission activities. The normal life and progress of the church was often affected due to the unsettled Naga political problem which continues till today.

Education as a Medium of Evangelism

Missionary education in India played its part in attempting to break the caste hierarchy. The purpose of missionary education was not one of social control but of social transformation. With an emphasis on 'education for all' without caste or sex distinction- the missionaries were more allied to a public educator tradition. They were prepared to admit those of low caste and of high caste even at the expense of losing many of their pupils. Most saw advanced Christian education to be an indispensable part of what needs to be done for the evangelisation of India. It become more and more syncretistic in response to the missionary impact and thus was able to assimilate much of Christianity which provided a bulwark of conversion. For, instance when Pettigrew established his mission centre at Ukhrul, his work began by establishing a school. His chief objective in giving education to the tribesmen was to propagate Christianity (Luikham, 1948: 15). Various Mission centres along with educational institutions were established across Naga areas to propagate Christianity. The Mission centre which was opened at Molungkimong village in 1876 (later shifted to Impur on the Northern side of Naga Hills in 1984) served the Naga tribes of the Aos, Sangtams, Changs, Phoms, Lothas and Semas, respectively of schooling, evangelisation and in training the young natives of the region in Biblical educations. The Kohima Mission was mainly instrumental in imparting education as well as training to the Southern Naga tribes consisting of the Angamis, Chakesang, Maos, Zeliangruangs, Rengmas (Downs, 1971:95, 137). However, Christianity had brought about education in the early period with their Mission Primary Schools while the conservative Nagas refused to attend schools run by the missionaries.

Missionaries witnessing the revolution of the literacy seem to have been vaguely aware of its enormous impact. For example, in 1944, the first

literature ever printed in the Rengma Naga language (apart from the songbook) was printed in 400 copies and disseminated among Rengma village. This was the Book of Mathew, in large type. The few who can read and help recite the words to the illiterate (Phillip 1983: 191). In this, we see the fusion of the religion and literacy- the youth coming as primary teacher to the distant village, carrying with him 'the power-filled doctrine' made tangible in the form of book and reciting to the villager the unchanging and unchangeable word of God. Educational institutions were always the main agencies for effectively transmitting the dominant culture. Schools act as agents of both cultural and ideological hegemony through the process of selective instruction (Scrase 1993: 56). The schools were considered the best means of passing knowledge and gaining the confidence of the people, as well as propagating the gospel. Christianity was the very core of the educational programme and schools were one of the greatest importances in their endeavour in evangelising the Naga people.

Education as an Instrument of Social Change

With the colonisation of the Naga Hills in the later part of the nineteenth century, the spread of Christianity and western education have influenced the Nagas. Education emerged as an important instrument that started off a political process of developing awareness among the Naga people about their rights but more importantly it brought them together to form a pan Naga identity. Education provided employment to the Nagas that led to the formation of a new class of education middle class who became concerned about the future of development of the Naga people in the British Indian colonial system. This new class educated Nagas emerged as an important factor that moulded the political history of the Nagas (Kikon, 2003:263).

The Nagas did not have their own written script. Modern education was unknown to them. So, the most important significant cognitive dimension to the introduction of Christianity among the Nagas was accompanied with literacy and that the very first literature presented to them was Christian scripture. It is in this sense that the missionaries act as an emissaries of high culture of the plains bringing the written word to the Hill people. Even today the primary and major agent of literacy and higher education in many remote villages is the Christian church. Many local, regional and national leaders have received their education and training in Church sponsored educational institutions (Karotemparel 1994 : 17).

Through missionaries activities several schools were established in the Naga Hills and gradually the people began to understand the value of modern education. The missionaries' tireless efforts to educate the Nagas tribes became successful when the people realized the value of modern education and began to established schools by their own effort and later asked the government help (Lolly, 1985 : 85). The ignorant hill peoples' eyes were opened to modern life through education as the number of teachers and schools increased along with the growth of Christians.

Education was seen as the first step towards freeing the mind and was also considered the least obtrusive method of evangelising as it did not cause any social or political disturbances. The preparation required for receiving knowledge of the Christian truth required clearing the mind of error and superstition which required education for reasons of prudence. Education therefore, was held important to silently undermine the fabric of error, and restoring to the inhabitants of Naga Hills for the use of reason, the accomplishment of which constituted a great moral revolution (Stokes 1959 : 32).

Impact of Christianity on the Naga Society

The spread of Christianity brought vast changes in the social and moral conditions of the non-christian world. The contrast between conditions before and after the missionaries arrived with the message of Christ was unmistakable. Wherever individuals were influenced by the mission fields of Christians, changes in the social environment have always appeared (Lipphand B, Esther, and etal, 1929 : 147). The image of the Nagas as legitimised by the Christian missionaries in their account is that of a people noticeably primitive and apparently barbaric. With this in the background, the missionaries started employing strategies that has given the Nagas a new meaning. The overpowering portrayal of Nagas as a primitive, possibly decadent people clearly overlooked the strength and simplicity of Naga society (Rivenburg 1941 : 37). In the meantime the assimilation of Christian God into the local one, the building of roads, schools, hospitals, and the knowledge of the world purveyed through new maps of the world, and various other new developments in the locality had decisively invaded the Naga cognitive realm (Eaton 1984: 52). And unlike the Hindu religious system, the Nagas have no caste system. They eat, work, talk and worship together. The non-caste base society structure of the Nagas has been a blessing for the significant progress of the Christian missionaries in Naga areas. For the Nagas, they have a sense of equality. In social, political, cultural and religious matters, all have equal rights. Everyone has equal opportunity to express one's view in all matters of discussion. The distinction between the rich and poor, high and low is kept minimum (Puthuvail, 1983 : 173-174). Therefore, it was easy for such a society to understand and incorporate the Christian message of equality and fraternity at its face value.

Christianity was also associated with new, powerful techniques for dealing with physical pain or disease. That missionaries to the Nagas carried with them the latest medicines Western technology had to offer naturally encouraged this association. Sidney Rivenburg wrote: "When I go out to preach, a Scripture portion, hymn book, pills, quinine, chlorodine and painkiller are my weapons of warfare". As a result of this intrusion of Western medicine, the credibility of the village shamans, who traditionally dealt with those spirits inflicting physical pain on individuals, was severely undermined (Smith 1925 : 189). Hence, the new religion became itself a technique and sometimes a remedy for the people.

The coming of the Christianity brought a great transformation in the socio-cultural life of the Naga people. Christians were taught the cleanliness in their houses by keeping domestic animals outside the village, especially the cows, mithuns and removal of the skulls. Missionaries thus, injected the knowledge of a better life and elevated the Nagas gradually from the old way of life to a modern life-style. Previously all dead persons were buried in the yard next to the house, which is no more a practice. Now every village or town has a common cemetery (Lolly 1985 : 70-71).

Marriage in the tribal/indigenous society is a social institution with a solemn ceremony of religious rite without which no marriage is considered legal. During the time of pre-Christianity marriages were mostly arranged by parents and frequent divorce prevailed. But the arranged marriage has gradually given way to the love marriage (Roy 1973: 73-74). When there is love marriage, a better relationship between the couple is seen as a result, happier family life is manifested.

The introduction of Christianity was accompanied by the erosion of good old customs and culture (Sharma and Ao 2000 : 53).Christian missionaries in their mission to spread the Christianity tried to destroy the social and cultural life of the Naga people. Culture played a significant role in stirring up doubts about the contributions of colonial rulers in the lives of the Naga people. While it was true that knowledge of modern science and technology benefitted the people, it was also seen as a way through by which the colonial rulers also gained more power and legitimcy in relation to the system that existed in the Naga society. It became a domain political conflict where western power was equated with knowledege while the already existing system was seen as 'barbaric' and 'inferior'. Here, was system introduce by the colonial rulers that said that 'progress' was equal to western/ modern way of life and 'barbarism' was equal to the (traditional) way of life (Kikon 2003 : 7). Culture became the basis of people's way of live, language, their worldwide views and belief system. Culture became the basis of a struggle for an identity amongst the Naga people, which they felt was being drowned by the direct intervention of the colonial power structure. This power sructure had altered an entire system and had tilted the balance against the Naga people.

Critical Perspective

The wrong western values were being provided as an infrastructure for the wrong western skills. This gap between norms and techniques may be called the 'techno-cultural gap' of the western heritage in Africa and parts of Asia. A major reason for the gap in the field of education lays the paradoxical role of the missionary school. On the other hand, the missionary school was supposed to be the principal medium for the promotion of modern civilisation especially in the underdeveloped world (Mazrui, 1979 : 32). The missionary school as principal medium for helping the Nagas towards a secular civilisation was thus also the central medium for the propagation of new concept of the devout society. At the beginning, the Christian missionaries showed unable to withstand the pressure from the locals. Outside the schools not only did the

Christians try to destroy the local cultures in the name of the new religion, but their manner of introducing the new faith could only lead to its own decline with substituting adequate alternative values (Ibid : 34).

An awareness of variations among Naga religions and of their dynamic, fluid quality helps to suggest how Christian conversions took place in the Naga Hills. For just as it is incorrect to depict the Nagas as having no religion at all, as some British administrators did, it is equally incorrect to see Naga religion as an unchanging structure which Christianity simply replaced. Rather, one finds that Naga religions, already in a process of evolution made further adaptations in their encounter with Christianity so as to incorporate it and in the process, to transform what had once an alien religious system been into and an indigenous one. Naga religions were not static but dynamic as we find that cults change over time, and that particular deities or one Naga group were occasionally incorporated into the cosmology of other groups (Christianity). The chief reason for the high degree of fluidity in Naga religions is related to the lack of writing system and hence of body of scripture by means of which a more stable religious system could have evolved.

Today, majority of the Nagas are Christian. But there are some Naga tribes like Konyaks and Zeliangruangs (a congnate tribe consist of Zeme, Liangmai and Ruangmei) who continue to practice the indigenous form of worship. For instance some of the Zeliangruangs Naga worships their god called *Tingkao Ravguangc* or *Tingwang* meaning god of heaven or heavenly god. Christian prayer was not regarded a suitable substitute for the customary practices associated with the village. Despite the influence of different religions, at present mainly two types of religious practices are found among the Nagas. Specifically, in the Zeliangruangs area there was not much help from the foreign missionaries; the Christian missionary movement was more or less an indeginous effort (Kamei 2004 : 300). But Christianity outnumbers the tradition religion by 90 per cent. It is true that different crises have occurred because of changing or conversion to Christianity from traditional religion, like turning them out from the village and burning up their houses. In fact, it also cannot be ignore that after conversion to Christianity, people has almost forgotten all their traditional customs, their dance and music, dress system and their folks songs etc., which could be an important factor for the prevailing identity crisis (Kamei and Satwanti 2005:6). But gradually with more awareness and enlightenment through education and globalisation, people started realising an important need of cultural items to overcome the problem.

Westernisation in the name of modernisation and economic development should be brought over in tune with Naga indigenous culture, heritage, arts and crafts, customs and customary laws. Under the influence of western culture, it has become the fashion to discard, dishonour and disown our own forefathers and condemn them as head hunters, naked, wild and pagan. In case of the Nagas, outsiders do not identify the virtue of their forefathers and misguided and

condemn them as head-hunters. It is a conspiracy hatched by foreign missionaries and British Government in connivance with white writers to malign and undermine glorious Naga history (Zeliang 2005 : 1).

The Morung (dormitory for bachelors) was one of the social institutions of Nagas' life. It was a place where the young people were trained, disciplined and given instruction. The 'Morung' institution has a similiarity with the 'Kibbutz' of the Israelites where group of young people live together and share all work, and income. Nagas considered the Morung as an enormously powerful organisation with limitless fund (Mills 1937 : 49). Ursula Bowers, an anthropologist who lived amongst the Zeliangruang Nagas gives an elaborate account of a Morung graduate: "they are the tougher fibre and the rough corners have been off. They are more self-reliant, with common sense and better discipline and above all their loyalty and sense of service to a corporate body is well-developed"(Bowers 1952 : 75). However, with the coming of the Christianity the significance of the Morung was considerably reduced. The dormitory institutions was replaced by the Chrisian youth society, schools, youth clubs etc. where youths have more privilesge to participate, learn, and share in modern education and knowledge of day-to-day life.

No one will deny the immense contribution of the Christian missionaries to economic development, social progress and enhancing people to a level of enlightenment. Nonetheless, the view of Naga practices as belonging to a "heathen" past has brought about a dislocation in the traditional culture among the Naga people. The quest for the role of missionaries in distancing the Nagas from their culture is found highly significant. Many authentic and Christian values such as honesty, simplicity, justice, democratic procedures, dignity of the individuals etc, were already present in the tribal society even before the advent of the Christianity. Christianity has not always been able to preserve and build on them. But under the impact of the modernisation some of these values have been lost (Puthenpurakal 1996: 45).

Conclusion

Christian Missionaries working in the Naga Hills played a key role in the expansion of modern education in the nineteen and twentieth century. It is seen that the modern education system instituted in the Naga Hills was a crucial element in the process of evangelisation and the creation of a new culture (Bendanglila 2005 : 111). Many Nagas identified the idea of progress with Christianity. Christianity was understood to be civilised way of life compared the former way of life. Today, it has become a fashion in Naga society to talk about Naga identity while cutting the roots of every component that constitutes genuine Naga identity. With frequent contacts between the Christian and foreign missionaries their world view and mental outlook had been broadened. The Nagas have accepted modernity in tandem with economic and social development. Now, with the pace of globalisation and liberalisation the government of India gives an emphasis in providing opportunities for various

educational fields such as commerce, culture and information technology. It is the responsibility of the education institutions to make proactive contributions to the emergence of finer values in the socio-cultural-political life of the people and take strong measures to raise the performance and productivity in a creative way. As education is a fundamental right of every person regardless of gender and is also widely accepted that it is the most important factor for social development and change. Education is therefore, one of the supreme elements in developing the abilities of an individual.

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The Academic Achievement of Tribal Students of Ashram Schools of Surat District

PRITI CHAUDHARI*

Abstract

In Indian education system education has limited connotation. It is largely concerned with the existing formal structures of education and the insitutionlised methodology of imparting knowledge to individuals. Within this very system exist many sub-groups of individuals with specific needs and tribals are one of them. Education of tribals is an important task before the government of India. One special education input for tribal education is residential schools widely known as Ashram schools in India. These institutions are very special efforts in the direction of tribal education. The study of existing status of education in ashram schools will provide empirical base line about the status of tribal education. Such data also facilitate evaluation of tribal education programmes undertaken. From this point of view it would be worthwhile to know about he academic achivement of tribal students in the ashram schools. The academic achievement of tribal students of Ashram Schools of Surat district was found average in Gujarati, Hindi, Social Science and Mathematics while below average in English and Science and Technology. So there was a need to find out the reasons behind their different levels of achievement in different subjects. The paper shows condition and quality of inputs and the functioning of schools with large ST population is not very encouraging. And there is need to improve the quality of education in ashram schools.

Introduction

Education is a process, a long drawn out one, indeed a life long process. It has long been recognised as one of the corner stones of social and economic development. More recently with technological development and the changes in the methods of production, it has become even more important because the new technologies and

* *Lecturer*, Department of Education [CASE], Faculty of Education and Psychology, The Maharaja Sayajirao University of Baroda, Vadodara-390002.

production methods depend upon the human resource that is well-trained and intellectually flexible. More than ever before, the development of nation today hinges on its capacity to acquire, adapt and then to advance knowledge. This capacity depends largely upon the extent to which the country's population has attained literacy, numeracy, communication and problem solving skills.

In Indian education system education has limited connotation. It is largely concerned with the existing formal structure of education and the institutionalised methodology of imparting knowledge to individuals. Within this very system exist many sub-groups of individuals with specific needs and tribals are one of them. In fact, tribals form a large group of individuals in Indian society. For several historical, economic and social reasons the scheduled groups have remained economically backward and socially retarded even to this day. This is true with respect to their educational levels also. India has the second largest tribal population in the world. This ST population is 8 per cent of the total population of India and about 10 per cent of all rural people. Twenty two of the twenty-six States of the country have about 90per cent of the ST population. There are 573 Scheduled Tribes living in different parts of the country, having their own languages different from the one mostly spoken in the State where they live. There are more than 270 such languages in India (Indian Education Report, 2002).

Meaning of Tribals

The term tribe or tribal is not defined any where in the Constitution although according to the Article 342, STs represents the tribe or tribal communities that are notified by the President. Tribes are not part of the traditional Hindu caste structure. STs in India are more like the "indigenous" or "native people" in other parts of the world.

Our Constitution and the Tribals

The Constitution has devoted more than 20 articles on the redressal and upliftment of underpriviledge following the policy of positive discrimination and affirmative action, particularly with reference to the STs. Recognising the special needs of STs the Constitution of India made certain special safeguards to protect these communities from all the possible exploitation and thus ensure social justice. While Article 14 confers equal rights and opportunities to all, Article 15 prohibits discrimination against any citizen on the grounds of sex, religion, race, caste etc; Article 15(4) enjoins upon the State to make special provisions for the advancement of any socially and educationally backward classes; Article 16(4) empowers the State to make provisions for reservation in appointments or posts in favour of any backward class of citizens, which in the opinion of State, is not adequately represented in the services under the State; Article 46 enjoins upon the State to promote with special care the educational and economic interests of the weaker sections of the people and, in particular, the STs and promises to protect them from social injustice and all form of exploitation. Further, while Article

275 promises grant-in-aid for promoting the welfare of STs and for raising the level of administration of Scheduled areas, Article 330, 332 and 335 stipulates reservation of seats for STs in the Lok Sabha and in the State Legislative Assemblies and in services. Finally, the constitution also empowers the state to appoint a commission to investigate the conditions of socially and educationally backward classes (Article 340) and to specify those Tribes or Tribal Communities deemed to be as STs (Article 342).

Education of tribals is an important task before the Government of India. Article 46 of the Constitution mention about promotion of educational and economic interests for Schedule Castes, Schedule Tribes and other weaker sections. To quote "The State shall promote with special care the educational and economic interests of the weaker sections of the people and in particular of SCs and STs and shall protect them from social injustice and all forms of exploitations." Many more other constitutional rights were available for tribal people.

Ashram Schools

One special educational input for tribal education is residential schools widely known as Ashram schools in India. These institutions are very special efforts in the direction of tribal education. Planning for education of children coming from tribal communities is not a simple task. Though the entire educational programme for tribal children is looked after by the education department yet a comprehensive picture is hardly available. There are many activities related with education of tribal children which are managed by other departments. For example, almost in all the States primary institutions catering to the needs of children from tribal communities is looked after by the education department while ashram schools are the responsibilities of Tribal Welfare Departments and pre-primary education of voluntary agencies or Social Welfare Departments. Besides planning for ancillary services like scholarships, stipends, hostel, free book aid, mid-day meal, etc., are done at the State level. Therefore, a clear picture of all the inputs in the form of interventions for education of tribal children may not be available for a given geographical area. Yet to plan for education of tribal children it is necessary to study the linkages between different schemes. It is sad to note that the scheme, once approved, is left to operate independently and no study is conducted to assess the effectiveness of such scheme. This sometimes results in duplication and wastage in terms of efforts and inputs.

While planning for education in tribal areas, attention has been paid to provide extra facilities in the form of various inputs for education of tribal children with a view to reducing existing disparities in educational access thus influencing retention and achievement of tribal children. The high dropout rate in general and that of tribal children in particular has to be tackled through attractive schemes beneficial for them. There are indirect evidences available of their positive impact on education of ST children. In case of States where ashram schools are functional the drop out rate

has been reported as nil or very low. A separate study of the achievement of the children staying in ashram schools could be taken up specially in the context of time spent in the school and compare it with the achievement of tribal children studying in other schools.

There is one interesting trend to note which relates to opening of educational institutions in various areas. Since there is pressure on higher enrolment in 6-14 age groups and also on higher institutions like higher secondary schools, the number of such institutions is much higher as compared to the number of middle schools. Therefore, the relatively advance areas with higher number of primary schools have reduced outlays for this sector while backward areas have more outlays for primary education.

Hostel facilities provided for tribal children away from their families is usually perceived as an additional stipend and not as something supporting education of children.

Another important provision in the form of merit-scholarships, stipends and other attendance scholarships, also suffers from the lacuna of planning. In case of most of the States, attendance scholarships are available to all boys and girls coming from tribal communities. This provision has been there for quite sometime. Some communities have taken full advantage of these facilities and come up to a considerable extent while others remain at the same level. Most of the States have generalised these benefits which have resulted in higher commitment on the part of the State. The second alternative could be evolving ways to develop methodology to give a major share of these benefits to the backwards of this tribal population. Even if these benefits at various levels of education are analysed, as expected, the trend is more in favour of primary level education.

Some States have also developed instructional materials in tribal dialects for children coming from these tribal communities. The Constitution itself provides that every child be given facility of instructions through their mother tongue. But most of the States are still in the process of doing so. The problem of development of instructional materials in tribal dialects becomes graver in cases where there is more than one major tribe. Instructional materials which reflect their culture and tradition are the need of the time.

Another special educational input for tribal education is residential schools widely known as ashram schools in India. Since such institutions are very special efforts in the direction of tribal education, it is generally believed that there are significant, attempts in the direction of higher enrolment of tribal children belonging to school going age group. A number of studies have also been conducted to study the profile of such schools. Have these institutions, which are supposed to be nodal institutions, really had positive impact on enrolment, retention and achievement of such children is to be studied in order to ascertain their specific contribution towards tribal education.

Rationale of the study

Research in the area of tribal education has many vital and useful findings to

report but the findings pertaining to the participation of tribal people in the school education programme have not been conclusive. It is a fact that tribal people are logging behind in the sphere of education compare to other advanced sections of the population. This phenomenon has been witnessed by all of us both in the pre-independence and post-independent India. Even now also education has not penetrated deep into the tribal life. Such a situation raises two pertinent questions. One, how far the tribal people have come forward and benefited from the prevailing education system? Second, what are major stumbling blocks coming in their way? Whole while the response to the previous question can be given through large scale survey type studies (macro level studies), response to the latter can be given be micro level in-depth study. Thus in the contact of tribal education both the types of studies are essential. The macro level studies will provide valuable inputs for policy planning; micro level studies will be helpful in providing the needed educational inputs in the local specific context.

Existence of very few studies in tribal education in Indian context bring to the forefront the need for conducting studies on tribal education in India, on any of its dimension. It has been found that the infrastructure in the Ashram schools in terms of buildings, teaching aids, hostel facilities etc. were found to be poor. The teaching learning process in these schools was not found to be satisfactory. Absenteeism, stagnation and wastage were high in the ashram schools. Ashram schools had perceptible impact on local communities. They had many positive effects. However, some negative effects were also seen (Raman, 1990). Thus, there is need to conduct studies to explore the empirical basis of tribal education in its different aspects.

A study of existing status will provide empirical base line about the status of tribal education. Such data also facilitate evaluation of tribal education programmes undertaken. From this point of view it would be worth while to know about the academic achievement of tribal students in the ashram schools. Also existence of such type of studies in primary education among tribals in Indian context will facilitate planners to design appropriate policies for the improvement of education among the tribal people.

Thus, an analysis in to students academic achievement yield significant insight into the current situations of tribal education in ashram schools. It may give guidelines for curriculum renewal/ development in education pertaining to tribals for making it more thorough, realistic and practical.

Thus, a need has been arise for investigating the academic achievement of tribal students in ashram school education in Indian context.

Statement of the Problem

To study the academic achievement of Tribal students of Ashram schools of Surat district

Objectives of the study

1. To study the academic achievement of tribal students in all the subjects

in terms of Girls, Boys and Total Students (Girls + Boys).

2. To study the relationship between different subjects.

Academic achievement: Marks obtained by students in Class X Board examination of the academic year 2006-2007.

Delimitation of the study

The study is confined to all the Class X students of Ashram schools of Surat District. Which are following Gujarat Secondary Education Board syllabus of 2006-2007 academic years?

Population

All the students of Standard X studying in all the Ashram schools of Surat District following Gujarat State Education Board syllabus constitute the population. The students were of the academic year 2006-2007.

Sample

The sample has been selected using 'Random Lottery Method'. From all the ashram schools three schools were randomly selected. From these three schools, all the students of Class X were selected as sample of the study. The sample size was 221 (72 boys+ 149 girls) students of Class X studying in Amalsadi ashram School, Ambapardi ashram school and Vaghecha ashram school of Surat District.

Tools

Documents of results of Class X students.

Collection of data

For the purpose of collecting data for the study, investigator had personally gone to schools constituting the sample. The investigator had personally approached the principals of the schools and explained the purpose of the study. The investigator had personally collected the documents of results of standard X students of sampled schools.

Analysis of the data

The data were analysed using mean, median, mode, standard deviation, standard error of mean, quartile deviation, skewness and kurtosis. The data for objective two was analysed by applying Pearson Product–Moment correlation. The coefficient of correlation is a single value that tells about the extent to which two things are related and to what extent variation in one go with the variation in other.

Major Findings and Conclusion

(1) The mean achievement of girls in Gujarati was found to be 51.7out of the total of 100. The nature of distribution of scores of the entire sample was peaked than the normal i.e. leptokurtic. The fifty per cent of the girls had scored 52 or more marks in Gujarati. Moreover, 10 per cent of the girls had scored 64 or more than it.

(2) The mean achievement of boys in Gujarati was found to be 54.2 out of the total of 100. The nature of distribution of scores of the entire sample was peaked than the normal i.e. platykurtic. The fifty percent of the boys had scored 54 or more marks in Gujarati. Moreover, 10 per cent of the boys had scored 67 or more than it.

(3) The mean achievement of total students in Gujarati was found to be

52.5 out of the total of 100. The nature of distribution of scores of the entire sample was peaked than the normal i.e. leptokurtic. The fifty percent of the total students had scored 52 or more marks in Gujarati. Moreover, 10 per cent of the total students had scored 66 or more than it.

(4) The mean achievement of girls in English was found to be 37.5 out of the total of 100. The nature of distribution of scores of the entire sample was peaked than the normal i.e. leptokurtic. The fifty percent of the girls had scored 37 or more marks in English. Moreover, 10 per cent of the girls had scored 52 or more than it.

(5) The mean achievement of boys in English was found to be 46.5 out of the total of 100. The nature of distribution of scores of the entire sample was peaked than the normal i.e. leptokurtic. The fifty per cent of the boys had scored 46 or more marks in English. Moreover, 10 per cent of the boys had scored 59 or more than it.

(6) The mean achievement of total students in English was found to be 40.5 out of the total of 100. The nature of distribution of scores of the entire sample was peaked than the normal i.e. leptokurtic. The fifty per cent of the total students had scored 41 or more marks in English. Moreover, 10 per cent of the total students had scored 55 or more than it.

(7) The mean achievement of girls in Hindi was found to be 63.6 out of the total of 100. The nature of distribution of scores of the entire sample was peaked than the normal i.e. platykurtic. The fifty per cent of the girls had scored 65 or more marks in Hindi. Moreover, 10 per cent of the girls had scored 76 or more than it.

(8) The mean achievement of boys in Hindi was found to be 66.9out of the total of 100. The nature of distribution of scores of the entire sample was peaked than the normal i.e. platykurtic. The fifty per cent of the boys had scored 67 or more marks in Hindi. Moreover, 10 per cent of the boys had scored 77 or more than it.

(9) The mean achievement of total students in Hindi was found to be 64.7 out of the total of 100. The nature of distribution of scores of the entire sample was peaked than the normal i.e. platykurtic. The fifty per cent of the total students had scored 66 or more marks in Hindi. Moreover, 10 per cent of the total students had scored 77 or more than it.

(10) The mean achievement of girls in Social Science was found to be 53.2out of the total of 100. The nature of distribution of scores of the entire sample was peaked than the normal i.e. platykurtic. The fifty per cent of the girls had scored 55 or more marks in Social Science. Moreover, 10 per cent of the girls had scored 69 or more than it.

(11) The mean achievement of boys in Social Science was found to be 60.8 out of the total of 100. The nature of distribution of scores of the entire sample was peaked than the

normal i.e. platykurtic. The fifty per cent of the boys had scored 61 or more marks in Social Science. Moreover, 10 per cent of the boys had scored 72 or more than it.

(12) The mean achievement of total students in Social Science was found to be 55.7 out of the total of 100. The nature of distribution of scores of the entire sample was peaked than the normal i.e. platykurtic. The fifty per cent of the total students had scored 57 or more marks in Social Science. Moreover, 10 per cent of the total students had scored 71 or more than it.

(13) The mean achievement of girls in Science and Technology was found to be 42.7 out of the total of 100. The nature of distribution of scores of the entire sample was peaked than the normal i.e. platykurtic. The fifty per cent of the girls had scored 44 or more marks in Science and Technology. Moreover, 10 per cent of the girls had scored 63 or more than it.

(14) The mean achievement of Boys in Science and Technology was found to be 59.1 out of the total of 100. The nature of distribution of scores of the entire sample was peaked than the normal i.e. leptokurtic. The fifty per cent of the boys had scored 58 or more marks in Science and Technology. Moreover, 10 per cent of the boys had scored 72 or more than it.

(15) The mean achievement of total students in Science and Technology was found to be 48.1 out of the total of 100. The nature of distribution of scores of the entire sample was peaked than the normal i.e. platykurtic. The fifty per cent of the total students had scored 50 or more marks in Science and Technology. Moreover, 10 per cent of the total students had scored 67 or more than it.

(16) The mean achievement of girls in Mathematics was found to be 42.6 out of the total of 100. The nature of distribution of scores of the entire sample was peaked than the normal i.e. leptokurtic. The fifty per cent of the girls had scored 41 or more marks in Mathematics. Moreover, 10 per cent of the girls had scored 72 or more than it.

(17) The mean achievement of boys in Mathematics was found to be 62.7out of the total of 100. The nature of distribution of scores of the entire sample was peaked than the normal i.e. platykurtic. The fifty per cent of the boys had scored 64 or more marks in Mathematics. Moreover, 10 per cent of the boys had scored 75 or more than it.

(18) The mean achievement of total students in Mathematics was found to be 49.1 out of the total of 100. The nature of distribution of scores of the entire sample was peaked than the normal i.e. platykurtic. The fifty per cent of the total students had scored 54 or more marks in Mathematics. Moreover, 10 per cent of the total students had scored 73 or more than it.

(19) The mean achievement of girls in Krushi Vigyan was found to be 80.4out of the total of 100. The

nature of distribution of scores of the entire sample was peaked than the normal i.e. platykurtic. The fifty per cent of the girls had scored 81 or more marks in *Krushi Vigyan*. Moreover, 10 per cent of the girls had scored 87 or more than it.

(20) The mean achievement of Boys in *Krushi Vigyan* was found to be 81.7out of the total of 100. The nature of distribution of scores of the entire sample was peaked than the normal i.e. platykurtic. The fifty per cent of the boys had scored 82 or more marks in Krushi Vigyan. Moreover, 10 per cent of the boys had scored 87 or more than it.

(21) The mean achievement of total students in *Krushi Vigyan* was found to be 80.78 out of the total of 100. The nature of distribution of scores of the entire sample was peaked than the normal i.e. platykurtic. The fifty per cent of the total students had scored 81 or more marks in *Krushi Vigyan*. Moreover, 10 per cent of the total students had scored 87 or more than it.

(22) There is moderate positive correlation ranging from 0.35089 to 0.670243 between scores of mathematics and Gujarati, Hindi, English, Social Science, Science and Technology and *Krushi Vigyan* scores of the students.

Discussion

The academic achievement of tribal students was found average in Gujarati, Hindi, Social Science and Mathematics while below average in English and Science and Technology. The academic achievement in Krushi Vigyan was good. So there was a need to find out the reasons behind their different levels of achievement in different subjects. This shows that the condition and quality of inputs and the functioning of schools with large ST population are not very encouraging. Most of such schools practically remain single teacher schools because the unwilling teachers who are either punished by being transferred to tribal areas or are forced to work in tribal areas as a part of the policy are usually absent from the school. The quality of teaching- learning materials in the school is also of a low quality. The Twenty-eighth report of the Commission of SC/ST found that a number of schools situated in tribal areas remained closed for certain periods of time and in a number of cases these schools had not functioned since the beginning of the academic year. To retain these teachers in the tribal areas more interventions in the form of facilities and provision of quarters for non-local teachers have to be planned.

The two studies conducted on ashram schools by Desai, B. and Patel, A. (1981) and Pratap, D.R., Raju, C.C. and Rao, M.V.M. (1971) do not project a good profile of ashram schools. Pratap, D.R. and Raju, C.C. (1973) found the working and physical conditions of ashram schools unsatisfactory. Some of the teachers working in these schools did not stay there and visited schools occasionally. The study pointed out that the schools were treated as source of income rather than avenues of service. Desai, B. and Patel, A. (1981) found that in most of the ashram

schools the number of children enrolled was much higher than the prescribed number (120 students each) and except in two schools, the 1:1 ratio among boys and girls was not maintained. Only 18 out of 22 ashram schools had 100 per cent teacher strength and in some cases the educational qualifications of teachers was Class VII. The overall wastage rate reported in these ashram schools was 44.42 per cent. Masavi, M. (1976) in his study found the wastage rate to be 65 per cent at the primary level, however, only 9.1 per cent of the total enrolled children of Class I could complete Class IV. The stagnation rate at Class I was very high which came down considerably for Classes II, III and IV. The overall wastage in ashram schools was 46.7 per cent. The main causes for wastage and stagnation were found to be socio-economic conditions, ignorance among tribal parents, ill equipped teachers, teaching in alien languages, physical illness inappropriate curricula.

The study by Joshi, S.D. (1980) besides other things, found that the majority of teachers did not have a specialised training for working in backward areas.

Srivastava, R. C. (1981) in his study found that unproductive and traditional type of educational system for the tribals was the cause of indifferent attitude of tribal parents towards their children's education. Besides, lack of necessary facilities and equipments for teaching was the cause of lack of motivation for education among the tribals.

In an evaluative study conducted on hostels and Ashrams for Tribal Girl students, Jha, P. (1985) found that like most of other beneficiary schemes meant for tribals, mostly the rich amongst the tribal community availed of the facilities of hostels and Ashrams. The number of students admitted to the hostels was much higher than the number expected and the superintendents of these hostels were neither trained nor qualified. The hostel rooms were overcrowded and did not have basic facilities. The scholarship given to girls was sometimes misappropriated by their parents making their girls living very difficult. The amount of this scholarship was also found to be inadequate. In a contemporary study conducted by Sharma, R.C. (1984) it was found that introduction of-different incentives like free uniforms, textbooks and boarding and lodging facilities resulted in higher enrolment of SC and ST students including girls. This increase in case of SC and ST children ranged from 49.2 per cent to 92.7 per cent.

There is one more important aspect of these facilities which has been mentioned in the report of the study "Scheduled Castes and Tribes-A SocioEconomic Survey" by Parvathamma, C; (1984). She says that nearly one half of the samples are not aware of the Constitutional provisions meant for the development of the downtrodden. At the same time even those with such knowledge have not availed them as expected. The reasons for not availing these benefits are very many. To quote "According to the people in the study, officials in the administration are apathetic and are not sincere in implementing the provisions. The SCs and STs are critical of their so-

called leaders who according to them are selfish. They are of the opinion that the educated urban based SC and ST elites have used the new opportunity for themselves in narrow circle and thus made the entire provisions a family issue ... only certain families coming from particular subcastes are taking away the lion's share leaving the rest of the deserving SCs and STs where they are."

A study conducted by Ekka, E. M. (1990) on Development of Tribal Education in Orissa after Independence showed that percentage of bigger habitations in the tribal inhabited areas is very negligible. This leads us to conclude in any State with high tribal population, that educational interventions should be planned at the level of various habitations big or small. Another study conducted by Biswal, G. C. (1991) in Orissa found that as compared to boys, fewer girls in the area got enrolled in the schools. As far as quality of teachers working in these schools is concerned, most of the teachers were found to be non-tribal and less qualified. Very surprisingly the study found that the drop out rate at the higher level is higher than that at the lower level.

Two studies, one by Bhargava, S.M. (1989) and another by Kamble, P.R. (1992) were carried out to conduct survey of educational facilities for weaker sections in Orissa and Maharashtra respectively. The study by Bhargava (1989) found that educational facilities for Scheduled Tribe habitations are poorer in comparison to other habitations in the district and the facilities of textbooks, free uniforms, stipends and mid-day meals were available to children coming from tribal communities. Kamble (1992) found that in the opinion of Headmasters 74 per cent students take the advantage of facilities available for tribal children, viz., free textbooks, uniforms, writing materials and nutritious meal and 84 per cent of such students are regular in their attendance. One very significant finding of the study was that the Headmasters opined that the government facilities are useful to arrest wastage in education but they are not useful to increase the "percentage of pass" students. The drop out rate (for Devgad taluka) was much lower than the national drop out rate.

This depict very discouraging picture of education among tribal children in ashram schools and therefore there is need to improve the quality of education in ashram schools.

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Study Habits of Visually Impaired Students in Relation to their Study Related Variables

VINAY KUMAR SINGH*
GEETA SINGH**
MASROOR JAHAN***

Abstract

Study habits are affected by several factors such as physical health of the individual, home condition, emotional and social adjustment; personality traits or the study environment etc. Good study habits of the children may lead them to a long way in their education, rehabilitation and to achieve long-term goals. In the present study an attempt was made to investigate the level of study habits of visually impaired (VI) students in relation to their socio-demographic and study related variables. A sample of 100 VI students from 7-17 years of Classes I to X of two residential special schools for the blind was selected. A self-designed socio-demographic data sheet was used to collect socio-demographic characteristics of the visually impaired students. The Test of Study Habits and Attitude (TSHA) was used to measure the study habits and attitudes of students. Contingency C test was used to find out correlation. Findings of the present study reveal that VI students possessed good and satisfactory level of study habits. The association between study habits of VI students and their age, sex, grades, socio economic status and parental education were found statistically significant. Study related variables like attitude towards teachers, attitude towards education, self confidence, concentration, coping with mental conflicts, school and home environment, home assignment, and attitude towards examination were also found significantly related to study habits of VI students.

Associate Professor Department of Education of Groups with Special Needs (DEGSN), National Council of Educational Research and Training (NCERT), New Delhi-110016.

** *Corresponding author*, Psychologist, Qr. No, L-42, Shyamali Colony, PO-Hinoo, Doranda, Distt- Ranchi. Jharkhand. India. Pin Code-834 002.

*** *Associate Professor* of Clinical Psychology, Ranchi Institute Neuro-psychiatry and Allied Sciences (RINPAS), Ranchi.

Introduction

Study can be interpreted as a planned programme of subject-matter mastery to acquire knowledge and habits which will be useful in meeting new situations, interpreting ideas, making judgments and creating new ideas and in general enrichment of life. Study habits are central factors in learning. The educability of a man depends largely on his ability to form and reform habits. Study-habits are caught rather than taught and are affected by several factors such as physical health of the individual, home condition, emotional and social adjustment, personality traits and/or the study environment. Study skills are the tools students use to absorb the materials which they are expected to learn (Stephen, 1998). Study habits play an important role in human performance in academic field (Verma, 1996; Verma & Kumar, 1999; Stephen, 1998; Satapathy & Singhal, 2000; Vyas, 2002). Study skills are systematic procedures that students initiate to complete such complex tasks as skimming, determining relevant information, taking notes and studying materials for test (Gleason et al., 1991). Major factors that affect learning style include motivation, readiness to learn, learning environment, individual learning style and material to be learnt (Narayan, 2003). Hence, study habits of school students are essential to learning, and fundamental to school success.

Children with visual impairment (VI) display a wide range of visual disabilities, ranging from total blindness to relatively good residual vision. The Persons with Disabilities Act'1995 (MSJE, 1995) defines visual impairment in terms of Blindness and Low vision. "Blindness refers to a condition where a person suffers from total absence of sight or visual acuity not exceeding 6/60 in the better eye with corrective lenses or limitation of the field of vision subtending an angle of 20 degree or worse" and "Low vision refers to a condition where a person with impairment of visual functioning even after treatment or standard refractive correction but who uses or is potentially capable of using vision for the planning or execution of a task with appropriate assistive device". The one characteristic that students with visual impairment have in common is a visual restriction of sufficient severity that interferes with normal progress in a regular education programme without modifications. Visual impairment results in several educational, social and psychological effects. The effects are both objective and subjective depending on the type and degree of visual impairment (Mani, 1992). The VI child may need to be given direct assistance to learn systematically even the easy skills that the sighted child learns almost spontaneously through imitation and visual contact with the world (Jangira & Mani, 1990). Acquired blindness reduces the confidence of the individual in the remaining senses especially in the early transition period. Due to the lack of visual feedback, a VI child may have to skip a number of intervening steps of an activity, which have visual orientation. It is not only the impairment, which creates all difficulties, but the child should learn to live with that impairment by not allowing it to affect his social life adversely. Children with visual impairment showing

no improvement in studies, may not have cognitive deficits, but their academic performances may be affected by the extent of family assistance, socio-economic status etc. (Matuszek & Haskin, 1978; Shakiba-Nejad & Yellin, 1981; Nanda, 2000; Vyas, 2002). Sometimes blindness adds additional problem if the defective eye continues to pain and proper treatment is required at this stage; otherwise this may affect education of the child directly. The functional vision and light perception in the children may cause a different type of behaviour in the children. In case of additional impairment, special support is needed based on their multiple disabling conditions (Jangira & Mani, 1990).

For professionals in special education, it becomes imperative to promote better education to children with impairment (Sharma, 1988). Only a small percentage of children with visual impairment are getting education in different schools like day special schools, residential special schools and regular schools etc. (Shukla & Mittal, 2004). Most of the VI students are attending special schools having residential facilities (Mani, 1992; Panda, 2001). Research evidence suggests that blind children receive very limited training in basic compensatory skills such as Braille, daily living skills, personal management, mobility etc., in integrated education programmes (Punani, 1997). Children, who get admission in regular school, are generally unable to cope with the school atmosphere, curriculum, mode of instructions, teaching learning processes and examination system etc. and finally drop out from the school. Children should know and use good rules of study. The teacher needs to be well acquainted with the functioning of study rules in order to provide proper guidance in study practices.

Texts for the persons with visual impairment are available in three forms: print (standard and large), braille and aural (personal reader or electronic). For some students, the development of Braille skills is a priority, though there is decline in the number of Braille readers since 1963 (Rex, 1989; Schroeder, 1989; Stephens, 1989). Causes may be many, some of them are reported as nonreaders visually impaired children with additional disabilities (Rex, 1989), disputes on the utility of the Braille code (Thurlow, 1988), the decline in teachers' knowledge of Braille and methods for teaching it (Schroeder, 1989; Stephens, 1989), negative attitudes toward Braille (Holbrook & Koenig, 1992; Rex, 1989), and the greater reliance on speech output and print-magnification technology (Paul, 1993). Sometimes, problems in learning may be due to additional impairment in the child (Tamboli, 1981; Rex, 1989).

The ability to use Grade I and/or Grade II Braille increases the range of resources and tools available. Grade I Braille restricts the student to using Braille as a personal system since textbooks are available only in Grade II. In addition, the transfer from Braille to print will be more efficient if Grade II rules for contractions are followed. Some Grade II users may not learn the correct spelling of words that always appear in contracted form in Grade II Braille. However, VI students who use computer equipment with a standard

keyboard need to learn standard spelling. Students using live readers should be comfortable asking the reader to repeat specific passages and to pause while the student summarises or paraphrases the information read. The reader should know in advance what the student needs from the text, and give careful verbal descriptions of diagrams and charts. In the classrooms, lecture-notes require the student to develop the structure and organise the information by writing key words, and using such adaptive devices as a tape recorder or a Braille note-taker. However, the support systems should not foster dependence nor restrict academic progress (*Hirschberg & Barbara, 2007).* Therefore, it is important that students should devise their own systems for taking notes both in the classroom and at home. Good study habits of the children may lead them to a long way in their education, rehabilitation and to achieve long-term goals. Bad study habits of children with visual impairment can be studied to improve their academic achievements and ultimately their quality of life. In the present study, an attempt was made to investigate the level of study habits of children with visual impairment (blindness) and its socio-demographic and study related correlates.

Objectives of the study

1. To assess the level of study habits of students with visual impairment.
2. To assess the relation between study habits of students with visual impairment and their gender, age, socio-economic status (SES), grades and parental education.
3. To assess the relation between study habits of students with visual impairment and study related variables such as attitude towards teachers, school and home environment, attitude towards education, specific study habits, mental conflicts, concentration, home assignment, self confidence and attitude towards examination.

Methodology

Sample: Considering the predetermined inclusion criteria (blind students, attending residential special school and Braille readers) and exclusion criteria (low vision, day scholar, attending pre/post school programmes and print/aural readers), a sample of 100 visually impaired (blind) students studying in Classes I to X (4.35 ± 2.986 grades) of two residential special schools for the blind in Assam was selected. Forty one percent participants were boys and 59per cent were girls. Mean age of boys was 13.39 ± 2.82 years and of girls was 12.12 ± 2.71 years. Majority (76%) of them belonged to lower socio-economic status and were studying in primary classes. Most of their parents were either illiterate (33%) or were non-matric (31%).

Tool: A self-designed socio-demographic data sheet was used to collect socio-demographic characteristics of the VI students.

The Test of Study Habits and Attitude (TSHA) by Dr. C.P. Mathur (1974) was used to measure the study habits and attitudes of students. The test is made for the school and college students to discriminate their good and poor study techniques. The tool consists of 60 items distributed in nine areas, namely, attitudes towards

teachers, school and home environment, attitude towards education, study habits, mental conflicts, concentration, home assignment, self confidence, and examination. Responses are recorded in 'Yes', 'Doubtful' and 'No'. A high score on this test indicates high order of correct study habits and proper attitudes while a low score shows low study techniques.

Procedure: For the collection of the data, principals of the schools were approached and the purpose of the study was explained. All the VI students were contacted and the tool was personally administered to the sample of 100 subjects. The items were translated in Assamese for Assamese speaking students. The responses were recorded in the separate answer-recording sheets.

Data Analysis: Statistical Package for Social Sciences (SPSS) for Windows version10.0 was used for data analysis. Since data was on category variable, Contingency C test was used to find out correlation.

Results

Based on the normative data of the Test of Study Habits and Attitude (TSHA) manual, the level of study habits of the visually impaired (blind) students was assessed and categorised into poor, satisfactory and good study habit. Findings show that more than half (57%) of students had satisfactory level of study habits, whereas 31 per cent and 12per cent of students had good and poor level of study habits respectively. Study habit was significantly correlated with socio-demographic variables, namely, gender, age, socio-economic status, grades and parental education (Table 1). Boys had better study habits in comparison to girls. Students possessing poor study habits were more (40%) in younger age-group (7-10 years) and nil from older age-group (15-18 years). Poor study habit was found in students belonging to low

Table1

Showing relationship between socio-demographic variables and level of study habits.

Socio demographic variables		Level of Study habits						C (df)
		Good (N= 31)		Satisfactory (N= 57)		Poor (N= 12)		
		N	%	N	%	N	%	
Gender	Male (N=41)	19	46.3	18	43.9	04	09.8	0.267*
	Female (N=59)	12	20.3	39	66.1	08	13.6	(2)
Age-range	7-10 years (N=20)	—	—	12	60.0	08	40.0	0.422**
	11-14 years (N=53)	16	30.1	33	62.2	04	07.5	(4)
	15-18 years (N=27)	15	55.5	12	44.4	--	--	
SES	Low (N=76)	19	25.0	45	59.2	12	05.8	0.297*
	Middle (N=9)	06	66.7	03	33.3	—	—	
	High (N=15)	06	40.0	09	60.0	—	—	(4)

Grades	Primary (I-V) (N=64)	10	15.6	42	65.6	12	18.8	0.429**
	Secondary (VI-X) (N=36)	21	58.3	15	41.7	—	—	(df=2)
Parental Education	Illiterate (N=33)	05	15.2	22	66.7	06	18.2	0.384*
	Non-matric (N=31)	08	25.8	17	54.8	06	19.4	(df=8)
	Matric (N=18)	09	50.0	09	50.0	—	—	
	Hr. Sec. (N=9)	03	33.3	06	66.7	—	—	
	Graduate (N=9)	06	66.7	03	33.3	—	—	

*significant at 0.05 level. **significant at 0.001 level.

socio-economic status and illiterate and below matric level parental education. No student studying in secondary grade had poor study habit.

Findings of relation between study habits and study related variables (attitudes towards teachers, school and home environment, attitude towards education, specific study habits, coping with mental conflicts, concentration, home assignment, self confidence, and attitudes towards examination) are given

Table 2

Showing relationship between study related variables and level of study habits

Sociodemographic variables		Level of Study habits						C (df)
		Good (N= 31)		Satisfactory (N= 31)		Poor (N= 31)		
		N	%	N	%	N	%	
Attitudes towardsteachers	Excellent (N=44)	22	71.0	20	35.1	02	16.7	0.610**
	Good (N=37)	09	29.0	28	49.1	-	-	(6)
	Satisfactory (N=4)	---	---	---	---	04	33.3	
	Poor (N=15)	---	---	09	15.8	06	50.0	
School and Home environment	Excellent (N=2)	---	---	02	03.5	---	---	0.489**
	Good (N=45)	22	71.0	21	36.8	02	16.7	(8)
	Satisfactory (N=46)	09	29.0	31	54.4	06	50.0	
	Poor (N=2)	---	---	---	---	02	16.7	
	Very poor (N=5)	---	---	03	05.3	02	16.7	
Attitude towards education	Excellent (N=50)	24	77.4	22	38.6	04	33.3	0.444**
	Good (N=38)	05	16.1	29	50.9	04	33.3	(6)
	Satisfactory (N=9)	02	06.5	03	05.3	04	33.3	
	Poor (N=3)	---	---	03	05.3	---	---	
Specific study habits	Good (N=58)	25	80.6	27	47.4	06	50.0	0.337*
	Satisfactory (N=31)	03	09.7	22	38.6	06	50.0	(6)
	Poor (N=11)	03	09.7	08	14.0	---	---	
Coping with mental conflicts	Excellent (N=27)	17	54.8	10	17.5	---	---	0.635**
	Good (N=39)	11	35.5	28	49.1	---	---	(8)
	Satisfactory (N=19)	03	09.7	14	24.6	02	16.7	
	Poor (N=4)	---	---	02	03.5	02	16.7	
	Very poor (N=11)	---	---	03	05.3	08	66.7	

Concentration	Excellent (N=9)	06	19.4	03	05.3	---	---	0.560** (8)
	Good (N=45)	23	74.2	22	38.6	---	---	
	Satisfactory (N=27)	---	---	21	36.8	06	50.0	
	Poor (N=12)	02	06.5	08	14.0	02	16.7	
	Very poor (N=7)	---	---	03	05.3	04	33.3	
Home assignment	Excellent (N=3)	03	09.7	---	---			0.519** (8)
	Good (N=15)	02	06.5	13	22.8	---	---	
	Satisfactory (N=56)	20	64.5	34	59.6	02	16.7	
	Poor (N=8)	---	---	04	07.0	04	33.3	
	Very poor (N=18)	06	19.4	06	10.5	06	50.0	
Self confidence	Excellent (N=41)	24	77.4	15	26.3	02	16.7	0.514** (8)
	Good (N=12)	03	09.7	09	15.8	---	---	
	Satisfactory (N=10)	04	12.9	04	07.0	02	16.7	
	Poor (N=21)	---	---	17	29.8	04	33.3	
	Very poor (N=16)	---	---	12	21.1	04	33.3	
Attitudes towards examination	Excellent (N=30)	13	41.9	17	29.8	---	---	0.489** (8)
	Good (N=43)	12	38.7	27	47.4	04	33.3	
	Satisfactory (N=16)	06	19.4	08	14.0	02	16.7	
	Poor (N=2)	---	---	---	---	02	16.7	
	Very poor (N=9)	---	---	05	08.8	04	33.3	

*significant at 0.05 level. **significant at 0.001 level.

in Table 2. All the variables very significantly related with study habits.

A significant number (81%) of VI students possessed excellent and good attitude towards their teachers. All the students having good and satisfactory study habits had excellent and good attitude towards their teachers. Most (91%) of the students belonged to good and satisfactory environment of their school and home. All the students having good study habits and maximum (91.22%) number of students having satisfactory study habits belonged to good and satisfactory environment of their school and home.

Majority of VI students having good and satisfactory study habit had excellent attitude towards education, specific study habits and excellent or good attitude towards examination. They used to do home assignment at satisfactory level and had excellent or good coping skills, concentration and self confidence.

Discussion

Findings of the present study revealed that most of the VI students possessed satisfactory and good study habits. Ryles (1996) also found that the Braille readers demonstrated positive reading habits at a significantly greater rate than did the print readers. They spent substantially more time reading, read more books, and subscribed to more magazines. This finding is particularly noteworthy when one considers the comparative availability of print and Braille materials because higher education depends to a great extent on a background of reading skills and habits. However, Sharma (1998) found that visually disabled children were less involved in their studies and were more frustrated than sighted children.

Findings suggested that study habits of VI students were significantly related to gender, age, socio-economic status, and parental education. Good study habit was found in 15 to 18 years old boy students belonging to middle and high socio-economic status, studying in VI to X Grade whose parents were educated above matric level.

Poor study habit was found in children in 7 to 10 years of age group, belonging to low socio-economic status studying in primary grade whose parents were either illiterate or non-matric. Boy students showed better study habits than girl students. This finding is consistent with finding of Malathi and Malini (2006) who also found that study habit of boy students was better than girl students. Early entry of boys in the school might be the probable reason for better study habits than girls. Boys might have discovered different study procedures and develop good study habits in due course of special education programmes. The discriminatory attitude towards education of girls is still persisting in our society and girl students are restricted towards attending residential schools away from home either during early years or during adolescences period. Therefore, it is imperative to create mass awareness towards education of girls in our society particularly in case of girls with special needs.

Present finding indicates relation between parental education and study habits of children is according to findings of previous studies reporting that parent modeling, motivating children to learners, and parent contact with school had been found to increase academic achievement (Christenson, 1995). Home and school collaboration especially in residential setups needs to be strengthened so that cooperation among special educators and family members can be empowered to build up good study habits among these children.

Study habit was found significantly correlated with attitudes towards teachers, school and home environment, attitude towards education, specific study habits, coping with mental conflicts, concentration, home assignment, self confidence, and attitudes towards examination. Study environment is one of the success factors and it helps in attending the task and concentrating in the study related activities by reducing the distracting stimuli and fatigue generating factors. Sharma (1998) compared visually disabled and sighted students of secondary schools with respect to their study involvement and reported that visually disabled children were less involved in their studies. However, our findings reveal that attitude of VI students towards education was significantly related to their study habits.

Study involves more than mere reading of texts materials. Efficiency in study is increased when it is planned and purposeful. The learner's energies are focused further on mastery of learning materials and therefore enable to concentrate on the subject areas of his own interests. The successful student learns to modify the study activities with interest so that fatigue does not interfere with his successful achievements, and he discovers the truth of good study

habits. Therefore, trained special educators should be placed in special schools who can provide effective teaching using the specific and innovative method of education by means of special teaching learning materials such as Braille equipments, geometric devices, abacus and taylor frame etc., so that good study habits can be generated in the students.

Findings of our study showed a significant relationship between mental conflicts and study habits. It was also found that students having better coping skills during mental conflicts had better study habits. Satapathy and Singhal (2000) have emphasised on relation between stress, coping and studies. Sharma (2006) also reported relation between emotional stability and study habits of visually disabled. Her result reveals that children with high emotional stability had better study habits than their counterparts with low emotional stability. More frustration in Class VI students in comparison to sighted students was reported by her in another study (Shrama, 1998). For learning a concept, Class VI students use their auditory and tactile sensory channels mostly. There are limitations in these students to deal with the environment around them, which may create mental conflicts in these students. Hence, they should learn coping strategies to overcome their mental conflicts. So the professionals can create real-life-simulated conflicts situations for these students and train them for coping mechanism.

Overall findings suggest association between study habits of Class VI students and their age, sex, grades, socio economic status and parental education was found statistically significant. Study related variables like attitude towards teachers, attitude towards education, self confidence, concentration, coping with mental conflicts, school and home environment, home assignment, and attitude towards examination were also found significantly related to study habits of VI students. The amount and kind of study in which a learner engages differ with his age and grade level. During early years of schooling the child masters fundamental learning tools, habits, and attitude as a result of classroom stimulation and with little independent study. As the young child passes through the later grades of elementary school, high school and so on, study materials become increasingly more abstract. The learner's techniques and habits of study need to be adjusted to changing learning materials, purposes, desired outcomes and study environment etc. Educators are required to practice major strategies such as peer tutoring, cooperative learning, providing study buddy, home work organiser and assignment books, developing after-school programmes, using study skills and techniques, conducting parents workshops and applying several behavioural techniques etc. in the classrooms for developing and establishing good study habits specially among younger students attending lower grades belonging to low socioeconomic status and having lower level of parental education. Making a definite plan and procedures, systematising and organising the study tasks act as catalyst for school success. In common school system special educators and regular teachers should work together to

inculcate specific study habits in VI students and train them on different strategies for developing positive attitude towards examination, self-confidence, concentration, coping with mental conflicts and attitude towards education etc. to establish good study skills for their better academic performance.

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Relevance of Educational Thoughts of J. Krishnamurti in the Context of Education for Peace

PARMANAND SINGH*
PARNITA SINGH**
JAYASHANKAR YADAV**

Abstract

In this paper, educational thoughts of J. Krishnamurti were studied in the context of education for peace. It has been found that his thoughts are quite relevant in the reconstruction of our educational system. The philosophy and programme for peace education may be developed on this basis.

In this rapidly progressing society, we need an educational philosophy which may withstand the problems and crisis of education. The crisis has produced a series of generations of unintegrated individuals. Such individuals may be intellectual giants but due to lack of co-ordinated actions and sensitiveness, they may prove to be undesirable elements in the society. The loss of society due to development of such individuals may not be filled but it may surely be checked by bringing up a radical change in the society. This was srtongly felt by J. Krishnamurti. He gave the revolutionary idea of psychological freedom to the society and chose education for its propagation.

The prevalent crisis in the realm of human valued demands the reconstruction of our educational system. Education has not fully succeeded in achieving its desired goals. Although, man is having more knowledge and information than ever before but today he is still the most disturbed one. There has been a continuous growth in mental diseases, social unrest and

*Professor, Faculty of Education (K), BHU, Varanasi, UP.
**Ex Research Scholar, Faculty of Education (K), BHU, Varanasi, UP.
***Ex Research Scholar, Mahatma Gandhi Kashi Vidyapeeth, Varanasi, UP.

increase in normless behaviour. Man has almost surrendered to technological progress which he himself has invented. The technological revolution with its supporting philosophies and the longed desire of establishing idealistic society resulted into a contradiction which has increased discomfort in human life. In modern world, the standards, of the right and the wrong and the urge to disregard these standards are causing conflicts within individuals. The present society is in need of appropriated attitudes, right conceptions of the end of things and a reverence of life. If education fails to develop qualities among children so as to fulfill above needs, the world would not be safe. J. Krishnamurti has successfully drawn attention of the world towards this catastrophic situation. His views indicated that education is more formative than informative. It is not synonymous to the factual knowledge; rather it has much broad sphere of influence which is concentrated on the development of vigilance.

It is said; "War are created in the minds of man" and the reason behind each and every war is the fear. Consumed by all sorts of fear, we crave for security which leads to the creation of insitutions, ideologies and orgarnised religions. These ideologies and organised religions gurantee a pseudo-security. The desire of security fosters division and antagonism among human beings. The violence prevalent in the modern society is the result of the desire of security. The root of fear, which creates a desire of society, which creates a desire of security, is the consciousness of self. The image of self keeps varying to different levels resulting in the desire of security in different forms viz, the personal security, the religious security, the social security in the form of caste or nation, financial security in form of job or property. Thus, the man is always in conflict with himself because of a constant desire of securtiy. Krishnamurti's approach to remove fear is throught awarness of self and freedom from the fear. By observing and understanding the nature of self, one can become free of the fear thus ending the requisite of security. This would lead to a better mode of personal behaviour with each other and thus eliminate any chance of struggle within ourself. Krshnamurti's thoughts are therefore, quite relevant for establishing peace.

Another endeavour towards establishment of peace is through propagating equality. Indian constitution enshrined this value in its preamble too. The present civilisation though is enjoying the fruits of scientific developments but the minds of pepole failed to keep pace with scientific advancements. The traditional fundamentalism and regimentation observed in all walks of life in the form of institutions, cults and organised religious are the reflections of the same. This has also created a scope for exploitation of those who surrendered to one or other kind of authority under the influence of fear. Krishnamurti's views are unparallel regarding the explanations of nature of fear and the ways of getting freedom from this fear and thus be preserved of being exploited.

The social upliftment of the deprived ones and the women, who were otherwise exploited because of their inherited fear of insecurity created out of caste, class, race

or sex, may be brought about by implementing thoughts of J. Krishnamuti.

Different processes of psychological adjustments observed in the day to day life can be explained in the light of self-consciousness and fear. Relevance of Krishnamurti's thoughts becomes obvious in dissecting out such behaviour and hence curing the unintegrated developments of individuals.

The basis conceptual thinking behind the educational goals is undoubtedly, affected by the advancement of science and technology the more the progress is made in science, the more the individuals has to become a rational being. The development of science and rationality proceeds side by side. The emphasis on science alone will lead to only one aspect i.e. techniques, which will result in an unbalanced thinking. The world today has reached to the verge of destruction only because of the polarised thinking. The humanists in the modern world have begun to incline science towards comforts. Efforts are made to eradicate the innate tendency to quarrel and fight. But because the individual lacks an integrated thinking, this curbing has resulted into repression. Man, being engaged into discoveries and inventions has gradually made a shift from brutal fights of colonial competitions to the competitions in the field of scientific advancements and developments. Now that the world stated identifying development with the development of human resources, which means an integreated development of knowledfge, skills, potentialities and capacities of all individuals in the existing society, the pedagogical views of Krishnamurti proves to be significant which insists on the development of scientific mind blended with religious mind. The need of hour is to develop individuals with objectivity and rationality in thinking, intellectual honesty maintained in suspended judgement, open mindedness and aversal of science based or religion based superstition in thoughts. Such an individual is likely to have an ever alert mind, guarded by all kinds of conditioning. Such a person would contribute actively in the restructuring of society.

Education is facing a challenge in its philosophy and programme. The challenge is that of change, stress of worthiness and its responsibility to achieve the goals. The revolution of information has certainly affected the frontiers of knowledge. It is increasing in geometric progressing. This increase in knowleged and the need of individuals both physical and psychological in accordance with industrial and social changes have laid enormous responsibility on education.

Krisnamurti created a new hoirzon in education by redefining its aims and objectives. Today, education aims at seeking personal gain and security, to fight for self. It is geared to industrialisation and war. Our minds are trained for the realisation of secondary values such as technical efficency, and misery to self. Such an education must be given up. The education must be helpful in understanding the whole significance of life and living it with realisation of relationship of self with the whole of universe. Realisation of this

relationship helps in the integration of action and thoughts and promotes peace in the world. The state of realisation my be achieved when one is free from any kind of memories of 'you' and 'me' which means the mind is not occupied with biased thought of selfishness or envy. This realisation is the art of living. Thus, the aim of education should be a master the skill of art of living with the help of science of creating unoccupied mind or mind in 'leisure'.

Education, being a life process should not be confined only to academic, bookish and technical knowledge. Education must be life centered. Krishnamurti made appreciable details of such an education which is not separated from the day to day life. The education which one gets in the light of problems of life itself is more significant. The experience that education is supposed to impart must be set up by considering the life as a whole and the realisation of self must be done in the sphere of life itself. Thus, the views of Krishnamurti are significant for the right conception of education.

Development of integrated individuals through education as visualised by Krishnamurti is in accordance with the need of present society. Educands with an integrated and coordinated mode of thinking and action may bring out the desired change in the society as a whole. Synchronisation of minds enhances the brotherhood among individuals. This unity is the strength of society and helps in the formation of peace loving society. Integrated approach helps in developing interpersonal relationship with full utilisation of individual's potentialities in the progress of an educated and enlightened society which would otherwise undergo chaos.

While enhancing the integrated development of the individuals through education, certain values are required to be developed in them. The present changing society has to be very careful in selecting the values. The values which were the pillars of social ethics in yester years are being mocked upon by the society members today. This reflects that the values were cherished with great faith earlier, have failed to win the trust of the changing society. The modern society is looking for new values to replace the older ones. The modern societies tend to incorporate values to enhance universal brotherhood, mutual cooperation irrespective of nationalities and community on humanistic grounds. Krishnamurti's suggestion to create a new values that are everlasting has been proposed timely. Right kind of education includes the search of new and relevant values in life. These values are to be identified and established in the acceptable form in the modern society.

Freedom and discipline in education were redefined by J. Krishnamurti. The concept of freedom, as given by him is of psychological freedom which is freedom from conventions, traditional thoughts, beliefs, presumption and prejudices. The crisis in modern times is due to fundamentalism, regimentation, dogmatism, conformity, standardisation and regidity in all walks of social life. These organised and traditional forces enslave man and society. J. Krishnamurti philosophies concept of freedom to liberated man from psychological conditioning. His views about freedom are

potent enough to provide individual freedom to modern man which is his utmost necessity.

The concepts of discipline as developed by Krishnamurti are essential to erase out the memories of bad experiences on the name of order and control. His concept of discipline finds relevance with the child centered education. His strong opposition towards reward and punishment to promote the positive behaviour and to suppress the negative behaviour is a just step in the field of discipline. Indirectly, he supports the self discipline to maintain order. Krishnamurti emphasised on observation and then to reach on conclusions so as to check the misbehaviour of the individual, that too not by adopting harsh means but by talking over it with the children and other concerned people.Such a method of maintaining discipline is more relevant in school system.

The approach of Krishnamurti towards student-teacher relationship finds considerable relevance in present educational system. The distorting student-teacher relationships needs a seroius though over it and it was seriously considered by Krishnamurti. He found that the deterioration of student and teacher relationship is due to failure in realisation of their respective responsibilities not only towards each other but also towards the society. In this regard Krishnamurti emphasised a mutual co-operative relationship. Such a relationship is must for developing a healthy environment conducive for teaching and learning. Krishnamurti's idea of involving parents in formal education is a novel idea in itself. He, on one hand has tried to make them realise of their duties and on the other hand has suggested to educate them. However, this approach of Krishnamurti finds close relationship to the objectives of adult education. The parent-teachers associations or meeting held at some public schools are steps towards the mutuals communication in the interests of child.

The fear of conformity withheld Krishnamurti to propose any new method of teaching . It is essential that an educator must not retain a strict adherence to any particular method of teaching. The method of teaching should have flexibility so that it may be employed in accordance with the demand of educational evnironment. The rigidity in application of teaching method in prior has a risk of making student uninterested in the teaching-learning process. This would result in nothing but an aimless, directionless education. It is required that without showing any specific affinity towards any particular method of teaching, the teacher should conduct all those activities in teaching which results in conducive environment for learning. Thus, an integrated approach towards method of teaching as suggested by Krishnamurti would be more fruitful than the traditional rote memorisation and lecture method of teaching.

It has become tendency of modern educational system to be more mechanical, acquiring knowledge scientifically and hence the tender values that are required to be generated in the children are not seen in the educands. An overemphasis on the specialisation in every field has created a new

classfication of society, that of specialists, literates and illiterates. The division among them have on one hand resulted in serious problems of employment and vocations and on the other hand developed an inevitable competitiion among them. Literates and illiterates find themselves being cheated. Their capabilities are understimated thus leading to an unjust distribution of work, money and status. These again are the causes of many maladjustments. The criticism of Krishnamurti on the specialisation culture of education is just as its function is to enable the educands to better adjustments not maladjustment.

The curriculum as outlined from the talks of Krishnamuurti provides a large scope of vivid activities in educational programme. It provides a library for references and laboratory to get direct experience and verification of knowledge. His suggestion of classes in natural setting brings child closer to the nature and recommendations of Music, Literature and Fine arts are for the development of sensitiveness and goodness. Thus it seems that except for History all subjects find due importance in Krishnamurti's curriculum. History is left so neglected by him because he srongly opposed the presentations of those experiences to the child which do not allow him to live in present. Obviously, History takes the child to the past. Moreover, the conten of subject History is nothing other than the stories of wars and counter wars of a community, nation or civilisation. Such as subject would be a hindrance in developing universal peace and love. Such view of Krishnamurti indicates towards the ripe time of making modifications in the content of subject History if it is not to be given up totally. This would be a step towards establishment of a peaceful society.

Krishnamurti's recommendation to blend the religious and scientific mind is undoubtedly a fresh attempt towards establishment of an intelligent society with intelligent individuals. Krishnamurti's suggestion of a student council with the teachers as representative too discuss all matters relating to the well being of the whole group is noteworthy. To discuss the problem of discipline, cleanliness, food and other matters face to face in an environment of affection and love seems to be a step towards the freedom of students. He also suggested for self-government of students. This is supposed to be a preparation for self government in latter life.The experiments of self-government partially observed in the form of students union in colleges have helped in developing a sense of healthy citizenship in future.

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Teaching School Students through Distance Mode
Some Reflections

B.C. DAS*

Abstract

Teaching school students through chalk and talk approach has been in practice for long in India. Various strategies for achieving the present goal of school education were discussed and some are put into practice. In this paper it is argued that if teaching to school students, particularly Class IX students is offered through distance mode in the form of self-study material, they will prove to be more effective and economically viable. We think the case merits serious consideration as the issues raised remain significant.

Rationale

One of the important considerations for improving the quality of teaching in any subject is the provision of effective teaching learning material. There are many methods, models, and techniques which can be used to make an instructional process effective. Self learning material (SLM) is one of them. The SLM may be defined as learning material designed on auto instructional style for the self study by the learners. It enables learners to learn independently, unaided and on their own pace. It consists of self contained learning activity packages which promote self learning, self evaluation, and self enhancement through continuous feedback. As a learning technique, SLM incorporates educationally sound and empirically proved psychological and pedagogical principles as it allows the learner to find his way into and around the subject by repeating the content. It explains the subject matter in such a way that the learner can relate it to what he already knows, encourages him sufficiently to make whatever effort is needed in coming to grips with the subject, motivates him in exercises and activities that make him work with the subject matter, gives the learner feedback on these exercises and activities enabling him to judge for himself whether he is learning successfully, and helps him to sum up

*Associate Professor, Department of Education, North Eastern Hill University, Tura, Meghalaya-794002

his learning at the end of the unit. The use of this material makes the teachers' job easy and can solve some of the problems of present classrooms. It has the potential to improve the quality of teaching. Research studies conducted in India and abroad reveal that, SLM is significantly better than traditional face to face teaching.

The author of this paper is thoroughly convinced that, considering from the academic and economic point of view, the distance education mode, as it offers autonomy and independence in planning and executing learning, will be much more effective than the formal face to face teaching and learning. As opposed to the running of conventional face to face teaching, distance education methodology offers a non traditional possibility for significantly reducing the direct and indirect costs involved in running the school system. Economic viability of the distance education for offering certain courses in school education is established beyond doubt. Hence this paper proposes that to launch school education through distance mode would be viable.

The most obvious justification for self instruction is that, there are circumstances where there is no alternative or where any alternative involves the learner in unacceptable personal sacrifice. Thus, the learner may live at a considerable distance from an appropriate institution; the learner's time may not allow him the right part of the week to attend classes, or the learner may be disabled and unable to attend classes. The learner's learning needs may not fit with the available courses in various ways; the learner may require a particular competence in a relatively short time. This justifies for a flexible approach to learning in the form of SLM. Another reason for advocating self-learning is that, it is a way of coping up with the various short of differences among learners. Some learners learn more quickly than others. They differ in their performances in learning, e.g. some cannot remember anything unless they write it down and others have very good oral memories, and so on. All learners manifest some preferred learning strategies and learning is unlikely to be most effective if the learner is prevented from learning in the ways he prefers. Importance of these differences has been recognised in learning and is the main justification for the thrust towards individualised instruction.

Theoretical Considerations

Learning is an individual, personal matter. It can most effectively be accomplished if the learner's own unique cognitive style is recognised and accommodated. The self-learning strategy is a form of teaching which takes place on an individual basis, rather than a group. The SLM helps the students to make decision about what to study, how to study, how much to study, and involves the learners in evaluating the effectiveness of their progress. Since this strategy invokes learning, makes use of clear and defined goals, promotes active participation of the learners and rests on feedback, it holds the motivation level of the learners high. The SLM, which is prepared taking the aforesaid principles of sound pedagogy and written in

behavioural form incorporating Magerian principles of writing objectives and is laid down in a series of logical sequences might help the learners to progress satisfactorily with their own speed, repletion, exercise and practice. The content followed by testing questions would encourage the learners to understand the content satisfactorily. The feedback provided by correct response might add to motivation of the learners. Since the essence of learning lies not in the machinery but in the material to be presented and since SLM incorporates all the essential criteria of an effective programme, it would contribute significantly to the achievement of the learners. Hence, it is natural that, this type of learning material could result in positive gain in the performance of the learners.

Further, SLM encourages the learners to take on greater responsibility for their own learning. Thus learners are encouraged to consider their own learning needs and in some cases to undertake a substantial analysis of them. They are also encouraged to select relevant goals and sub-goals at wish to aim, monitor and assess their achievements through various self-assessment techniques. The learner has the opportunity to negotiate the course and so he becomes a participant in decision making rather than a passive object to which things are done. By giving importance to the learner, SLM may help to reduce the sense of inferiority resulting from the learner's feeling being an infant on the subject in the early stage of learning. Secondly, the learner's involvement in decision making may increase his motivation to achieve more in learning. Finally, there is an evidence to support the view that, where learners are perceived by the teachers as committed to achievement of learning objectives, as seeking and accepting responsibility and as a person able to exercise control and self-direction, then they will behave in a way which confirms this perception. Furthermore, affective factors merit a special importance in learning. Through self-instructional learning mode empathy may be developed within a group of learners by reducing the centrality of the teacher so that her role becomes more than a consultant. This is likely to increase the empathy between the teacher and learners. Rogers (1969) argues that, where the teacher is empathic, liking and affection are more evenly diffused around the group and every learner tends to feel liked by all others who have a more positive attitude towards himself and towards the school. In understanding self-assessment learners reduce the need for the teacher to be involved in assessment and this helps to build greater empathy between teacher and learners.

There are economic, social and individual pressures on the educational system to provide continuing education. The rate of change in modern society through technological developments, economic and commercial development and political grouping may strain the ability of educational system to cope. There are need for skills to deal with the increasing internationalization and mobility of economic and political life. With the increase of knowledge and associated developments in technology,

there are changes in the process which require a parallel development in specialists' skills together with new patterns of work involving higher degree of collaboration among specialists. The strain on the agencies presently providing continuing education can be reduced by the adoption of some form of self-instructional mode. In addition, the clients of continuing education frequently are just those who are unable to fit into the normal schedules of educational institutions and so a self-instructional mode may help to provide the learning opportunities required.

In the light of above considerations, it is hypothesised that, SLM will prove to be more academically and economically viable than traditional face to face teaching learning approach. This hypothesis is theoretically substantiated by the fact that, SLM designed as self-contained course will prove to be academically viable for learners because it will provide them opportunities to learn according to their own pace, encourage learners to take on greater responsibility for their own learning by experiencing the study work on their own which is felt to develop independence and lead to greater autonomy than conventional teaching method. It will prove to be economically viable because SLM in the form of self-contained course can be used as distance learning materials. Once this material is used as distance learning material, it would offer the following advantages which distance education offers in general:

(i) The applicability of distance education to large groups of learners as a kind of Mass Communication,

(ii) The economy of both the large group approach and of the fact that the need for residential teaching is eliminated and diminished and that the study can take place during any time and anywhere when the learners feel the need, and

(iii) The feasibility of developing large scale projects by enlisting the services of the very best subject teachers and educationists. For example, they can be utilised to write the course materials.

As regards the economic viability of distance education it has been found out elsewhere that, a successful teacher training project in mathematics for some 50,000 active teachers in 1969-71 proved to require only 3per cent of the cost of a parallel residential study programme with equal effectiveness (Holmberg, 1973).

Psychological Considerations

Besides these theoretical considerations, that support the contention that learning would be more effective for the students if they are offered autonomy and independence in pursuing their studies, there are psychological bases that support the contention that learning and retention is enhanced through the study of written materials produced on the basis of certain psycho-educational theories. The strongest support for the written instructional materials' capability of influencing learning and retention has come from the influential work of Ausubel(1968) on meaningful verbal learning and the notion of 'Mathemagenic Behaviour' introduced by Roth Kopf (1965). In a period when many

psychologists were still studying associative learning, Ausubel (1968) pointed out that, in learning emphasis on cognitive process and structure is important. His emphasis on cognitive process and structure showed the importance of controlling of presentation of instructional material and the influence of knowledge learners bring with them to the learning situations. Regarding the importance of learner's cognitive process and structure, Ausubel(1968) stated, "If I had to reduce all educational psychology to just one principle, I would say this: the most important single factor influencing learning is what the learner already knows, ascertain this and teach accordingly".

Although Ausubel's work drew attention to meaningful text learning, it was Roth Kopf, according to Faw and Waller (1976), who showed how, investigations should be carried out in this field. He suggested that, subjects when studying written materials, not only learn this specific content but also acquire some general facilitative skills, namely, 'Inspection Behaviours' which he later called 'mathemagenic behaviours'. Although criticised for its imprecision (Rickard, 1979) this notion serves to remind researchers that what the students do in the learning situation is an important pointer to how much he will retain (Faw and Waller, 1976). Roth Kopf created an experimental paradigm which allowed the assessment of a direct instructive effect and an indirect effect, the so called mathemagenic behaviour (Rickard, 1979). Richards and Denner (1978) stated, "Research has taken on two orientations: one directed towards the influence of different variables such as the effects of question-answering on text retention, and the other directed towards the processes involved in learning from textual materials. Specifically, in the field of adjunct questions, research influenced by the behaviouristic model, originally studied the effect of question frequency and position within written text. Later, influenced by the general trend of experimental psychology towards the cognitive model, the investigators studied the effects of levels of questions on the depth of the cognitive processes" (Richards and Denner, 1978). In support of his view regarding learning as a cognitive process, Anderson (1977), observed that, "Learning is no longer a mere aggregation of information, but as a dynamic structure –imposing process resulting in schema changes." In his view, schemata are essentially organisations of information in holistic and hierarchical structures.

Recognising the weakness of the studies conducted in laboratory settings, Hartley and Davis (1976) observed, "Today, a substantial body of knowledge is available on many variables that may affect learning from written text adjunct pre and post questions, advance organisers, text organisations, and feedback. Generally, the studies have been conducted in laboratory settings. The paradigm used to assess the effectiveness of each teaching strategy in isolation or of cluster of several strategies, rather than their interrelation within a total learning situation." (Hartley and Davis, 1976).

Based on all these considerations, the author in this paper argues that the deliberate use of self-learning material which will use the above psychological foundations could influence learning positively amongst school students.

Empirical Observations

Teaching through the distance mode (self-learning material) is significantly more effective than conventional teaching in terms of better educational achievements, attitudinal changes, etc. It is not only supported by the theories of learning, but also supported by empirical researches. For instance, Gogoi (2008) developed a package of SLM on General Science of Class IX students in Assam state and studied its effectiveness against traditional teaching method. The study revealed that, the developed SLM was effective in terms of performance of the students on criterion tests and reaction towards it. More than 70 per cent of students secured more than 30per cent marks and reaction of the students towards different aspects of the SLM and material as a whole was found to be favourable. Further, the performance of the students taught through the developed SLM was found to be significantly better than those taught through the traditional method when students' performance scores were adjusted with respect to intelligence. Similarly, the developed SLM was found to be significantly better than the traditional method in terms of development of scientific reasoning ability of students when their mean scores were adjusted with respect to intelligence. Therefore, it was concluded that, teaching through the SLM is significantly better than the traditional talk and chalk method for teaching General Science to Class IX students. The SLM has induced better scientific reasoning abilities among the students than the conventional method. Students' reactions towards the SLM have been found to be positive. Hence, the SLM could be effectively used as a viable strategy for teaching school students.

Further, the experimental findings of the studies conducted in India and abroad by Mullick (1964), Bhusan (1973), Chauhan(1973), Govinda(1976), Sansanwal(1978), Shah(1980), Pandey (1982), Passi(1982), Rabindradas (1984), Shah(1984), Desai (1985), Desai(1986), Dasgupta (1988), Singh (1988), Singh(1989), Devi(1989), Talat (1990), Das(1990), Siddiqi(1991), Verma(1991), Bhatia (1992), Prabha (1992), Agarwal and Mohanty(1998), and Agarwal(2000) in India and, Sheppard and Mc Dermot (1970), Taveggia(1976), Mc Carney and Bullock(1977), Lee and Mc Lean(1978), Dean(1981), Otto(1981), Grant(1983), Edelman(1983), Neuberger (1984), Songwiwat(1984), Vatanvigkit (1985) abroad have reported that, learning through the SLM is significantly better than that of traditional talk and chalk method.

Thus, it is expected that, teaching school students through the SLM would result in positive transfer to new situations and deeper cognitive processing and hence better learning than conventional face to face teaching.

Discussion

In the theoretical front we know that, effective teaching occurs when active involvement of the learner in the learning process is ensured. In the traditional face to face teaching through the lecture method, the learner's involvement in the teaching learning process may not always be active. Because the learner may be physically involved but cognitively he may be totally absent. But in the case of self learning material either the learner learns or he does not learn. He takes up the self-learning material only when he has time and is motivated to learn. The motivation in the case of self-learning material comes basically from within and is not required to be aroused by the teacher as in the case of traditional teaching although strategies to motivate the learner are used while developing the self-learning materials. Through self motivation, learning is expected to be better, because while reading self learning material the learner's cognitive involvement would be complete.

Further, the Academic Learning Time for each individual is different as the learners vary in their intellectual abilities, memory, and endurance for work, aptitudes and their level of educational achievements. Self-learning strategy takes this point into consideration as it allows learners to make decisions and assures responsibility for their own education. It helps learners to make decisions about what to study, when to study, how much to study and thus it involves the learners in evaluating the effectiveness of their efforts and progress. Since this strategy makes use of clear and defined goals, promotes active participation in the learning process and involves self-evaluation and feedback, it is expected that, teaching school students through pedagogically sound self-learning material would lead to better learning outcomes.

Another factor that seems to act in favour of self learning material is the autonomy that it offers to the learners in planning their learning activities. For example, there may be learners who would like to undertake self study in the early morning, there may be others who would like to study after dinner, and there may still be others who would do self studies in free periods and so on. This implies that learners can learn effectively when they have freedom to plan their own study schedules and not compelled to attend a formal classroom teaching.

Since self-learning material provides autonomy and independence to the learners to go through it according to their own time and pace and since it offers freedom and responsibility for regulating their own learning, it is therefore expected that self-learning strategy will prove to be more effective for the learners than traditional classroom teaching. It is Self-directed learning (Moore, 1977) that is important for learners and not the traditional classroom teaching where they are directed to learn.

Besides, the observations made in favour of self-learning material in this paper, also find support from the theoretical writings in the field of distance education. For example, the theory of autonomy and independence

propounded by Wedemeyer (1983), in the context of distance education suggests that autonomous and independent learning through the self-learning materials is effective because:

(i) the normal process of teaching and learning is carried on in writing,
(ii) the teaching is individualised and learning takes place through the learner's activity,
(iii) learning is made convenient for the learner in his own environment, and
(iv) the learner takes responsibility for his progress with freedom to start, stop and pace himself at will.

Suggestions

From what is already known about the effectiveness of self-learning material and the observations made in this paper, the following are suggested which may be helpful in directing future thinking of the policy makers associated with school education through distance mode:

(i) School teachers can take the help of SLM and procedures involved in it to make their classroom teaching effective. By collecting materials for teaching school subjects and using such material as a support system, the teacher can improve his teaching efficiency and fulfill the present requirements of classroom teaching.
(ii) To cope up with the present changing society, students should have sufficient knowledge in each and every field which is impossible in the present classroom setting having wide variety of learners and a single teacher following a single teaching method. The SLM has proved to be effective for learners in learning in terms of learning on their own. Therefore, the SLM could be used for effective self-learning by the learners.
(iii) The administrators, Principals/ Headmasters, Directors, Educational Officers should cultivate positive attitude towards the development and use of the SLM from economic point of view. They should modify the curriculum and encourage both teacher and students for the use of the SLM.
(iv) The important suggestions for the practitioners and planners is that they should consider teaching school subjects through distance mode by using self-learning materials.
(v) The use of distance mode for teaching school students is suggested because a country like ours with paucity of funds and resources, it is going to be an economically viable mode.
(vi) Thus, if economy and efficiency in teaching school subjects are desired to be achieved , then the suggestions of this paper is significant as it has shown the way for the consideration of teaching school students through the Indira Gandhi National Open University.
(vii) It would ensure the academic viability of teaching school students because students would learn themselves only when they are really motivated to learn at their will.

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Quality Culture in Teacher Education

K.K. Sharma*
Saroj Sobti**

Abstract

The management and sustenance of quality in Higher Education is a great challenge for the policy planners and managers in the changing scenario. Management of the functioning of an educational institution that is utilization of resources- men, material, machine, money, time and space, innovative practices and intuitive future plan lead to the enhancement of quality. The National Assessment and Accreditation Council (NAAC) came into existence as deliberate government intervention to help institutions to integrate quality initiatives for attaining national goals of equity, excellence and efficiency. The central focus of this article is to discuss about the various healthy or innovative practices for the enhancement of quality environment suggested by this Council. It also put forth some suggestions to improve the current scenario of Indian Educational Institutions.

Introduction

Quality has become the watchword of current educational scenario not only in India but also at a global level. If we are to survive in this competitive, market-oriented and technology-driven world where boundaries of countries are fastly disappearing, then there is no existence without quality. In the last decade the rising consciousness and demand for quality assurance, sustenance and its management have become essential ingredients of competitive society. It is an accepted fact that the higher education provides the means for upward economic growth and social mobility. It helps to provide leadership in all the sectors of development in a country. The management and sustenance of quality in higher education is a great challenge for the policy planners and managers in the changing scenario.

Quality in education is interlinked with autonomy and accountability. Quality of higher education and research can be assured if colleges/universities

* Former *Pro Vice-Chancellor*, NEHU, Shillong
** *Lecturer*, Ganesh Dass DAV College of Education for Women, Karnal, Haryana

are granted complete autonomy in structuring academic programmes, evaluation, administration and financial management. Autonomy can be made effective when it is linked with accountability on the part of functionaries in an educational institution. The management practice with highly competent persons is equally demanding in an institution of higher learning.

Innovations and creativity are the hallmarks of a progressive and dynamic educational institution. Management of the functioning of an educational institution that is utilisation of resources- men, material, machine, money, time and space, innovative practices and intuitive future plan lead to the enhancement of quality. In addition to these components, the application of technologies (information and communication) further enhances the quality of instruction, research, training and extension.

What is Quality?

Quality is a complex term. It is expressed in terms of fitness for purpose, excellence, perfection, standards, value for money, consistency, transformation and relevance. It is defined in various ways.

Quality makes the knowledge relevant to social and individual needs. Quality also enables the person, societies and nations to acquire the competencies required for living meaningfully in a competitive global world. Nyantara Padhi (2006) in his article *'Total Quality Management in Higher education: A Conceptual Review"* combined the different views of Mukhopdhyay and others about Quality. Mukhopdhyay (2005) remarked that depending on the goals, the term Quality in Education has been defined as excellence in education, Waterman (1992) sees it, 'as value addition in education' and Gilmore (1974) thinks it on the bases of conformance of education output to planned goals, specifications and requirements.

Further Jaspal Singh and Maninder Singh Sarkaria (2007) in his article *"Quality Higher Education in India : Some Issues and Suggestions"* quote the definition of Aggarwal, et al. (2002) and wrote: The term quality in education is based on the following parameters :

- Reliability: the ability to perform the promised service (Imparting Knowledge);
- Responsiveness: Willing-ness to help students and provide prompt guidance;
- Tangibles: Physical facilities, laboratory equipment and their use;
- Assurance ; Knowledge and courtesy of faculty and their ability to convey trust and confidence and
- Empathy; caring, individualised attention to students.

Concept of Quality Culture

Quality culture is a concept, which is related to the environment of performing a particular task with a view to achieve well-defined goal. In this process, at all stages some fix standards are attained or achieved. Quality is always assessed in the context.

Quality differs from material product to the services or both. Teacher education

is more a service than the product but both are important in this case.

Dahlgard et. al (1995) has defined Quality as. "... An educational culture characterised by increased customer satisfaction through continuous improvement in which all employees and students actively participate." Therefore, quality culture is an inclusive concept, which includes both the product and the service. In case of teacher education, it deals with the preparation, development and training of teachers.

Quality Culture according to naac

Every teacher education institution adopts or follows its own practices and achieves quality in the background of its infrastructure, resources and facilities. All colleges of different categories like Government aided and self-financing follow their own practices and thus adopt their own quality culture. To maintain common pattern of quality, NAAC has evolved a set criteria. Earlier there were six criterions but now, they are under revision in order to further enhance quality culture in XI five-year plan.

Healthy Practices for the Development of Quality Culture

Best healthy practices are the images of quality culture. Aristotle said, that it is impossible to think without images. The best practices followed by different institutions not only provide images to the institutions, but also stimulate the replication of the process by other institutions. The National Assessment Accreditation Council (NAAC) has identified healthy practices as one of the parameters to assess the quality of higher education institution.

The International Network for Quality Assurance Agencies in Higher Education (INQAAHE) strongly advocated the encouragement and consideration of good practices as one of the parameters of quality education. It has suggested the following guidelines for the identification and application of good practices:

- Dynamic and be revisited periodically;
- Diversity in cultural and historical contexts.
- Not leading to dominance one specific view or approach and
- Promoting quality of performance.

Every institution adopts certain healthy practices as per its own resources and work culture. To make these healthy practices more effective, the following five-stage strategy given by NAAC can be adopted:

Five-stage Strategy

- Identification of best practices
- Implementation of best practices
- Institutionalisation of best practices.
- Internalisation of best practices
- Dissemination of best practices

The approach can be described as "Four I and D Model". Let us briefly elaborate the key elements of the approach.

Identification of Best Practices

The identification of best practices depends on many variables such as:

- Institutional Goals
- Pedagogical Requirements

- Global Concerns
- Local Contexts
- Nature of Learners
- Competencies of Staff
- Infrastructure etc.

The input factors, the process factors and output factors should be taken into account in identifying the criteria of best practices. There is a strong feeling that higher education graduates skills no longer match the needs and the expectations of employment sectors. In one of the surveys in Britain, employers identified the following skills:-

- Time Management
- Ability to work under pressure.
- Accuracy and attention to detail
- Communication skills
- Managing different tasks and obligations at the same time.

Is the education system providing necessary training to students to acquire these skills? The answer in most of the cases is no. To fulfill the requirement of world of work and quality culture the prospective teachers are expected to possess the following competencies in different areas of experiences:

Cognitive Competencies

- Problem Solving
- Critical Thinking
- Formulating Questions
- Searching for relevant information
- Making informed judgments
- Making efficient use of information conducting observations and investigations
- Innovative and creative things
- Communicating effectively

Meta Cognitive Competencies

- Self-reflection or self-evaluation

Social Competencies

- Leading discussions and conversations
- Persuading, Co-operating and working in groups

Affective Dispositions

- Perseverance
- Internal motivation
- Initiative
- Responsibility
- Self- efficacy
- Independence
- Flexibility

Implementation of Best Practices

The implementation strategies include planning, resource mobilisation, competencies building; monitoring and evaluation. The implementation approach focuses more on performance than promises. Total quality management is an approach of implementation, which focuses on quality of all aspects of operations with the participation of everyone in the organisation.

Institutionalisation of Best Practices

Institutionalisation is the process of making the best practices as an Integral part of institutional working. Mostly it is observed that the best practices are leader-centric. It is true that the transformative leaders (leaders who

have the ability to translate intensions into reality), play a critical role in the development of any institution. The institutionalisation of the best practices can develop quality culture to its core among all the activities of the institution. Institutionalisation is an effort to make it more institution-centric than the leader or individual-centric and also to make best practices as a moral practice.

Internalisation of Best practices

Institutionalisation of best practices is possible when there is an internalisation of these practices among all the categories of staff from the top to the bottom. All members are the measure of everything of all practices. The best practices should become a part of the working culture of everyone in the institution.

To internalise any best practice we look at its quality as strategy or as a value. Internalisation is an attitude formation conducive to sustain quality in higher education.

Dissemination of Best Practices

The institutions not only have the social responsibility of application of best practices, but also an equal social responsibility of dissemination of these practices for wider application in the system. Lack of information about the feasibility and adoptability of best practices, many institutions can't follow them. We must learn and benefit from other institutions. Some times, there are communication gaps within an institution which affect the expected outcomes of the practices. Therefore, willingness to share ideas and concepts and openness to discuss common areas of interest and concern should be inculcated among at the educational institutions. The NAAC is advocating every institution to establish Internal Quality Assurance Cell, with one of the functions of recording and dissemination of best practice followed by the institution.

Conclusion

It can be concluded that the quality culture is the outcome of a continuous and collective effort of all concerned in designing, implementing and evaluating teacher education programmes in view of emerging needs and challenges in global perspective. Further quality culture needs to be enhanced while adopting the innovative healthy practices adopted by other teacher education institutions in the country and else where. In order to evolve and maintain a quality culture, the values like selflessness, integrity, objectivity, accountability openness honesty and leadership should be internalised among the teaching communities.

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Self-Directed Learning
Meaning and Praxis in Classrooms

VANDANA SINGH*

Abstract

The shift from behaviourism to cognitivism in educational psychology has placed an increasing responsibility on learners for their own learning, and self-regulated learning has become a frequent area of educational research. Also, by giving learners more responsibility for their learning can also expect to reduce the burden of teachers for effecting student achievement and teachers can utilise that time in catering to the individual differences among the learners. Therefore, it is important for the teachers to understand the meaning and importance of the Self-directed Learning from the point of view of the various models of the Self-directed Learning. The paper focuses on the ways by which class room practices and conditions can encourage learners to engage in Self-directed Learning. This paper also addresses to instructional issues and ways of fostering Self-directed Learning in the classroom settings.

Introduction

The framework for understanding the psychological basis of learning has gradually shifted from behaviourism to cognitivism since the 1960s (Anderson, Reder, & Simon, 1995; Bredo, 1997). Beside this, there is a growing pressure for increased results from the learners but with respect to the growing number of learners, there is a shortage of qualified and experienced teachers. This situation demands to invest heavily in learning and development of individuals. One way through which the problem can be tackled to some extent can be through developing our learners as Self-directed i.e., they become autonomous learners, who are in the constant search of knowledge on their own. It is important to note here that the capability to become autonomous lies in each individual. Even, Greek philosophers as Socrates, Plato, and Aristotle gave importance to the self study.

John Dewey (1916, 1938) also proposed that all persons are born with an unlimited potential for growth and development; further he defined education as the agency that facilitates this growth and also cautioned that the teacher must guide rather than interfering or controlling the process of learning. We also understand that learning is not limited to the classroom

**Assistant Professor*, School of Education, IGNOU New Delhi.

situations only but it can be extended in all situations. Since the Self-directed Learners are self-motivated, they are attempting to gain new skills, knowledge, and attitudes to improve their performance in any field. The Self-directed Learning can be useful in improving family life and health, enjoy the arts and physical recreation, participate in a hobby, or simply increase their intellectual capital. Hence, the only trait which is needed for the Self-directed Learning is to have motivation.

Understanding Self-Directed Learning

Self-directed Learning has its roots from adult education, the term became popular after Tough (1971) used the term 'Self-directed Learning' in the North American literature while working on the learning projects , where he demonstrated that self-teaching was a natural process among many adults. Malcolm Knowles (1975, 1980) built his andragogical model on the basic assumption that adult learners are Self-directed Learners and described it as "a process in which individuals take the initiative, with or without the help of others," to diagnose their learning needs, formulate learning goals, identify resources for learning, select and implement learning strategies, and evaluate learning outcomes (Knowles 1975).

In its broadest meaning "Self-directed Learning" describes a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes. Other labels found in the literature to describe this process are "self-planned learning", "inquiry method", "independent learning", "self-education", "self-instruction", "self-teaching", "self-study", and "autonomous learning". The trouble with most of these labels is that they seem to imply learning in isolation, whereas Self-directed Learning usually takes place in association with various kinds of helpers, such as teachers, tutors, mentors, resource people, and peers. There is a lot of mutuality among a group of Self-directed Learners.

It is desirable to encourage Self-directed Learning among all learners, in a wide variety of settings. We can observe Self-directed Learning taking place in libraries where learners are actively involved in their intellectual pursuits while other category Self-directed Learners engage in more interpersonal communication (with experts and peers) than is as can be noticed in conventional classroom .

Mocker and Spear (1982) proposed a descriptive model of lifelong learning which was based entirely on the locus of control for decision making about the objectives and means of learning. The model is a two-by-two matrix of learner and institution. It was proposed that the Self-directed Learning situation occurs when learners—not the institution—control both the learning objectives and the means of learning, which means that the learning is totally in the hands of learners.

Thus, whether learning is Self-directed depends or not depends more on learners who decides what should be

learned, who should learn it, what methods and resources should be used, and how the success of the effort should be measured rather than on the subject matter to be learned or on the instructional methods used. To the extent the learner makes those decisions, the learning is generally becomes Self-directed.

The resources available to Self-directed Learners include printed and audiovisual materials; teachers, telephone, or in person; cultural institutions. The learner's ability to locate appropriate and useful resources has often been cited as a key aspect of learning on one's own. It is important to note here that encouraging self-direction does not mean giving learners total control and responsibility but rather providing opportunities towards increasing independence for lifelong learning. Therefore, it can be deduced that the Self-directed Learning does not necessarily mean learning in isolation or without assistance. This assistance is often sought from friends, experts, and teachers in both the planning and execution of a learning activity. According to Knowles (1975), the self-concept of the Self-directed Learners moves from dependence on teachers to independence or self-directness.

Following are the Characteristics of SDL

(a) SDL views learners as responsible owners and managers of their own learning process.

(b) SDL recognizes the significant role of motivation and volition in initiating and maintaining learners' efforts. Motivation drives the decision to participate, and volition sustains the will to see a task through to the end so that goals are achieved (Corno, 1992).

(c) In SDL, control gradually shifts from teachers to learners. Learners exercise a great deal of independence in setting learning goals and deciding what is worthwhile learning as well as how to approach the learning task within a given framework (Lyman, 1997; Morrow, Sharkey, & Firestone, 1993).

(d) Teachers scaffold learning by making learning 'visible.' They model learning strategies and work with students so that they develop the ability to use them on their own (Bolhuis, 1996; Corno, 1992).

Importance of the Self-Directed Learning

Increasing or improving students' Self-directed Learning might be of value for

Differences between Self-directed learning and Teacher-directed Learning

Teacher-Directed Learning	*Self-Directed Learning*
Assumes the learner is essentially a dependent on the teacher for what and how they should learn.	Assumes that the human being grows in capacity to be self-directing independently.
Assumes that the learner's experience is of less value than that of the teacher, the textbook, the textbook writers as a resource	Assumes that the learner's experiences become an increasingly rich resource for learning, which should be exploited along with the resources of experts.

for learning, and that therefore the teacher has the responsibility to see to it that the resource of these experts are transmitted to the learner. Assumes that students enter into education with a subject-centered orientation to learning (they see learning as accumulating subject matter and those therefore learning experiences should be organised according to units of content. Assumes that students are motivated to learn in response to external rewards and punishments, such as grades, diplomas, awards, degrees, and fear of failure.	Assumes that the student's natural orientation is task or problem centered and that therefore learning experiences should be organised as task accomplishments or problem solving learning projects. Assumes that learners are motivated by internal incentives, such as the need for self-esteem, the desire to achieve, the urge to grow, the satisfaction of accomplishment, the need to know something specific, and *curiosity*.

(Adapted from the book 'Self-directed Learning' By Malcom Knowles, Published by Cambridge Adult Education in 1975).

both teachers and learners for several reasons. The most important advantage of the Self-directed Learning is the responsibility and control of learning which is there in the hands of the learners. But, it should be noted that the amount of the autonomy to be given to the learner must depend upon their learning needs rather than on teacher's beliefs. Apart from this, other advantages of the Self-directed Learning is strongly encourages active learning, develops learner's autonomy and give responsibility of learning to the learners.

With respect to teachers and schools, these changes might provide an economical way to increase total learning time without the need to allocate additional teaching or instructional time. By giving learners more responsibility for their learning can also expect to reduce the burden of teachers for effecting student's achievement. Having learners share in this responsibility might reduce teachers' anxiety that they alone are the cause of students' successes and failures. Freeing teachers from being the sole and constant source of knowledge transmission also allows them to devote classroom time to monitoring and responding to the needs of individual students.

The literature on SDL asserts that Self-directed Learners demonstrate a greater awareness of their responsibility in making learning meaningful and monitoring themselves (Garrison, 1997). They are curious and willing to try new things, view problems as challenges, desire change, and enjoy learning (Taylor, 1995). Taylor also found them to be motivated and persistent, independent, self-disciplined, self-confident and goal-oriented. There is evidence that training in Self-directed Learning activities such as goal setting, self-control, and self-

monitoring improves both the on-task behaviour and academic achievement of elementary students when compared with uninstructed control students (Borkowski, 1987; Harris & Trujillo, 1975)

Self-directed Learning allows learners to be more effective learners and social beings. Guthrie, et al. (1996) noted that the Self-directed Learners in a Concept-Oriented Reading Instruction (CORI) program demonstrated the ability to search for information in multiple texts, employ different strategies to achieve goals, and to represent ideas in different forms (drawing and writing). Morrow, etal. (1993) observe that with proper planning and implementation, Self-directed Learning can encourage students to develop their own rules and leadership patterns.

Knowles (1971) puts forward three immediate reasons for Self-Directed Learning, which are as follows

(a) Self-directed Learners take the initiative in learning (proactive learners) learn more things, and learn better, than do people who sit at the feet of teachers passively waiting to be taught (reactive learners).

(b) Self-directed Learning is more in tune with our natural processes of psychological development i.e., maturation. The learner develops the ability to take increasing responsibility for our own lives.

(c) The new developments in education put a heavy responsibility on the learners to take initiative in their own learning. 'Students entering into these programs without having learned the skills of Self-directed inquiry will experience anxiety, frustration, and often failure, and so will their teachers.

Hence, it can be deduced that the Self-directed Learning not only actively involves the learners in the learning process but also develops a more responsible and effective social beings.

Theoretical Constructs for SDL

There have been many models which had been proposed for the Self-directed Learning, these models helps us in understanding the nature of the Self-directed Learning in a better way.

Candy's Four Dimensional Model

Candy (1991) described SDL, as an umbrella concept, which encompasses four dimensions, and has added the important element of depth in understanding during the Self-directed Learning. The dimensions proposed by him are as follows:

(a) Self-direction as a personal attributes (*personal autonomy*);

(b) Self-direction as the willingness and capacity to conduct one's own education (*self-management*);

(c) Self-direction as a mode of organising instruction in formal settings (*learner-control*); and

(d) Self-direction as the individual, non-institutional pursuit of learning opportunities in the natural societal setting (*autodidaxy*)"

Further, Candy's model was the first to state that a learners 'self-direction' might be different in different *content*

areas. But, the model has been criticised as it is not been able to describe how SDL is relevant in different learning contexts such as classroom learning or online learning.

Brockett and Hiemstra's Personal Responsibility Orientation Model (PRO)

Brockett and Hiemstra (1991) gave the personal responsibility orientation model in which they combined both the process and personal attribute perspectives; they suggested two primary orientations in developing an understanding of SDL: process and goal. In the first orientation, SDL is viewed as a *process* in which a learner assumes primary responsibility for planning, implementing, and evaluating the learning process. In the second orientation, SDL is referred to as a *goal*, which focuses on a learner's desire or preference for assuming responsibility for learning. They also integrated another significant factor which is missing in many models proposed for SDL i.e., social context as a component in the model by adding the role of institutions and policies in SDL. Brockett and Hiemstra (1991) defined the social context as different physical institutions where learning takes place, such as community colleges, libraries, and museums.

Garrison's Three-Dimensional Model

Garrison's model of SDL also includes the perspectives of SDL as a personal attribute as well as a learning process. Garrison (1997) suggested that SDL is accomplished by three dimensions interacting with each other: self-management, self-monitoring, and motivation. In educational settings, self-management involves learners, how learners use of learning resources within their learning context in such a way that they can attain their learning objectives. He further explained that learner control did not mean independence, but rather collaboration with other people within the context. From this perspective, we can see Garrison's model did have a focus on the learning process perspective of SDL. Like Candy (1991), as well as Brockett and Hiemstra (1991), Garrison (1997) also recognised the context factor in his model in that he specified self-management of resources in a given context. Yet, the role of context was somewhat superficial in Garrison's (1997) model and the dynamic interaction between learning context and SDL was not explicit.

Role of Teachers to Support Self-Directed Learning

Supports for Self-directed Learning are both related to instruction and management. Proper support can motivate learners to engage meaningfully in particular activities. This can be done by including integrative study activities i.e., teaching activities which are learner's oriented. As far as the role of the teacher is concerned, they have to act as knowledge facilitator rather then only a knowledge provider. Therefore, whenever the teachers want to promote the Self-directed Learning among their learners, one of the most important tasks will be to raise student's awareness of their roles in learning from being a knowledge provider to knowledge facilitator. In order to develop learners as Self-directed, it is important that the learning activities designed:

(a) must become a central part of the curriculum,
(b) learners must have ample opportunity to engage in these activities, and
(c) these opportunities should include mechanisms by which students can monitor and appraise the effectiveness of their methods.

It is important to note here that involving learners to participate in decision-making is another fundamental aspect of the SDL approach. These decisions about deciding their learning emphasises the importance of allowing learners to pursue their own interests so that learning becomes more meaningful. However, the learners do not have to be given total freedom, the teachers could, for instance, establish a thematic framework within which students are given choices. You must be thinking that this will increase the chances of committing more mistakes among the students. But, even if they make mistakes while doing so, the activities will sustain their interest, transcend frustration, and eventually break barriers to achievement.

Lyman (1997) and Bolhuis (1996) stress that teachers who want to encourage SDL must free themselves from a preoccupation with tracking and correcting errors, this threatens the ego of the learner. Corno (1992) suggests allowing learners to pursue personal interests without the threat of formal evaluation. While promoting Self-directed Learning among your learners, teachers have show greater tolerance of uncertainty and encourage risk-taking, and capitalising on learners' strong points instead of focusing on weaknesses, as it is more beneficial for learners to achieve a few objectives of importance to them than it is to fulfill all the objectives that are important to the teacher.

As quoted by Lowry, C. M. (2006), the following are the ways in which the teachers can facilitate Self-directed Learning among their students:

- Help the learner to identify the starting point for a learning project and discern relevant modes of examination and reporting.
- Create a partnership with the learner by negotiating for a learning goals, strategies, and evaluation criteria.
- Be a manager of the learning experience rather than an information provider.
- Help learners acquire the needs assessment techniques necessary to discover what objectives they should set and achieved.
- Help match resources to the needs of learners.
- Help learners develop positive attitudes and feelings of independence relative to learning.
- Use techniques such as field experience and problem solving that take advantage of adults' rich experience base.

Instructional Designs to Promote Self-directed Learning

In order to promote Self-directedness among learners, teachers need to invest many hours of instruction and also have to design the instructions based that can

promote Self-directed Learning. Also, since SDL stresses meaningful learning, Temple and Rodero (1995) advocate a situated learning approach, in which teachers bring real-life problems into the classroom for learners to work on. Learners should also be allowed to collaborate with the teacher in determining deadlines and other regulations. Some of the designs may include the problem based learning and inquiry based instruction.

(a) Problem-Based Learning

Problem-based learning (PBL) is a learner-centered instructional strategy in which students collaboratively solve problems and reflect on their experiences. This is not a new model of instruction, even philosophers like Plato and Socrates required that their students think, retrieve information for themselves, search for new ideas and debate them in a scholarly environment. However, it was pioneered and used extensively at McMaster University, Hamilton, Ontario, Canada. Advocates of PBL claim it can be used to enhance content knowledge and foster the development of communication, problem-solving, and Self-directed Learning skill.

It is defined by Finkle and Torp (1995) as, "a curriculum development and instructional system that simultaneously develops both problem solving strategies and disciplinary knowledge bases and skills by placing students in the active role of problem solvers confronted with an ill-structured problem that mirrors real-world problems".

PBL creates the three conditions that information theory links to subsequent retrieval and appropriate use of new information (Schmidt 1983):

- ***Activation of prior knowledge*** - students apply knowledge to understand new information.
- ***Similarity of contexts in which information is learned and later applied*** - research shows that knowledge is much more likely to be remembered or recalled in context in which it was originally learned (Godden and Baddeley 1975). PBL provides problems within context that closely resemble future professional problems.
- ***Opportunity to elaborate on information that is learned during the problem-solving process*** - elaborations provides redundancy in memory structure, reduces forgetting, and facilitates retrieval. Elaboration occurs in discussion with peers, peer-teaching, exchanging views, and preparing essays about what students have learned during the problem-solving process.

Following are the Characteristics of PBL

- Reliance on problems to drive the curriculum - the problems do not test skills; they assist in development of the skills themselves. Learning is driven by challenging, open-ended problems.
- PBL is learner-centered-learners are progressively given more responsibility for their education and become increasingly independent of the teacher for their education.
- PBL produces independent, life-long learners - students continue to

learn on their own in life and in their careers

- Students work in small collaborative groups and teachers take on the role as "facilitators" of learning.
- Use of real world problems - problems is relevant and contextual. It is in the process of struggling with actual problems that students learn content and critical thinking skills.

Problem Based Learning Process

(a) Identification of the Problem : There are many versions available for finalising the problem, either the problem is identified by the facilitator/teacher along with the students or the students identify the learning issues they wish to explore. After the finalization of the problem, the students receive the following learning materials:

- the problem
- a list of objectives that the student is expected to master while working on the problem
- a reference list of materials that pertain to the basic objectives
- questions that focus on important concepts and applications of the knowledge base

2. Working for the Solution of the Problem : The students work in teams to complete the project, resolve the problem, and accomplish the learning objectives.

- each student has a particular role in the team - leader, facilitator, recorder, or team member
- time allotted to each project is fixed
- the team schedules its own activities and decides how to use the allotted time

3. Evaluation : Student performance is evaluated by instructors, peers, and self using questionnaires, interviews, observation, and other assessment methods

Role of the Teacher in PBL

The learners are encouraged to take responsibility for their group and organize and direct the learning process with support from a tutor or instructor. In PBL, the instructor/teacher serves as a resource to the student teams. The instructor is frequently acts as a mentor or tutors to the group and dispenses information to the group.

The instructor/teacher is actively involved in planning the PBL the content and sequence of activity, providing immediate feedback on student work and discussion, and evaluating students. Basically the teacher acts as metacognitive coaches, serving as models, thinking aloud with students and practicing behavior they want their students to use.

The responsibility of the teacher in PBL is to provide the educational materials and guidance that facilitate learning. The principle role of the teacher in PBL is that of a facilitator or educational coach (often referred to in jargon of PBL as a "tutor") guiding the learners in the PBL process. As learners become more proficient in the PBL learning process the tutor becomes less active.

(b) Inquiry-Based Learning

Based on John Dewey's philosophy that education begins with the curiosity of the

learner and optimal learning and human development occur when people are confronted with substantive, real problems to solve.With the inquiry method of instruction, students arrive at an understanding of concepts by themselves and the responsibility for learning rests with them.

The main components of inquiry-Based Learning include

- a question(s) related to the topic of inquiry to be explored (problem statement),
- followed by an investigation and gathering of information related to the question (data collection),
- continuing with a discussion of findings (analysis),
- Commencing with a reflection on what was learned (implications/ conclusion).

As understood, it is important to encourage learners to be Self-directed. This method is form of Self-directed Learning which encourages students through supports to build research skills that can be used throughout their educational experiences. In addition, students determine their own learning needs through a learning contract.

The four stages which defines Self-directed Learning i.e., determining what they need to learn, identifying resources and how best to learn from them ,using resources and reporting their learning and assessing their progress in learning, for all the stages the students take more responsibility in inquiry based learning. In this kind of learning, the students take the initiative and are largely responsible for seeing they successfully complete their learning in a given area. Generally, students draft a "learning query" and then execute it – the instructor submits a grade on completion of the contract.

It encoura learners to be Self-directed is a critical skill that students need to acquire in order to be successful in post-secondary education. This method encourages students through supports to build research skills that can be used throughout their educational experiences. In addition, students determine their own learning.

Finally, teachers need to model learning strategies such as predicting, questioning, clarifying, and summarizing, so that students will develop the ability to use these strategies on their own. Teachers also need to allow individual learners to approach a task in different ways using different strategies.

Evaluation of the Self-directed Learning

As evaluation is the important component of the entire learning cycle, in the Self-directed Learning process since the students are actively involved with the entire therefore it is important that a habit of self-monitoring to be established among the learners. The teachers need to encourage learners to reflect on what they did and to revise attempted work. Self-evaluation is defined as students judging the quality of their work, based on evidence and explicit criteria, for the purpose of doing better work in the future. When we teach students how to assess their own progress, and when they do so against known and challenging quality standards, we find that there is a lot to

gain. Self-evaluation is a potentially powerful technique because of its impact on student performance through enhanced self-efficacy and increased intrinsic motivation.

There are various ways to maintain the Self-Evaluation:

(a) By maintaining a journal

(b) By keeping a diary of events

(c) By maintaining a personal portfolio: a portfolio contains a purposefully selected work of the students. This may include highlights of the student's progress, samples of earlier and later work, and comments about the growth in learning. Then, the student and/or teacher might select items that illustrate the development of one or more skills with reflection upon the process that led to that development to show growth or change over time. These comments are made in the portfolio either by the learners or by teacher and sometimes by both teacher and students after identifying best pieces of work to showcase a student's strengths or accomplishments.

The Portfolio helps in following ways to the Learners

- to help develop process skills such as self-evaluation and goal-setting
- to identify strengths and weaknesses
- to track the development of one more products/performances

(d) By rubric: It is a scoring guide which organises the criteria that describe what students need to complete for an assignment, and it measures the levels proficiency of student work. Rubrics can be used in any content area. They are time consuming to create, but they allow students and parents to know exactly how a teacher will grade an assignment. When teachers design specific performance criteria, students know how they will be evaluated. Rubrics allow students to better understand the meaning behind their grade. If students know exactly how their work will be evaluated, they are more likely to produce higher quality work. Rubrics allow students and parents to see specifically how a teacher arrived at a specific score. In addition, rubrics give teachers well-defined criteria for areas in an assignment that are subjective, such as artwork or style.

Conclusion

The paper began with the challenges of the present day educational scenario, where there is growing demand on the learners and the teachers to take the responsibility of learning. It is noted that answering the challenge would entail giving students' greater responsibility for their own learning i.e., they have to become Self-directed Learners. It was discussed how various models like candy's model, hiemstra model of SDL has been discussed which have focused on the learning as an active process. It has also been discussed that the Self-directed Learning process starts with the diagnosing of the learning needs of the learners and ends with the evaluation of

the learning. But in the entire process right from the identification of the learning needs till evaluation, it is the learner who actively decides all the aspects of learning. It is then suggested how classroom contexts affect student engagement in Self-directed Learning activities. Although, the learner is the in-charge of learning but the role of the teacher is not diminished but had change from knowledge provider to knowledge facilitator. It is apparent from this discussion that fostering Self-directed Learning is a challenging goal for teachers and schools. It requires a commitment to change, the willingness to take risks, and the development of a comprehensive plan. According to the recommendations presented here, students are viewed as ultimately responsible for their own learning. The proper role of the teacher, in this view, is to make it possible and easy for students to carry out this responsibility which can be done through using various instructional designs such as the problem based learning and inquiry-based approach has been discussed in the paper. To evaluate the learning, various tools of evaluation like portfolio, rubrics could be used. Hence, the paper covers all the major aspects of the Self-directed Learning.

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Technological Possibilities of EDUSAT

SARAT KUMAR ROUT*

Abstract

With the increase in development of science and technology, there is change in pattern and innovation in educational system. Satellite communitcation technology presents its special advantage and speciality. It brings new vigor to education. The article presents about how India has used its satellite for the educational purpose. It widens the teaching scale and contents of radio, television and in universities. It improves the development of training for secondary and primary teachers and of vocational education. It pushes forward the educational reform and economic and educational development for the country. India is making efforts on transforming the educational satellite net to digital, interactive and Ku wave system with the development of information technology. The article also focuses on getting feedback about use of the Information technology resources. It concludes that interactive teaching and transformed educational satellite net will play an important role in the country's distance education.

Introduction

Major development in communication process took place during 1980's, through establishment of the operational Indian National Satellite (INSAT) system, for providing indigenous services in telecommunications, TV broadcasting, meteorology and disaster warning. INSAT series, commissioned in 1983, has today become one of the largest domestic satellite systems in the world, comprising five satellites. The last satellite of the second generation INSAT-2 series, INSAT-2E, was launched from Kourou, French Guyana on April 3, 1999. Work on INSAT-3 series of satellites begun. Five satellites in the INSAT-3 series planned and the first satellite, INSAT-3B launched in March, 2000.

Being a multipurpose satellite system, INSAT combined tele-communication, broadcasting and metrology in a single spacecraft. Five transponders of INSAT are carrying educational transmission, including *Gyan Darshan* (Comprising of GD1-telecast educational programmes upto secondary school students, teachers and

* *Lecturer*, P.G. Department of Education, Ravenshaw University, Cuttack.

other important programmes of other channel; GD-2 is devoted entirely to interactive distance education programmes which facilitates audio, video and computer conferencing; GD-3 '*Eklavya*' brings quality education to the students pursuing engineering education throughout the country; GD-4 'Vyas' telecast quality educational programmes to the students pursuing higher education throughout the country with provision for stand by channel GD5, Training and Development Communication Channel (TDCC) of Indian Space Research Organisation (ISRO), APNET-Mana TV, and ERNET (Nair, 2004). Based on the previous experiences and multiple needs it was realised across the country to have an exclusive educational satellite to meet the growing demand of ICT supported education

Launching of EDUSAT

Success of INSAT supported educational transmission encouraged Ministry of Human Resources Development (MHRD) to visualise in designing EDUSAT project in October 2002. With the hard work of ISRO scientists, the imagine satellite was launched on 20th September 2004. EDUSAT is the first Indian satellite built exclusively for serving the educational sector offering an interactive satellite based distance education system for the country. It is specially configured for the audio-visual medium, employing digital interactive classroom and multimedia multicentric systems. Soon after the launching of EDUSAT, Dr. A.P.J Abdul Kalam former president of India has very rightly propeld "*Democratization of knowledge indicates knowledge for anyone, anytime, anywhere and any place. EDUSAT will be extremely helpful in making this shift possible and decreasing the digital divide.*

A few facts about EDUSAT

EDUSAT has been placed in the 36,000 km high Geostationary Orbit and co-located with INSAT-3C and KALPANA-1 at 74 deg East longitude. The satellite, weighing 1,950 kg at lift-off including 1,110 kg of propellants for orbit raising and maintenance, is designed to provide service for seven years. EDUSAT is built using a standardised spacecraft structure called I-2K bus. It has certain new technological elements — multiple spot beam antenna with 1.2 m reflector to direct precisely the Ku-band spot beams towards their intended region of India, a dual core bent heat pipe for thermal control, high efficiency multi-junction Gallium Arsenide solar cells and an improved thruster configuration to optimise propellant use for orbit and orientation maintenance. The satellite uses radiatively cooled Ku-band Travelling Wave Tube Amplifiers (TWTAs) and dielectrically loaded C-band DEMULTIPLEXER for its communication payloads. The solar arrays of EDUSAT generate about 2,000 Watt of electrical power.

EDUSAT carries five Ku-band transponders providing regional spot beams, one Ku-band transponder providing a national beam and six extended C-band transponders with national coverage beam. Each regional Ku-band beams will support 4-5 state level networks, which fall in their respective footprints. Thus all the national networks and majority of state

networks will be on Ku band. However it is not feasible to provide Ku band networks for the states of Madhya Pradesh, Maharashtra, Rajasthan, Uttar Pradesh, which are only partly covered by any individual regional beam. The national beam would support 5-6 Ku band national networks with a footprint covering almost the whole country (except the Andaman and Nicobar Island), but including our neighbouring countries like Bangaladesh, Bhutan, Nepal, Sri Lanka and Maldives.

The extended C band network has footprint larger than even the national Ku band; it covers the whole country including Andaman and Nicobar Islands. The cost of hub at the teaching-end and ground equipment at virtual classroom end for this category of network is slightly costlier than the corresponding components for Ku band network. It can ensure point to point two way audio and video communication from the teaching end to the learning end located anywhere under the footprint of the satellite beam. Each of the National and Regional beams can be split into number of channels. The EDUSAT is designed to support about 72 channels, which are proposed to be distributed as follows

- State channels 56 (28 for higher education and 28 for school education)
- 14 National channels each for various sectors: higher education, school education, technical education, adult education etc.

It is noteworthy that EDUSAT offers cost effective ground segment configuration, which can be used to access ICT as per the requirement of the institution. There are typically two kinds of receiving end services; Receive Only Terminals (ROTs) and Satellite Interactive Terminals (SITs). The details are as follows:

- 0.7 meter Ku-Band TV antennas known as Receive Only Terminals (ROTs) (these shall comprise of antenna, TV set and a PC). These are used for TV and data reception by the schools as and when required.
- SIT with 1.2 meter antenna for low data rates (other equipment include a WLL connection a PC, a telephone and a television set) and is recommended for higher secondary schools and colleges. It can be used for TV broadcasting and data broadcasting.
- SIT for high data rates with an antenna of 1.8 meter. It is considered suitable for direct interactivity over satellite channel for higher rates and for video conferencing and is capable of receiving TV and data broadcasting. Professional and university network can use this SIT with telephone and a PC for two way video and two way audio facilities (ISRO, 2004).

Technological Possibilities

The EDUSAT offers opportunities for using satellite for human development in general and for education in particular.

EDUSAT can be used for

(1) **conventional Radio and Television Broadcasting:** There are number of educational radio and television programmes in India

produced by different institutions namely Central Institute of Educational Technology (CIET), State Institute Educational Technology (SIETs), Audio Visual Research Centres (AVRCs), Educational Media Research Centres (EMRCs), Indira Gandhi National Open University (IGNOU), National Institute of Open Schooling (NIOS), Indian Institute of Technology (IITs), NPCID. Further, these programmes are broadcast in scheduled times daily all over the country through All India Radio (AIR), FM-Radio (educational channel) and DD-I (National Television Channel), Gyan Darshan (Educational Television Channel) which provide quality education to students of schools, colleges and higher education institutions.

(2) **Interactive Radio and Television :** As methods of delivery and supporting education at a distance are distinguished by their ability to support immediate two-way communication among a group of learners and teachers (Chaudhery, 2006). Interactive radio and television resembles the conventional classroom transactions at a distance. Teachers can also ask questions to students and can view what is happening at different learning centers from studio through telephone and TV screen. Similarly students can participate in the live lessons by asking questions and by answering the teachers questions at a distance. The system thus provides a virtual classroom where teacher and distant learners can interact in the same manner as in face to face classroom. Major advantages are their interactive capabilities and facilitation of immediate, simultaneous and sustained communication among the learners. Interactivity provides feedback to the learners on their performance in acquisition of knowledge.

(3) **Exchange of Database :** Computers are networked for online data communication, out sourcing of information and exchange of files. Data that needs to be shared by different users can be stored and maintained at a global storage area and users can be given access to it with their user-id. The teachers and students can log on to the database of the universities/institutions and benefit from them in various ways, e.g., be informed about the latest in research, navigate through one information topic to another, have an online explanation of different topics. Online data communication supported by a network facility not only a highly interactive mode of communication but also the quicker transmission of information.

(4) **Audio Conferencing, Video Conferencing, and Computer Conferencing :** Teleconferencing is an effective medium of synchronous mode of electronic communication to provide learning experience in real time situation to a large number of participants positioned at different locations without withdrawing them from

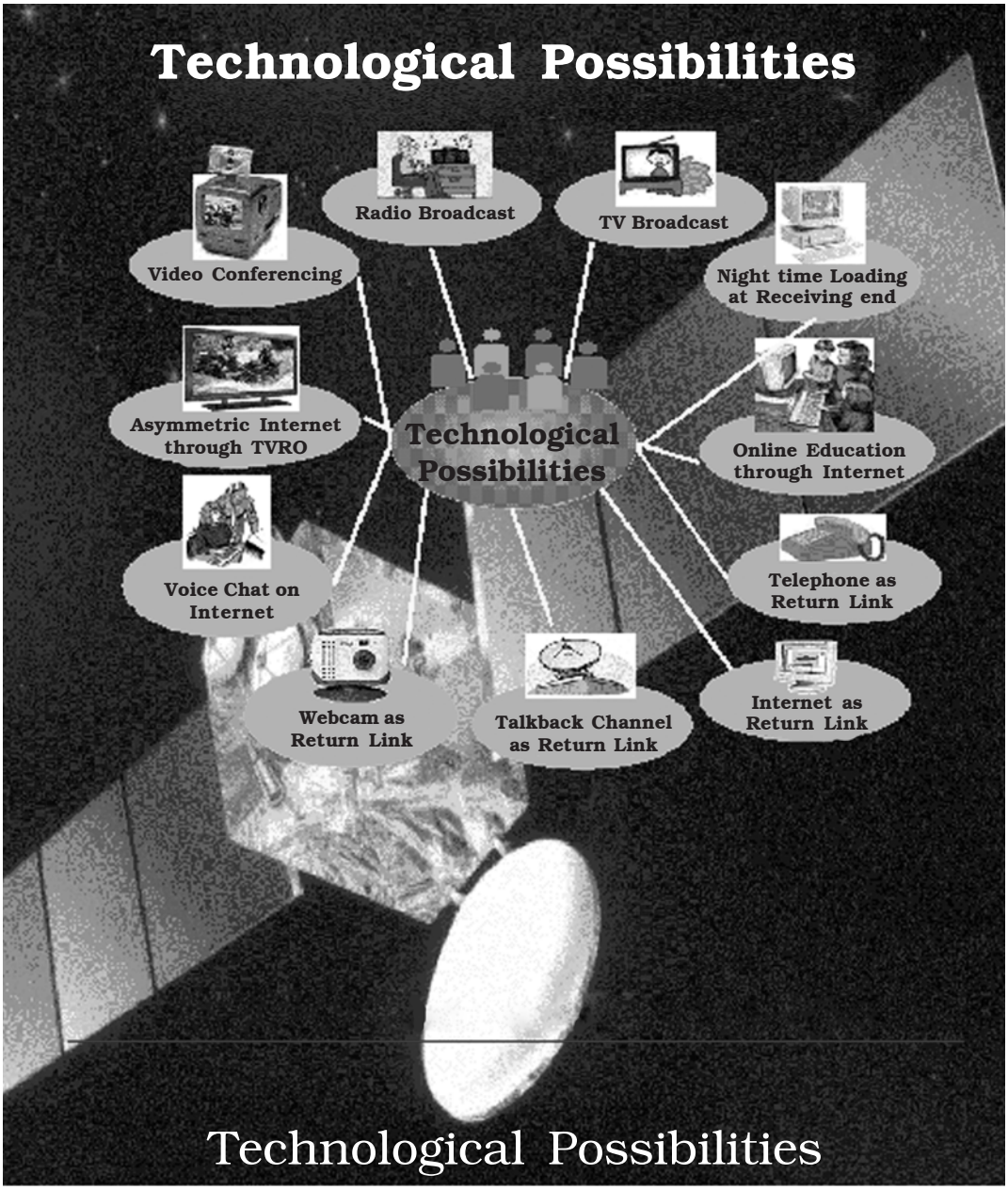

Figure – Technological Possibilities

the workplaces / schools. Tele-conferencing where the audio medium is used as a two way communication is known as audio- teleconferencing. In audio conferencing both teaching end and learning end use audio as medium of communication. Video conferencing is arranged by combining two-way video and audio media. Video conference increases the quality of interaction because both the teacher/expert and the student can see each other and can share their feeling and experiences. Video conferencing, however, has advantages over the audio- conferencing because of its visual component. Computer conferencing is the most effective way of teleconferencing. With the help of hardware, information can be sent and received at the convenience of both the teachers and the students with the use of computers. It combines both synchronous and asynchronous mode of communication. Computer conferencing can be text-based or full video based (Panda and Khan, 2006).

(5) **Web Based Education:** The World Wide Web (WWW) has become one of the most popular delivery methods for distance learning programmes. The web has ability to deliver multimedia materials, and this quality makes it highly suitable particularly for distance learning courses. An educational website can help learners to read, see, hear, and interact with web basedinformation. A good web based course allows learners to browse through the information by scrolling; see the relationship between chunks of information; upload and down load information.

How EDUSAT will Operate

EDUSAT is primarily meant for providing connectivity to schools, colleges and higher educational institutions and also to support non-formal education including developmental communication. The scope of the EDUSAT programme is planned to be realised in three phases.

- **In the first phase** of pilot projects, a Ku-band transponder on board INSAT-3B, which is already in orbit, is being used. In this phase, Visveswaraiah Technological University (VTU) in Karnataka, Y B Chavan State Open University in Maharashtra and the Rajiv Gandhi Technical University in Madhya Pradesh are covered.
- **In the second phase**, EDUSAT spacecraft will be used in a semi-operational mode with at least one uplink in each of the five spot beams. About 100-200 classrooms will be connected in each beam. Coverage will be extended to two more states and one national institution.
- **In the third phase**, EDUSAT network is expected to become fully operational. ISRO will provide technical and managerial support in the replication of EDUSAT ground systems to manufacturers and service providers. Users are expected to provide funds for this. In this phase, ground infrastructure to meet the country's

educational needs will be built and during this period, EDUSAT will be able to support about 25 to 30 uplinks and about 5000 remote terminals per uplink. All major academic and professional institutions in the country will be interlinked with database and digital libraries through EDUSAT. EDUSAT will equip these institutions with multicasting facilities, so that students anywhere in the country will be able to access telelectures in real time or on offline basis (Nair, 2004). Currently we are beginning the second phase.

Researches and EDUSAT Communication

1. EDUSAT Network and its utilisation by Vishveshvaraya Technological University (VTU)

The satellite is going to approach midlife, one wonders if the EDUSAT vision has translated into qualitative change. In Karnataka, VTU has been the most important partner for the project in first phase of operation of EDUSAT and all the 120 colleges under its umbrella-many of them in rural areas- have access to EDUSAT programmes. These include lectures on subjects such as strength of materials, Mathematics and Structural Analysis. As for primary education, nearly 900 schools in Chamarajnagar district receive broadcasts in Math, English and Science through the satellite. To judge from the responses of the colleges and schools that EDUSAT is supposed to have benefitted in Karnataka, it appears that the project is at best underutilised and at worst, some may even say, an imposition on regular curricula.

In 2005, a few months after EDUSAT was flagged off, the National Institute of Advanced Studies (NIAS) did a review of the efficacy of the project, with VTU as a case study. The project, it found, at the pilot stage and a few months into the semi-operational phase, was weak on many grounds- technical, institutional, managerial, and academic. 1000 students interviewed by NIAS, as many as 73 per cent had not attended EDUSAT programmes at all. The satellite interactive system, the key to the success of the programme, was often either ineffective or hardly ever used. The video and audio quality of the broadcasts was found to be deficient. An overwhelming majority of teachers felt that EDUSAT programmes clashed with the schedule of their lectures. The content, NIAS felt, did not do justice to the full potential of multi-media.

NIAS concluded that there was a "lack of clear objectives" in an initiative that could have supplemented classroom education, or at the least reduced the need for private tuitions. The academic quality and the attendance suffered, the NIAS report suggests, because of a perceived "top down approach" to a planning process that did not adequately involve teachers and principals. ISRO had attempted to "pull off a large-scale project sooner than desirable," says the report.

Three years on, little seems to have changed, and NIAS's recommendations appear to have gone unheeded. Even today EDUSAT halls in an overwhelming number of technical colleges in the State equipped with TVs and dishes provided by ISRO and VTU, where 9 hours of

EDUSAT programmes can be viewed every day remain empty.

Gandhi Divya (2007) reporter of *The Hindu* on the basis of report prepared NIAS about utilisation of EDUSAT by VTU spoke to students, teachers and principals of 5 VTU colleges where EDUSAT is operative. "Why must we attend EDUSAT when most of its resource people are our own teachers," asked a student at the high-end government BMS Institute of Technology, who says he knows no one who attends EDUSAT at his college. This was a sentiment shared by students of R.V college of Engineering, another well-established college in Bangalore. A senior student of computer science at the M.S. Ramaiah Institute of Technology said she had "heard of EDUSAT". She recalled that the EDUSAT room was next door to her classroom though "no one was ever in it".

But what of the smaller colleges, with fewer lecturers? Has EDUSAT managed to "bridge the divide" here? Teachers at Dr. P.G. Halkatti College of Engineering and Technology in Bijapur have actually made an effort to integrate the programme into the curriculum. But even here, a student said, that he eventually discontinued EDUSAT classes in electronics and computer science for want of time. "Engineering colleges require an attendance of 85 per cent, and EDUSAT can clash with our regular time-table," he says. "We would have preferred CD's that we could watch at our convenience." In fact, the request for CD's is heard in all colleges where *The Hindu* met students, a reflection of the deficiencies in the satellite interactive system. SMS and email are used instead to pose questions. Even so, the backlog of questions from students across the State makes such communication difficult.

Do these factors suggest that satellite technology for education has been less than effective? "we appreciate the efforts to address issues of education, but technology must supplement, not substitute teachers." says A.R. Vasavi, a fellow at NIAS and one of the authors of the evaluation report. "An enterprise like this needs to be a democratic one, which involves stakeholders at the planning and designing stage, not just at the user level. "There has been, and not surprisingly so, fear among teachers that they might be made redundant. Recently there were reports about "jealous professors" who refused to switch on the terminals much to the dismay of VTU Vice-Chancellor K. Balaveera Reddy, who threatened to "withdraw affiliation" to such uncooperative colleges.

As for the content of EDUSAT programmes, there has been concerns that it does little more than transfer the "chalk and talk" method via satellite. Speaking on the pedagogical implications of satellite education, especially at the primary school level, Bangalore-based educationist Geetha Narayan believes that "interaction is crucial for young children, since learning is never culturally neutral or contextually the same". Vince Joseph, Director of the relatively new M.S. College in Devanahalli, has a similar view. "Some subjects such as machine design, which involve practical work, or those that are math-intensive can hardly be taught via satellite", he says.

2. EDUSAT Network and Central Institute of Educational Technology

The EDUSAT configuration has allowed CIET, NCERT to develop a network of institutions, together constituting a national network. This network facilitates an demand two-way communication between institutions and within the schools of each institution.

The school sector is to get a National Channel along with necessary uplink and down links. CIET (NCERT) has taken an initiative in this regard and entered into a MoU with ISRO for this purpose. It has been agreed that a Ku-Band Sub/ Mini Hub will be installed at the CIET along with 100 terminals for installations at different locations. Till date about 80 SITs have been installed with two-way video conferencing facilities at various locations as detailed below:

- Five at Regional Institutes of Education of NCERT, one at Pandit Sunderlal Sharma Central Institute of Vocational Education (PSSCIVE) and one at CIET. Four at DM-Schools of RIEs-Ajmer, Bhopal, Bhubaneswar and Mysore.
- Seven at State Institutes of Education Technology (SIET): Ahmedabad, Bhubaneswar, Hyderabad, Lucknow, Pune, Patna and Thiruvanathapuram, Few constituents of Central Board of Secondary Education (CBSE), Kendriya Vidyalaya Sanghthan (KVS), Navodaya Vidyalaya Samiti (NVS);
- National Institute of Open Schooling (NIOS) and;
- About 30 State Councils of Educational Research and Training (SCERTs)/SIEs.

This infrastructure has enabled various departments of NCERT and other Central level organisations to mount their training programmes using distance education mode. Large numbers of functionaries viz., teacher educators, teachers, students, parents, community at large, and administrators can be reached out to for updating of information and up gradation of skills in various aspects of school education. So far NCERT has organised the following programmes for teachers and teacher educators of our country by using EDUSAT technologies.

1. Orientation of School Teachers on National Curriculum Framework (NCF) - 2005 through EDUSAT network

- The Orientation programme for teachers of KVs/ JNVs/CBSE affiliated schools on new textbooks developed in first phase (Classes I, III, VI, IX and XI) in the light of National Curriculum Framework-2005 was organised through video conferencing from 6 July to 20 August, 2006 (for 36 days) covering 25 SITs in different states involving 12,000 teachers.
- Similarly after completion of the textbook development process for the second phase i.e., Classes II, IV, VII, X and XII, NCERT once again organised the video conferencing for 36 days during the month of June-July, 2007 and interacted with the teachers on the new textbooks. The

orientation programme was organised for principals and head teachers of KVs in the light of NCF-2005 on 19 September, 2006 covering 17 SITs in different states involving 500 teachers.

- The Orientation programme was organised for fine arts and music teachers on 21 September, 2006 covering 15 SITs in 15 states/ UTs involving 600 teachers. The vision articulated in the NCF-2005 and the National Focus Group position paper on Arts, Music, Dance and Theatre was discussed during this programme.
- The Department of Women's Studies, NCERT conducted a three days video conferencing on 28 and 30 January and 1 February, 2008 and discussed various issues related to gender concerns as envisioned by the National Focus Group position paper on Gender Issues in Education, NCF-2005 and the new syllabi and textbooks. The experts from various NCERT constituents provided resource support and interacted with the participants at 26 centers spread across 22 states and UTs.

2. Orientation of Teacher Educators on NCF - 2005 through EDUSAT Network

- Curriculum Group of NCF organised an orientation programme on NCF-2005 for teacher educators through EDUSAT network from January 18 to February 09, 2007. Approximately 4,000 elementary and secondary level teacher educators from Andhra Pradesh, Chandigarh, Chattishgarh, Delhi, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan, Tamil Nadu, Uttaranchal and West Bengal participated in the programme.
- Curriculum Group of NCF organised an orientation programme on key ideas related to curricular areas, national concerns and systemic reforms of NCF-2005 for teacher educators through EDUSAT network from December 26 to 30, 2007. Approximately 1,000 elementary and secondary level teacher educators from Chandigarh, Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan, Uttaranchal and Uttar Pradesh participated in the programme. The objective was to reach the entire teacher educators in the States/ UTs through two-way video-conferencing.
- CIET, NCERT organised a half-day orientation programme on new trends in evaluation on 29 January 2008. Teacher educators of various states/UT participated in the programme and interacted with the resource persons on the theme like e-portfolio and evaluation rubrics.
- Curriculum Group organised an orientation programme on National Curriculum Framework (NCF)-2005 for teacher educators of SCERTs, DIETs, CTEs and IASEs from 4 to 10 March, 2008. Approximately 1,000 elementary and secondary level teacher educators from Andhra

Pradesh, Chandigarh, Jammu and Kashmir, Goa, Karnataka, Maharashtra, Manipur, Meghalaya, Mizoram, Orissa, Pondicherry, Tamil Nadu, Uttar Pradesh and West Bengal participated in the programme. Two-way video conferencing enabled teacher educators to interact simultaneously with national level experts and also their counterparts from different parts of the country who were present in 14 learning centers.

- Department of Educational Psychology and Foundation (DEPFE), NCERT organised a three days video conferencing from 25-27 March, 2008. The programme was organised with an objective of orientation of State level key personnel on guidance and Counselling component. During this programme, key resource persons of 24 States and Union Territories were invited in 21 Satellite interactive terminals (SITs) (Behera, 2007).

The data provided reveals that a lot is being done to utilise EDUSAT network through telecast of programmes and organisation of video conferencing etc. However, the capacity of this network is grossly under utilised today.

2. IGNOU and EDUSAT Network

For IGNOU, teleconferencing is a round the year activity for its academic programmes, facilitated by a strong network of downlinks at its 57 Regional Centres 4 Sub- Regional Centres and about 1300 study Centers, all over India. For MBA, CEMPA, MCA, Nursing, Health Care, Intellectual Property Rights, and other professional programmes, teleconferencing has been integrated as a complementary component of learning package. The induction programmes for new students, important announcements, review meetings, orientation of staff at regional Centers, and convocation are other major activities of IGNOU which are carried out in teleconferencing mode (Panda, 2006).

3. DEP-SSA and EDUSAT Network

Distance Education Programme- *Sarva Shiksha Abhiyan* (DEP-SSA) a comprehensive national programme aimed at attaining Universal Elementary Education, is an ideal example of judicious mix of teleconferencing with other media and face to face components for the purpose of orientation, sensitisation and training. Teleconferencing played a pivotal role in successful implementation of the project in reaching out to more than 23,000 primary school teachers, teacher educators and other functionaries associated with primary education in 29 states and six Union Territories. According to DEP-SSA annual report for the period 2007-2008, 297 DRS (Direct Reception Sets) have been installed at all DIETs (District Institutes of Education and Training), SCERTs and SPOs. Additional down linking facilities at another 38 locations have also been provided. During 2007-2008, 36 teleconferences at national level and state level have been organised. This bears testimony to the magnitude of the task being accomplished through this interactive technology in SSA programm.

The Rajeev Gandhi project for EDUSAT-supported Elementary Education (RGPEEE) was launched by IGNOU in collaboration with ISRO and

MHRD, Govt. of India during 2005-06 in elementary schools of Sidhi district of M.P to utilise EDUSAT capabilites in strenghtening quality elementary education. The project aimed at developing value added ICT enabled educational software for dissemination in elementary schools for improving the quality of education and trainning of both children and teachers and to support literacy and adult education programmes. The project focuses on Sidhi one of the most educationally backward and undeveloped districts of Madhya Pradesh. Other three districts of adjoining states of Bihar, Chhattisgarh and Uttar Pradesh are also covered under the Project.

Since the children and teachers were viewing different types of programmes for more than a year from Studio. Jabalpur, the DEP-SSA has initiated a study on effectiveness of EDUSAT supported Networks (Sidhi Pilot Project) on Academic Achievement of Children in primary grades, during (2006-2007). The major findings include: (1) The overall average achievement in English, Environmental Studies and Mathematics of standard V and III students of ROT schools were higher than their counterparts of non-ROT schools. But most of the differences were not statistically significant. (2) The mean achievement in Hindi of students from ROT and non-ROT schools of each grade (III and V) showed statistically insignificant difference in favour of non-ROT (DEP-SSA, Annual Report, 2007-2008)

Conclusion

Notable among the regional networks under the EDUSAT project are the APNET and ManaTV which caters to the educational and developmental needs across Andhra Pradesh with more than 2000 terminal, KARNET or Karnatak (over 200 terminals), Goa (20 terminals), Gujurat (550 terminals), Madhya Pradesh (1350 terminals), Orissa (1434 terminals) and Tamilnadu (20 terminals) (Bhatia and Dikshit, 2005). Right now, every state is being encouraged and motivated to participate in and create network of EDUSAT supported learning. NCERT has been using the network with 100 SITs in organising orientation programmes for teachers and teacher educatores on various themes. Similarly, UGC through CEC is establishing its network by connecting leading universities and institutions. Further to strengthen the quality of school education, EDUSAT network can improve the existing virtual classroom initiatives. Recently, MHRD, ISRO and IGNOU have taken a pilot project to connect 1200 one teacher school in four most educationally backward districts; one each in Madhya Pradesh, Bihar Uttar Pradesh and Chhattisgarh. For these schools, software is being created by IGNOU following the strategy successfully adopted in HEADSTART wherein highly motivated teachers were invited to first identify hard spots. The educational technologies then helped them to develop scripts and transformed these to create software indigenously.

As India enters the new millennium, it is necessary to sustain such kind of effort by continuously tuning it to the fast changing requirement and updating the technology that goes into the making of

these sophisticated systems. The challenges continue to grow but that is what attracts and sustains the interests of personnel working in the space programme. Even if a satellite is launched, its meaningful utilisation in any sector including education is a million dollar question and raises many eyebrows. The life span of EDUSAT, which was launched in September, 2004 is seven years and it has provided many facilities and possibilities. But the real challenge before us is how to feed this monster and reach out the rural masses especially millions of student's teachers and teacher educators in the country. For the successful use of this satellite a rigorous planning is the need of the hour and collaborative efforts are essential for designing of the software and its utilisation for achieving goals of education.

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Constructivist Classroom Activities for Biology Learning

BHARTI DOGRA*

Abstract

There are many learning theories which we study under Educational Psychology. Constructivism is one of them which focus on developing the learners'knowledge by constructing the world around them through experience, observation, documentation, analysis and reflection. In the classrooms of today, learners are no longer passive recipients nor are the teachers 'givers of information, knowledge and wisdom'. According to constructivist perspective, the teaching or rather more precisely learning of biology is not the search for the ultimate truth. It is the process which is of utmost importance in biology than the content. So when the learning of biology involves active construction of knowledge by children, then the classroom environment must call for more synergies rather than mere individual participation. The teachers need to develop the ability to work with children creatively to generate new ideas, new theories, new products and new knowledge. The engagement of the learner in the construction of classroom activity requires inputs from a reflective teacher and meticulous pre-planning before a unit is transacted in the class. Strategies of peer learning through group work and whole class work are important, again depending on task and the teaching objective. Learner autonomy and respect for individual learner is mandatory if real learning is to take place. Encouraging learners to reflect and question their own understanding further aids comprehension. This paper discusses some classroom activities which encourage thinking, understanding, exploration, problem solving, collaboration, analysis, observation and prediction for Biology learning.

Let us compare the biology teaching of two student teachers teaching in a secondary school.

Lecturer in Education, Army Institute of Education, Ring Road, Kandhar lines, Delhi Cantt. New Delhi-110 010

CLASSROOM – A

Padmaja was teaching 'Ecosystem' in her biology classroom (Classroom A). She considered science to be a body of knowledge to be learned. Her job was to "give out" what she (and the textbook) knew about science to her students. Thus, the learning environment Padamaja tried to maintain in her classroom facilitated this transfer of knowledge; the desks were neatly in rows facing the teacher and the blackboard. Lecture notes and assignments from the text were given to students. Padamaja tried to keep students quiet and working all during the class period to ensure that all students could "absorb" the science knowledge efficiently. Another consequence of Padamaja's notion of teaching and learning was her belief that she had to cover so much that she had no time for laboratory activities.

Let's look at an example that typifies Padamaja's teaching style. Padamaja's students were to complete a worksheet that "covered" the concept of ecosystem. In this worksheet students were given certain exercises on food-chains like to fill the names of organisms at certain trophic levels. Some questions like what will happen if grass is missing in the grass—deer—lion food chain were also included in the worksheet. After the students completed the worksheet, Padamaja went over the answers so the students could have the correct answers for the test later in the week. From a constructivist perspective, what opportunities did Padamaja's students have to relate the concept of ecosystem to their own experiences? Were these opportunities in Padamaja's lesson plan were provided to negotiate meanings and build a consensus of understanding? Padamaja spent one class period covering the concept of ecosystem; is that sufficient time for students to learn a concept with understanding?

CLASSROOM -B

Alka is another student teacher whose class (Classroom B), in contrast, was inspired by constructivism. This student teacher was given four topics by her school biology teacher:

(1) organisation of the living world,
(2) Nutrition,
(3) Respiration and
(4) Blood Circulation

Her classes were always student-centered and activity-based. At secondary level, she introduced students to above mentioned biology topics with short lectures, textbook readings, and confirmatory laboratories. After the introduction she would ask students what interested them about the topic and encouraged them to pursue and test these ideas. Students usually divided themselves into groups and then, conducted a library research, formulated questions/problems, and procedures to test the questions/problems. In other words, the students were acting as scientists in the classroom. In one class she was teaching students about ecosystem. Included in Alka's lessons were activities to "get the students involved". Students were shown the 'Aquarium' in the biology laboratory. They discussed:

- different food-chains in this man-made ecosystem
- how different living organisms depend on each other in an ecosystem
- use of dissolved oxygen in water by aquatic plants and animals
- what happens if any particular trophic level is missing in the food-chain?

Students were also involved in role-play activity where they played the roles of different plants and animals in different food-chains. They used certain

	CLASSROOM – A	*CLASSROOM – B*
Materials	Primarily textbook.	Includes Primary sources and other resources.
Learning	Based on repetition, explanation by the teacher.	Interactive and build on what the student already knows.
Knowledge	Seen as inert, to be passed on from teacher to taught.	Seen as dynamic, ever changing, to be constituted by the learner.
Teacher's Role	Giver of information, rooted in authority.	Creative collaborator, facilitator, mentor, guide who moderates, suggests, coaches.
Student's Role	Passive recipients of knowledge.	Interactive, construct their own knowledge based on previous experiences, ask questions, explore, experiment, reflect, discuss.
Transaction Strategies	Teaching facing class.	Group work and pair work, using peers as Resources.
Approach	Lecture method, teacher asking questions as well as answering them,	Construction of meaning by learner by formulating their own questions-inquiry allowing multiple interpretations and expressions of learning – multiple intelligence encouraging collaborating learning
Learning Process	Teacher led class, Students are not used as a resource for learning.	Students' full participation in learning activities such as projects and hands-on experiments. Collaboration among students, peer teaching helps them to review and reflect on their learning processes and pick up strategies and methods from one another.

props and few dialogues in the role-play activity. Few cases were also discussed where when the rain forest was cut then many of the animals became extinct due to destruction of their habitat. Then a few animal sanctuaries were discussed to highlight the importance of habitat for wild animals. Alka spent two weeks teaching this topic on *ecosystem*. Were Alka's students given opportunities to make sense of the concept of ecosystem? Were they able to use personal experiences? Whose students do you think had a deeper understanding of ecosystem?

A close understanding of the two classrooms has revealed the following points of difference between them.

As a teacher educator in Army Institute of Education, I got the privilege of supervising the biology classes of a number of students. Here I have mentioned the biology classroom teaching of only two students – Padamaja and Alka Basu.

For many years the conventional wisdom of teachers has been similar to Padamaja's teaching style: to control student behaviour so that the class is quiet. Most of the time there was an oral-expositive teacher participation Teachers in many cases is not aware of the practices or strategies to help students in *constructing knowledge*. Alka Basu believed in child-centered methods. Alka Basu in her classes never forced students to stay quiet but rather she managed the classroom in such a way that they must get ample opportunities to talk with one another and utilise collaborative learning strategies. Alka Basu encouraged students to visit school library for referring books and other self-learning materials. She encouraged students to create a small library corner in the classroom. A list of selected websites related to each topic was also given to the students before hand to provide them an idea about the content. Certain advanced organisers were also given to the students to set the pace for teaching. Students were encouraged to reflect and question their own understanding. The central point of Alka Basu's teaching was to elaborate original concepts, in an enjoyable and enthusiastic way.

What is Constructivism?

Constructivism is a learning theory based on scientific observation and research and explains how people learn. They construct their own knowledge of the world around them through reflection on their experiences. When we are faced with new knowledge, we tend to relate it to our previous experiences and either modify our ideas or discard the new information. In the process we tend to create new knowledge by asking questions, explaining and assessing what we already known.

Constructivism as applied to education is a more recent development derived from the work of development psychologist *Jean Piaget (1973)* and Russian psychologist *Lav Vigotsk y (1978).* Its underlying principles are also influenced by the developmentalist ideas of the French philosphaer *Jacques Rousseau* and later the theories of *John Dewey, G Stanley Hall* and *Arnold Gessell.*

Recent Curriculum Reform in India and Constructivism

School Education in India has been witnessing its own another reform in education with the formulation of the National Curriculum Framwork 2005 by the NCERT. In this document the constructivist approach and its implications for practice have been brought out in great detail. Some of the key principles given in this document are summarised below:

- In the constructivist perspective, learning is a process of construction of knowledge
- Learners actively construct their own knowledge by connecting new ideas to existing ideas on the basis of materials/ activities presented to them (experience).
- The structuring and restructuring of ideas are essential features as the learners'progress in learning.
- The engagement of learners, through relevant activities, can further facilitate in the construction of mental images of the relationships (cause-effect)
- Collaborative learning provides room for negotiation of meaning, sharing multiple views and changing the internal representative of external reality.

Constructivism in Biology Education

From a constructivist perspective, biology is not the search for truth. It is a process that assists us to make sense of our world. Using a constructivist perspective, teaching biology becomes more like the biology that biologists do; it is an active, social process of making sense of experiences, as opposed to what we now call "school biology." Indeed, actively engaging students in science (we have all heard the call for "hands-on, minds-on science") is the *goal of most science education reform*. Also science knowledge as accepted today in scientific communities in principle is tentative in nature and open for revision.

There is a shift in the goals of science teaching from students simply creating a knowledge base of scientific facts to students developing deeper understandings of major concepts within scientific discipline. For example, what is the use of detailed working knowledge of the chemical reactions of the Krebs cycle without a deeper understanding of the relationship between these chemical reactions of cellular respiration and an organism's need to harvest energy from food?

Implications of use of Constructivism in Biology Teaching are

- Tools available to a knower are the *senses*. It is only through seeing, hearing, touching, smelling and tasting that an individual interacts with the environment. With these messages from the senses the individual builds a picture of the world.

Students should be given ample opportunities for visiting bio-diversity parks, bird sanctuaries, lakes, agricultural fields, grasslands as well as ridge areas. They should be taken for nature walks.

- Experience involves an interaction of an individual with events,

objects, or phenomenon in the universe; an interaction of the senses with things, a personal construction which fits some of the external reality but does not provide a match. Students' prior science conceptions are sometimes in stark contrast to the science conceptions to be learned.

For example, when students see water droplets on the glass of water, they think that it must be coming out from inside the glass. They need to formulate a problem, hypothesise, experiment, observe and then must be able to conclude on their own Teacher's role is very important here.

- A cooperative learning strategy allows individuals to test the fitness of their experiential world with a community of others. Others help to constrain our thinking. The interactions with others cause perturbations, and by resolving the perturbations individuals make adaptations to fit their new experiential world.

Group work given in the class provides opportunities to read, express or ask to listen and to interact. Projects and activities that can be carried out by groups need to become a feature of learning in the schools.

- The process of learning should not stop at what has been learned in the negotiation of a class consensus. This process can involve accessing other learning resources such as books, videotapes, and practicing scientists.

Constructivist Classroom activities in Biology Learning

Knowledge is constructed by the learner, not received. How does knowledge construction (i.e. learning) take place? Learners come to biology learning with existing ideas about many natural phenomena? What ideas do learners'bring to biology classes?, and what is the nature of these ideas? Each individual has a unique set of ideas. How much commonality is there between learner's ideas in biology? The learners'existing ideas have consequences for the learning of biology. How do learners'ideas interact with teaching? It is possible to teach biology more effectively if account is taken of the learner's existing ideas. How should [constructivist'] teachers teach biology? There are a number of ways by which teachers can come to know about the previous knowledge of students. Some exercises are mentioned in this section:

1. ***Concept maps***—In the study of Biology, the ability to build interrelationships among concepts and related topics, and to relate newly acquired knowledge to prior knowledge, is crucial to the understanding of biological concepts and how the systems work together to bring about a coordinated response. Concept maps, diagrams and other graphic organisers are useful tools to illustrate the links between concepts and topics. Once a teacher has explained ecosystem, ask students to connect the following

terms*: ecosystem, biotic components, abiotic components, soil, water, air, decomposed organic matter, C02, N2, O2, water, climatic conditions, temperature, producers, consumers, decomposer, food-chain, energy flow, recycling of nutrients and biogeochemical cycles.* Every term should be connected with arrows labelled with a word that describes the link between the processes – example: change, causes, provides, directs, etc.

When students are able to discover the links between concepts themselves, they move away from rote or surface learning, and replace it with deep and meaningful learning, thus increasing the level of understanding and an appreciation for the subject. This encourages cooperative learning also.

2. ***Use of newspaper articles in making T-charts—***A teacher can tell his/ her students to bring newspaper articles about science. List the topics of the articles on the board as the students give a 30 second summary of their article. From this list choose 5-6 topics which are relevant for them. Make 5-6 groups of students and allocate one topic to each group.ton. Give each group instructions to make a T-chart on a large piece of chart paper. Tell them that a T-chart is a large T drawn on the paper…with the topic written at the top of the T. On one side of the T bar students will write what have you heard about the topic? On the other side they will write what questions do you have about the topic?

Now, they can discuss these T-charts either in the construction of the concept maps or can understand their previous knowledge to initiate discussions in the class.

3. ***Scenarios***—Students are discussing homeostasis in living organisms. The students are now part of a multi-disciplinary team put together to design the perfect animal that can survive and reproduce successfully under the following conditions: an environment that is very hot and dry during the day, but turns cold and windy at night, and that has many fast and aggressive predators. In their design of this animal, they should consider integument, body support, reproductive strategy, excretion and mode of locomotion.

In this exercise students need to think, work in a group, discuss and apply already covered/taught topics like adaptations, thermoregulation, morphological features, life-processes, defense mechanism etc. This requires structuring and restructuring of concepts which is possible only with good understanding of concepts. Learning benefits from multiple views of a subject area.

4. ***Graphs***—After studying human growth, teacher can ask students to draw a graph of average growth after birth showing the relationship between heights (in cm.) and age (years). Once they have made this graph then she can tell them to plot a graph of male and female comparative growth rates showing

the relationship between change in height (cm/year) and age (years).

This graphical representation helps in better understanding and interpretation.

5. ***Brainstorming***—While reviewing thermoregulation, teacher can ask students to come up with five ways in which snakes can prevent overheating on a hot summer day.

6. ***Observations/Predictions***—When teacher is about to explain the hormonal control of female reproductive system, she can show an illustration of hormonal control of female reproductive system and ask students to make a list of six observations. When teacher discusses the positive and negative feedback systems controlling the production of estrogen and progesterone by the ovary with the students, they have already spent time studying the names of different glands involved and hormones produced by them and will be more receptive to learn more about the role of hormones in ovulation and menstruation. Then, teacher can ask students to predict what would happen to the endometrium if progesterone level does not fall during the last days of the menstrual cycle?

This exercise helps in developing thinking skills, structuring and restructuring of conceptual knowledge.

This exercise will help students in observation, comprehension, analysis, interpretation and prediction.

7. ***Problems***—This problem is designed to help students understand the functioning of the circulatory system in the human body. Suppose somebody is staying on the second floor of the building and due to low pressure of the water, the water reaching second floor's taps is not sufficient. Then he is advised to install water pump at his house. Predict:

- What will happen?
- What if there is any blockage in the water pipes supplying water to his house taps?
- What will happen if he now shifts to the ground floor flat?

This activity provides an analogy to understand circulatory system in human beings. This helps in better understanding of the organ system (circulatory system) as well as its functioning.

8. ***Use of Cartoons***—Use of cartoons in classroom teaching can make learning joyful. One page cartoons can be shown to the students like a cartoon showing a small boy holding his stomach with both hands and his face is looking very painful. On one side of the boy is shown the inner view of his stomach. Inside the stomach a lot of bacteria are jumping and releasing a lot of gas. Now, teacher can ask questions like:

- what is happening in the stomach of this boy?
- name that part of the digestive system in which these bacteria are present.

- name the foods which are likely to produce more gas
- how can we avoid flatulence/ stomach discomfort?

This exercise helps in making learning an enjoyable experience. The engagement of learners, through relevant activities, can further facilitate in the construction of mental images of the relationships (cause-effect).

9. ***Songs for Teaching Biology***— There are many songs which can be used for promoting learning in a joyful manner.

Conclusion

Constructivists claim that they have no access to an objective truth and that all knowledge is subjective and dependent on the learner. From a constructivist perspective, science is not the search for truth. It is a process that assists us to make sense of our world. Using a constructivist perspective, teaching biology becomes more like the biology that biologists do -it is an a*ctive, social process of making sense of experiences*. It is an enjoyable activity and the role of the teacher is very challenging.

Learning in classrooms is facilitated by well designed activities. These activities offer the opportunity to examine the problem from a variety of perspectives and also to collaborate. Listening to the multiple views on the subject makes the understanding better. Through different classroom activities, students get an opportunity to reflect and build on and consolidate existing knowledge. Students get an opportunity to construct knowledge.

We need more teachers like Alka who can engage students in activities. Engaging students in activities brings tremendous richness to the classroom processes. Certainly, doing activities requires that time be spent in planning and preparing for activities. Initially, teachers need to make an effort to establish the classroom culture for activities and to establish the rules that will govern the space and use of materials.

Just as teachers have to learn how to teach from a constructivist point of view, so too must students learn how to learn. Educating students to be effective learners is an important priority in establishing environments conducive to effective learning of biology.

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A Qualitative Analysis of State Level Tests of National Talent Search Examination

K.Chandrasekhar*
Mamta Agrawal**

Abstract

National Talent Search Examination scholarship is a most coveted scholarship scheme in the country. It operated at class VIII level and 1000 talented students selected through the National Talent Search Examination are awarded the scholarship till their end of the studies. Since the selection procedure follows a two stage procedure in which the first stage is conducted by states, it was felt necessary to assess the quality of their tests. Because from some states, very few or no candidate figure in the final selection. This paper presents the analysis of state level National Talent Search tests used for nominating students for the national level examination.

Introduction

National Talent Search Scheme is a flagship programme of the NCERT. It started in 1963 as National Science Talent Search with the purpose of identifying and nurturing the talented students. Over the last four and a half decades the scheme underwent a number of changes. It started with 10 scholarships and presently 1000 scholarships are awarded to talented students throughout the country. The scheme started with the identification of talent for pursuing courses in basic sciences only. Then with the introduction of 10+2+3 pattern of education it was no longer confined to only science but was extended to social sciences, engineering and medicine also. It was renamed as National Talent Search Scheme. For a long time the scheme operated at Class X level but since 2007 this scheme has been shifted to Class VIII. The scholarships are given

* *Assistant Professor*, DEME, NCERT, New Delhi
* *Professor*, DEME, NCERT, New Delhi

from Class IX till Ph.D. level in Social Sciences, Sciences and till second degree level in professional courses like Engineering, Medicine, Management, Law, etc.

The NTS Scheme follows a two stage selection procedure. The first stage is conducted by states/UTs and the second stage is conducted by NCERT. The written examination at both the stages comprises two tests – Mental Ability Test (MAT) and Scholastic Aptitude Test (SAT). Each state prepares its own tests and selects a stipulated number of candidates for the national level examination to be conducted for 4000 students by the NCERT. About 1500 students who qualify the National level written examination are called for face-to-face interview. The final award is made on the basis of composite scores obtained in MAT, SAT and the interview.

Need of Analysis

For the first stage of NTS selection, the States and Union Territories have been entrusted with the responsibility of conducting the first tier screening examination called the State Level National Talent Search Examination. Each state/UT conducts its own examination and prepares its own tests comprising MAT and SAT. It has been observed that the tests set by some of the States/UTs are not up to the standard. In the final selection of NTS, candidates from some states do not figure as compared to the states where large number of students are selected. It was; therefore, felt that it would be pertinent to study the quality of NTS tests conducted at first stage so that the feedback could be given to each state/UT regarding the quality of their NTS tests. The feedback may help the states/UTs to improve their tests and it will also help the NCERT to organise the training programmes for those states where tests are comparatively of poorer quality and require improvement.

Objective

The objective of the study is:

- To analyse the MAT and SAT tests of first level examination carried out by different states/UTs.

Methods of Analysis

The State Level NTS examination was held on 17 November 2008 in Nagaland, Mizoram, Meghalaya and Arunachal Pradesh and on 18 November 2007 in all the other States/UTs. The tests of SAT and MAT were acquired from each state. A porforma for evaluation of tests was prepared as an in-house activity. It was proposed to analyse the tests of SAT and MAT in workshop mode by inviting experts. Therefore, the experts were identified and invited for all the subjects covered in SAT in a workshop organised from 26 to 30 May, 2008 and for MAT in another workshop organised from 14th to 18 July, 2008. This way the tests of 30 states/UTs were analysed for their strengths and weaknesses.

Conceptual Framework

The analysis of the tests is a post examination activity. The purpose is to re-examine the tests and marking scheme to see if something is amiss so that the tests may be improved in future. The shortcomings in the NTS tests may be of various kinds and may occur at numerous points. Some of the expected shortcomings are as following:

- the SAT might have more memory based questions and lack the questions testing higher order mental abilities like critical thinking, problem solving, application, etc.
- the weightages to different units and contents might not be balanced.
- the Multiple Choice Questions might be of the simple MCQ variety.
- the questions might be mostly text based.
- the language of the questions-ambiguous.
- instructions might be vague, inappropriate and inadequate.
- options in MCQ questions might not plausible or can be rejected outright by the students.
- difficulty level of the test might be too low.
- in MAT the questions might not test Mental Ability but General Knowledge.
- there might be too many questions of the same variety in MAT test leading to the practice effect.

While analysing the tests one must know the parameters, which make a test a good test. Over the years with experience in the Department of Educational Measurement and Evaluation, the following parameters have been identified as indicators of a good test. These parameters have been used in a number of studies undertaken to analyse question papers of various Boards of School Education like Central Board of Secondary Education, Punjab School Education Board, etc.

Mental Processes

The basic purpose of the tests used for identifying talent is to test whether a student is capable of carrying out higher order mental processes like problem solving, critical thinking, analysis, interpretation, logical reasoning, identifying relationships, discriminating, classifying, applying, inferring, judging and predicting. While analysing the tests one should see whether the test contains the questions which test these abilities in appropriate proportion.

Forms of Questions

In SAT and MAT only multiple choice questions are in use. However, these may also be of different varieties where the task is presented to the students not in a simple one sentence stems/ statements/questions but in a variety of ways like matching two or three variables, reasoning and assertion type, true or false statements, sequence of statements or processes, passage based questions, interpretation of data given in a chart/graph/map, etc. Such variety of MCQs presents a better opportunity for testing higher mental processes than a simple MCQ. Therefore, a judicious use of these different varieties of MCQs will have to be made while setting questions for SAT.

Difficulty Level

While writing a question the question setter should be conscious of the difficulty level of the question in relation to the ability of the pupil for whom the

question is meant. The difficulty level of the questions usually depends upon the complexity of mental processes involved and the area of content to be tested and the time available to answer it. For a test meant for talent search the questions need to be of higher difficulty level so that they may be correctly attempted by those who are actually talented.

Instructions

A test should have appropriate instructions at two levels.

(1) General instructions that are given in the beginning of the test.

(2) Specific instructions that are given with the group of questions.

The instructions should be such that they should be clear and easily understandable to the candidates.

Language

The language of the questions should be clear, precise and unambiguous. Use of unfamiliar and difficult terminology may be avoided so that the comprehension of the questions itself may not become a problem for the students. A question should be so worded that by and large all students make the same meaning out of it.

Scoring Key

While analysing a multiple choice test scoring key is of paramount importance. There are many chances that the key questions might go wrong. A key therefore is to be prepared with utmost care.

In the light of the above mentioned parameters the SAT and MAT tests for state level NTS Examination held in 2007 were analysed. The analysis proformas were developed separately for SAT and MAT, keeping in view the different nature of these two tests.

Major Findings

The major findings are given under two separate headings namely findings based on the analysis of Scholastic Aptitude Tests (SAT) and findings based on the analysis of Mental Ability Tests (MAT).

Findings Based on the Analysis of Mental Ability Tests (MAT)

- Generally the MAT of different states consisting of items which were of low difficulty level especially the Chandigarh, Bihar and Jammu & Kashmir State tests, were found to be quite easy.
- Types of items were very limited. The major chunk of items was series, analogy and odd-man out.
- A lot of items were found to have semantic content and were not properly worded. Such items should be avoided in a mental ability test.
- A common shortcoming with the test papers was lack of proper editing as many mistakes were found in the test papers.
- In some of the tests, instructions were not very clear-a set pattern of instructions could be followed.
- There was a heavy concentration of same type of items. Various types of items should be there, so that the child does not acquire practice effect.

- Items were not properly sequenced. In some cases similar type of items were not grouped together and were scattered all over the test paper.
- Directions were not clear for paper folding and punching items in Haryana test.
- Interesting and innovative items were non-existent.
- Arunachal Pradesh and Jammu & Kashmir states test papers were too easy; very few types of items were used.
- Karnataka test was quite balanced; Orissa state test was also quite good.

Findings Based on the Analysis of Scholastic Aptitude Tests (SAT)

Mathematics

- In most of the states/UTs, there were 20 questions in Mathematics. However, in Orissa and Pondicherry, there were only 18 questions. In Andaman & Nicobar there were 30 questions and in Gujarat there were 35 questions.
- Most of the questions were found to be quite simple in all the states/ UTs. Only a few questions were of higher mental ability.
- It was found that most of the states/UTs tests limited content and limited number of item types. In some tests, ambiguous instructions were noticed.

Science

- A number of questions had spelling mistakes and editing errors.
- The questions did not cover the domain of topics adequately.
- In some of the state tests clues were found in the stem and in some cases the language used conveyed ambiguous meanings. Uses of obsolete terms (big brain and small brain in Biology) were some glaring mistakes.
- Most of the state tests did not use italics for scientific names.
- General instructions were found to be adequate.
- All questions were simple MCQs and there was no other variety.
- The difficulty level of the tests was low from the point of view of talent identification.

Social Science

The social science component of the SAT has questions in three areas – History, Geography and Civics.

- West Bengal test had no questions on Civics.
- Adequate precaution was not taken in some states to prepare History questions as was evident from missing A.D./B.C. after the given year.
- In some questions there was more than one answer.
- Some questions had spelling mistakes which changed the meaning of the question.
- Largely simple MCQs were used. Other varieties of MCQs were not found to be common in the state tests.
- Most of the questions in social science were based on memory/ recall.
- In some questions mistakes were found like:

(a) In Civics 'Constitutional Committee' is used in place of 'Constituent Assembly'.

(b) In a Geography question 'world's largest sweetest lake' is used for 'world's largest fresh water lake'.

- In some questions 'none of the above' and 'all of the above' was used as alternatives, which should be avoided.

In summary, it was found that most of the States/UTs had items testing general knowledge, limited content, limited number of item types, ambiguous instructions, poor editing and multiple correct answers to the items.

Suggestions for MAT

- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the talented candidates from not so talented.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.
- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.
- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.
- Different items can be introduced – data interpretation, tables, exploration, generalisation, etc.
- Language based tests are difficult to translate into several languages so every care must be taken while translating.
- Get into touch with Indian Institute of Managements (IIMs) and have an interaction with their faculty about the type of tests.
- Standardised instructions should be used by the states.
- States should do item analysis.
- 15 to 20 types of items should be there in each test.
- Rationale should be available along with the key.

Suggestions for SAT

In view of the findings regarding the Scholastic Aptitude Tests of different states, the following suggestions may be made in order to improve the quality of tests across the states/UTs.

- Care should be taken to include questions testing Higher Mental Abilities like reasoning, problem solving, critical thinking, analysis, application, etc., and no questions should be there which test simple recall of information, especially because the test is meant for identifying talented students.
- Special care should be taken to edit the tests well so that there is no error of any kind in the test. The

editing will include the language aspect as well as the content aspect of the questions along with their spelling and punctuation.

- Instead of using just simple Multiple Choice Questions like matching, True/False, arrange the sequence and questions based on a given passage may be used.

Conclusion

From the analysis of state level tests of National Talent Search Examination it may be concluded that there is a lot of scope for in improving the state level NTS tests. If the states take better care in preparing their tests, better students would be identified which in long run would help the country in many ways.

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Learning Orientation and Perceived Parental Attitudes of Students at the Senior Secondary Level

LETHA RAMMOHAN*

Abstract

The study was conducted to examine the learning orientation of students at Senior Secondary level and also to explore its linkages with parental attitudes. The sample of 135 students studying in class XI and their respective parents (135 fathers &135 mothers) was drawn randomly from two Senior Secondary schools of Delhi. Two separate tools namely questionnaire for students and questionnaire for parents developed and validated by the researcher were used. The study brought out clearly shows that interest orientation was the most influencing factor in learning.Career orientation of students was linked with interest orientation and examination orientation. The study also revealed that students at senior secondary level generally had high orientation towards exams and career. There was no significant difference between boys and girls regarding their approach to exams and career. Also parental influence especially parental support affected the learning orientation of children.

Introduction

In the history of mankind, education has formed a continuum and a basis for the development of human society. Through development of attitudes, values and capabilities both of knowledge and skill, education provides resilience to people to respond to changing situations and enables them to contribute to social development.

Learning is the heart of educational process. Learners situationally fall along the continuum of learning orientation. Learning orientation, disposition to approach, manage and achieve learning. They provide a perspective to the understanding of higher order psychological domain to differentiate students' capacity to learn. Learning orientation is a complex, multi-

*Sr. *Lecturer*, B.Ed Department, Institute of vocational studies, Sheik Sarai, New Delhi

dimensional concept influenced by various socio-cultural, personal and other antecedent factors. Many endogenous as well as exogenous variables have their impact on the learning orientations of individuals.

Martinez (1998) identified three primary learning differences variables:

(1) Connative: This factor refers to the individual's will, commitment, interest, drive or passion for improving, transferring and achieving goals.
(2) Committed learning: This factor refers to individual's desire to take responsibilities, make choices, control and improve their own learning.
(3) Learning autonomy: It refers to the degree that learners deliberately start and make efforts to accomplish learning.

Students pursue studies for various reasons.It is worthwhile to identify an individual's orientation to learn, by looking at the dominant factors that affect learning.Three major orientations have been examined in the present study viz., Examination Orientation, Career Orientation and Interest Orientation.

Examination Orientation

Students are very much influenced by their urge to perform well in examinations.Educational qualifications are used extensively as a screening device for recruitment, selection and promotion in modern sector salaried employment. This has led to an intense demand for schooling and certificates. Since these certificates are awarded on the basis of examinations, the educational institutions have become mere places of preparing students for examinations. The dominance of the examination has relegated every other function of the educational institution into the background. Obtaining good marks is the top priority for students.

Career Orientation

Career Orientation is another influencing factor for students. The linkage between employment and education is a complex phenomenon. The socio-psychological dimensions of the relationship between education and employment give an insight into the career orientation of students. For a great number of students studying is just to pass the examination and obtain the certificates which will open the gates of the world of work to them.

A search for self-improvement has today become a quest for gainful employment. Learning is now viewed as a means to an end where individual preferences get eclipsed by the larger scheme of things. In fact, occupation/ career which one chooses influence all other aspects of living perhaps more than any other single factor.

Interest Orientation

Another orientation observed in students is their interest towards learning. For some learning is a rewarding experience. For some, others pursuit of knowledge is a pleasurable endeavour. And there are children who study to develop their interests.Many researches have indicated the positive implications of intrisic motivation in learning. In

addition, to these situations of learning orientation another significant factor that affects students' decision to learn is family influence.

Family Influence

The family may be regarded as a reservoir of experiences that lead to the growth and development of personality. The influence of family on occupational and educational attainment has been a subject of great interest to vocational and career educators and researchers alike.

The following are the significant family influence factors that affect a child's career and educational decisions. 1. Geographical location, 2.Genetic inheritance, 3.Family background 4. Socio- economic status, 5. Family's composition, 6.Parenting style and 7. Parents' work related attitudes. Whereas the first four of these factors have a strong influence in a child's physical and mental abilities, education and employment opportunities and financial resources, the last three have a profound effect on a child's personality, preference for certain types of interpersonal relationship, work attitudes and willingness to pursue a non-traditional career. It is also worthwhile to remember that the career development process begins long before the adult years.

Children build their own structures of behaviour through parents, friends, neighbours, tradition, education, culture and the mass media.

Parental Attitudes

Education cannot be dealt in isolation. It is an all-inclusive term, which means 'to bring up'. The development of the all round personality of a child is not the exclusive responsibility of the teachers. Parents' role is pivotal especially in the choice of subject after high school.

A number of studies have shown that parents potentially influence adolescents' activity choices and occupational identities. Parental attitudes like support, pressure and anxiety have a great impact on decisions that have implications for the future, such as choice of career.

De Ridder (1990) observed that parents as daily models provide cultural standards, attitudes and expectations and in many ways determine the essential adequacy of self acceptance and confidence of social skills. In a similar vein Grimsted and Way (1993) are of the opinion that by increasing the communication between home and children the positive aspects of family influence in the career development of children can be enhanced.

Parents' expectation too can weigh heavily on a child. Youngsters may want to please their parents and they would go to any extent to gain their parents' approval. A child who constantly feels the obligation to perform for friends and family may inordinately fear failure.

Parental pressure concerning career can take many forms. There are obvious forms of pressure like parents holding financial strings over a child's head while expecting them to follow a specific career path and there are more subtle forms of pressure as well, such as discouraging a child from taking a certain career direction instead of listening to what they want.

Rationale for Study

The aim of the present study was to understand and examine learning orientation and the perceived parental attitudes of students at senior secondary level. Despite the potential family child relationships in promoting achievements in adolescents, there is little discussion on how it can influence children's learning orientation. The study was to fill the gap by clarifying why and how parental attitudes are important variables in understanding the orientation of students at the higher secondary level and also their long term identity goals.

Although identity consolidation is achieved later, Senior Secondary level is the most crucial period when career decisions are taken by adolescents.

This study was designed to understand and examine the role of parents in the academic activities of students which would lead to a better understanding of the educational dynamics. Thus, the study has relevance from both the educational and sociological points of view.

Objectives of the study

The major objective of the study was to examine the relationship between various learning orientations and the role of perceived parental attitudes
The specific objectives were:

(1) To examine the learning orientation of students in terms of examination, career and Interest.
(2) To find if boys and girls differ in their orientation in terms of examination, career and interest
(3) To study parental attitude towards their children's studies
(4) To examine whether fathers differ from mothers in their attitudes towards their child's studies.
(5) To find if there is significant correlation between student orientation and the perceived parental attitudes.

Based on the objectives cited, following hypotheses have been made.

Hypothesis

(1) There is no correlation between student orientation in terms of examination, career and Interest.
(2) There is no difference between boys and girls in their orientation in terms of examination, career and interest.
(3) There is no difference between fathers and mothers in their attitude to their child's studies.
(4) There is no significant correlation between learning orientation and the perceived parental attitudes.

Design of the Study

Tools

Initially the investigator referred to a wide variety of inventories and questionnaires given in the handbooks of psychological tests. But it was felt that standard tests might not cover all the aspects to be covered in the study. Hence, two questionnaires were developed and validated.

1. Student Questionnaire It comprised of two parts

A Student learning orientation inventory

B. Perceived parental attitudes

A. Inventory Student Learning Orientation

For the purpose of this study, as already described, three learning orientations were identified. They are (I) Examination orientation, (ii) Career orientation and (iii) Interest orientation.

Initially a pool of over 100 items was developed. After considerable deliberations and discussions, and informal testing with students, the scales were finalised as follows:

(1) Examination orientation
(2) Career orientation
(3) Interest orientation

The 25 items were in the Likert Format with four responses,

Strongly Agree, Agree, Disagree and Strongly Disagree

The items were scored from 4 to 1 with scores reversed for negatively worded items. Higher scores indicate stronger orientation.

B. Perceived parental attitude

To study the perception of parental attitude, three dimensions of attitude towards their child were identified for this study. They are:

(1) Support
(2) Pressure
(3) Anxiety

To distinguish between the attitudes of parents separately, identical items were developed to measure the attitudes of mothers and fathers which were also in the Likert Format on a four point scale.

The Sample and Data Collection

The questionnaires were administered to a sample of 135 students from two Senior Secondary schools in Delhi. The sample consisted of 75 boys and 60 girls studying in Standard XI. These students were from Science, Commerce and Humanities streams. They were in the age group 15 - 17. The medium of instruction in both the schools was English and hence, there was no problem in administrating the questionnaire in English.

Data analysis

To compare the strength of the different learning orientations, the means and standard deviation for all the three orientations were worked out for both boys and girls separately. As the numbers of items in these scales were different, the scores were normalised.To examine whether boys and girls differ significantly in their learning orientation, t-scores were worked out. These are shown in Table - 1

The tables indicates that interest orientation had the highest mean for both boys and girls at 0.747 and 0.741

Table-1

Normalised means, standard deviations and t-score for the Learning Orientation Scale

Dimensions	*Mean Boys N=75*	*Std.Dev.*	*Mean Girls N=60*	*Degree of Freedom*	*Std.Dev.*	*t score*
Examination Orientation	0.647	0.099	0.660	0.098	135	0.756
Career Orientation	0.709	0.113	0.702	0.120	135	0.362
Interest Orientation	0.747	0.072	0.741	0.071	135	0.491

respectively. This means that high rating is given to the intrinsic orientation in learning. Next in the order of ranking is career orientation with a mean of 0.709 for boys and 0.702 for girls.The mean score is lowest in Examination Orientation with f 0.647 and 0.660 for boys and girls, respectively. This study has shown that contrary to general belief, examination orientation gets a lower score than career orientation or interest orientation.

There is no statistical difference in the scores between boys and girls at all. Scores are insignificant. At Senior Secondary level between girls and boys studying in English medium schools and coming from middle and upper middle class background, there seems to be no statistically significant difference.

Perception of Parental Attitudes

Perception scores of boys and girls about their parents's attitudes towards their academic activities have been recorded in Table-2.

Regarding the perception of the attitude of fathers, both boys and girls found their fathers to be supportive (boys

Table -2

Normalised Means, standard deviations and t -score for Students

Dimensions	*Boys*	*N = 75*	*Girsl*	*N = 75*	*Gegree of*	*t score*
	Mean	*S.D.*	*Mean*	*S.D.*	*Freedom*	
Father						
Support	0.747	0.113	0.740	0.108	135	0.347
Pressure	0.516	0.141	0.513	0.143	135	0.143
Anxiety	0.624	0.109	0.636	0.110	135	0.628
Mother						
Support	0.690	0.107	0.688	0.098	135	0.093
Pressure	0.554	0.096	0.556	0.099	135	0.109
Anxiety	0.679	0.115	0.694	0.107	135	0.770

0.747 and girls 0.740). The next dimension is parental anxiety with 0.624 for boys and 0.636 for girls. Pressure has the lowest mean score of 0.516 and 0.513 for boys and girls respectively. All the t-scores are insignificant indicating that there is no difference between boys and girls perception of their father's attitude.

Regarding the perception of mothers' attitude, the pattern is the same among boys and girls. Here again mothers' support gets the highest score, with boys 0.690 and girls 0.688 followed by anxiety with 0.679 and 0.694 for boys and girls respectively. Mean score is lowest in Mothers' Pressure with 0.554 for boys and 0.556 for girls.

These findings indicate that while support is perceived to be high, anxiety on the part of the parents seems to be higher than pressure. This shows that children are conscious of their parents' anxiety about their studies. It is possible that generally parental anxiety is perceived as pressure.

Comparing the perception of the attitude of father and mother as perceived by boys and girls, both have

indicated that they receive more support from father as compared to mother. Highest score is for father's support with 0.747 against 0.690 for mothers' support. Similarly, girls mean score for father's support is 0.740 compared to 0.688 for mother's support.

Comparing the perception of anxiety, both boys and girls perceived mothers to be showing more anxiety than fathers. Mean score for mother's anxiety is 0.679 for boys as compared to 0.624 for father's anxiety. Similarly, in girls 0.694 is for mother's anxiety compared to 0.636 for father's anxiety. Again, mothers seemed to be exerting more pressure than fathers. Boys 0.554 for mothers' pressure compared to 0.516 for father's pressure. Girls have given a score of 0.556 for mother's pressure compared to 0.513 for father.

In general, both boys and girls see their fathers as more supportive and putting less pressure and showing less anxiety compared to their mothers.

Correlation between various Scales:

To examine whether there are any relationship between the various learning orientations and the perceived parental attitude, correlation was worked out for boys and girls separately and these are shown in table 3 and 4 respectively.

It is noticed that as far as correlation between various learning orientations are concerned, the pattern between boys and girls are similar. It can be inferred that examination orientation has a significant correlation with both career orientation and interest orientation. That is those who have a high examination orientation also show a high career and interest orientation. On the other hand, there is no correlation between interest orientation and career orientation. This indicates that examination seems to be more dominant in deciding career and interest while no significant relationship exists between interest in learning and career orientation.

Table - 3

Correlation between the Scales - Boys

Correlation Matrix *Boys*	*Scales*								
Scales	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
Examination Orientation	1.00								
Career Orientation	**0.25****	1.00							
Interest Orientation	**0.26****	0.03	1.00						
Father Support	**0.28****	**0.30****	0.16	1.00					
Father Pressure	-0.01	-0.11	0.14	0.10	1.00				
Father Anxiety	0.16	0.04	0.14	0.15	0.15	1.00			
Mother Support	0.14	0.10	0.17	0.07	-0.06	0.16	1.00		
Mother Pressure	0.11	0.17	0.04	-0.09	**0.31***	0.13	0.19	1.00	
Mother Anxiety	0.16	0.17	0.03	0.09	0.09	**0.39***	0.03	0.14	1.00

**Correlation is significant at 0.01 level*

** Correlation is significant at 0.05 level

Table -4
Inter correlation between the scales- Girls

	Scales								
Scales	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
Examination Orientation	1.00								
Career Orientation	**0.37****	1.00							
Interest Orientation	**0.36****	0.03	1.00						
Father Support	**0.27****	**0.38**	**0.28**	1.00					
Father Pressure	0.05	-0.04	**0.23**	-0.02	1.00				
Father Anxiety	-0.08	-0.02	-0.15	**-0.41**	0.08	1.00			
Mother Support	**0.25****	**0.27***	**0.25****	**0.29***	0.10	0.01	1.00		
Mother Pressure	0.05	-0.04	**0.23**	-0.02	**0.36***	-0.10	0.10	1.00	
Mother Anxiety	0.18	0.19	0.04	-0.05	0.03	**0.32**	-0.10	0.03	1.00

* Correlation is significant at 0.01 level
** Correlation is significant at 0.05 level

As far as correlation between learning orientation and perception of parental attitude is concerned there are some differences between boys and girls. Boys have reported a significant relationship between fathers support with both career and examination orientation. There is also significant statistical relationship between the perceived pressure and anxiety of both father and mother. That is those boys who perceive their fathers to be exerting pressure and showing anxiety perceived their mothers also in a similar way. The earlier analysis showed mothers to be showing more anxiety and putting more pressure than fathers.

As far as the girls are concerned, fathers support is related to all the three learning orientations. That is fathers' support seems to influence all the three learning orientations. It is interesting to note a significant negative correlation of 0.41 between fathers' anxiety and fathers' support. It implies that those fathers who are perceived to be supportive show less anxiety. There is significant correlation between the perceived pressure, anxiety and support of both fathers and mothers. In other words girls seem to perceive the same attitude from both the parents.

Major findings

Learning Orientation

- Interest orientation is the strongest influencing factor in learning for students at senior secondary level.followed by career orientation.
- Examination orientation has the least influence in learning.
- There is no statistical difference between boys and girls in their learning dispositions.
- Examination orientation has a significant correlation with both career orientation and interest orientation.

Perceived Parental Attitudes

- Both boys and girls perceived their parents to be supportive.
- They received more support from fathers as compared to their mother.

- Both boys and girls perceived mothers to be showing more anxiety than fathers.
- Mothers seemed to be exerting more pressure than fathers.

CONCLUSION

Education has a very wide connotation as it concerns every individual in the society. The process of learning is the vehicle by which the individual is changed from a bundle of potentialities to an active organism with ideas, habits, skills, preferences and other distinguishing personality characters. The various factors in learning would include influences, which have to do with the direction in which the learning process moves.

The research problem of the present study was to examine the learning orientation of students at Sr. Secondary level and also to explore the linkages between parental attitude and academic orientation of children.

This study has brought out clearly that career orientation of students is linked with interest orientation and examination orientation. The study also reveals that students at senior secondary level generally have high orientation towards exams and career.

The scores of the items in career orientation throw light on the fact that contrary to general beliefs, adolescents have clarity about their future vocation. They seem to know the source from where to get career guidance. The comparatively higher score in interest orientation can be interpreted that students find the subjects in their course interesting. Studying the subject that they are interested gives them a lot of personal satisfaction. They look for a career where they can develop their interest and where there is promise of growth. They would like to be creative and original. The findings also indicate that there is no difference between boys and girls regarding their approach to exams and career. Parental influence especially parental support affects the academic orientation of children at Class XI level.

Family plays a significant role in the educational progress of the children. The present study revealed that parental influence especially parental support affects the academic orientation of children at Class XI. As regards to parental pressure Class XI students hardly feel parental pressure. On the other hand they derive encouragement especially from fathers. This would make children more competent, and less apprehensive about their future. Family anxieties do not seem to significantly affect the academic orientation.

The study also reveals that both boys and girls are not much affected by parental pressure. It is generally believed that most of today's parents pressurise their children into doing what they (parents) want them to do. However, this study has shown that though there is parental pressure, support is perceived to be greater than pressure. At the same time parents are ambitious that their children ensure future security and have financial stability.

Implication

As children enter the large world making choices becomes a way of asserting themselves. To be able to experience the

freedom to choose predisposes children to view the world as a less threatening place and the chances of being successful are increased. Therefore, it is very important to give space to the adolescents to make their own career choice. Parents must adopt a style which would boost the self confidence of children and facilitate academic orientation.

On the other hand, pressures to conform and fulfill parents' expectations regarding education and career can cause a poor fit between the individual. The study implies that family functioning which includes parental support, guidance, positive or negative influences, and family members' interaction style has a greater impact on career development than either family structure or parents' educational and occupational status. This also implies that interaction between parents and children is a powerful influence. In fact, proactive parents can facilitate academic orientation and career development process.

Understanding the impact of learning orientations would also provide an opportunity to create more successful learning orientations for learners. This study should be of value to the schools to solve many behavioural problems encountered in the schools, which go unsolved in school system. It would enable the teachers to understand the children and their peculiarities in proper perspective and to plan their behavioural dynamics accordingly.

The study would also help the students in matters of career choice or vocation, which in turn would ease the frustration and dilemma which they face when they are at the crossroads.

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Book Review

The Development of Teacher Education in Portuguese Goa (1841-1961)a

Author: Ricardo Cabral

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Year: 2009

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The book *The Development of Teacher Education in Portuguese Goa (1841-1961)* written by Ricardo Cabral is an honest attempt to understand the development of teacher education in colonial Goa. Cabral is a Faculty at the SCERT, Goa. He makes a comprehensive study of the origin and development of teacher education in Goa during the colonial rule of the Portuguese providing a brief historical review, and the beginnings of teacher training in Goa. Hence, this book traces the development and reveals the functioning of "Escola Normal" from 1841 to 1961.

An outcome of a research of more than four years, the book has been written from the historical perspective. The main objective being to trace the origin, growth and development of teacher education in Goa, to discover the factors that helped its growth, to point out the salient features of the teacher training programme, to explain the attempts made various times to introduce quality interventions, to find out if there were any shortcomings and then to judge how the quality of teacher education affected the quality of primary school education which ultimately impacted the entire Goan society.

Tracing the founding and development of '*Escola Normal*', a teacher's training school, it shows how the various integral areas like curriculum, organisation and administration, methodology, pedagogy, method of testing and evaluation and practicals evolved from time to time. The various measures adopted by the Portuguese to bring in qualitative improvement in teacher education have also been dealt with elaborately.

One such measure for example was the holding of tests/interviews at every stage like at the time of initial appointment, or regularisation, or transfer, or promotion etc. The Portuguese system of teacher education was based on the French model as opposed to the British one that was prevalent in the rest of India. The

periodic changes that were seen in Europe in the field of education were immediately and faithfully transplanted in Goa thus making Goa almost a part of Europe.

The book is divided in seven major chapters. Chapter one of the book deals with the History of Goa. Talking about the Portuguese conquest of Goa in 1510, the author mentions that the last name of the region-Govapuri was shortened and modified by the Portuguese into Goa. The first constitution was proclaimed in 1822 this was followed by the charter in 1826. Goa became a part of the Indian Republic in 1961. Describing the pre-1759 scene of education in Goa, the author writes that in 1512 Albuquerque had opened the first school in India at Cochin under Antonio Galvao for the Portuguese children and then a few years later in Goa too. The book also mentions the contribution made by the Jesuits to the educational system in Goa including the organisation of the curriculum and introduction of Greek in the studies. Post-1759, Goa witnessed a flurry of education activity. In 1760 a school of Navigation was started in the region followed by establishment of at least 6 schools in the Army barracks almost a century later in 1840. By 1850 there were about 25 well-established secondary and primary Govt. schools in Goa. Moreover, since people showed apathy towards sending their children to Government schools it was also decided to allow the establishment of private schools.

Chapter two of the book deals with the origins of the school system in Europe. The author writes that the first Normal School ("Escola Normal") for the training of Teachers was started in Holland around 1816 followed by Portugal in 1824. Talking about the origins of the word "Escola Normal", the author states that the French word "Normale" literally means rules and therefore the Normal School implies school of rules for the would be teachers. In British India, the Education of teachers in India was closely linked to the developments in this particular field in England. The first Normal School was set up at Serampore (Bengal) by Corey and Marshman in 1793. This was the result of collaborative efforts between the Danish and English Missionaries. In fact, the Danish Missionaries were the first to establish teacher training institutions in India in the last quarter of the 18 century. By 1892 there were 116 training institutions for men and 15 for women throughout India.

Chapter three specifically talks about the beginnings of teacher education in Goa. During the 17 and 18 centuries education was literally the handmaid of religion. Following the seminary pattern it was rigorous, pedantic and selective. In Europe and in Portugal in particular education was mostly in the hands of the Jesuits who followed their own system expostulated under the Latin title "*Ratio Studioram*", a thought system to contend with which used punishment and consequently fear to push knowledge down the throats of students. The time was ripe for introduction of reforms in the education sector and Marques de Pombal was the man of the hour in Portugal. In 1756 by a Decree which was made applicable to

the colonies too, the Marques de Pombal had stipulated that those aspiring for teaching posts had to answer a public exam. In Goa therefore it was made mandatory for those aspiring for teaching jobs to undergo this public exam. In 1831, the Governor, Dommanuel de Portugal Castro issued an official order declaring his intention that the cause of education was very dear to him. In 1841, the foundation of the first "Escola Normal" in Goa was laid.

Chapter four talks about the growth of Normal School in Goa. It mentions about the school's growing profile, the teaching staff and their duties, the trainees, the curriculum etc. Chapter five is about the administration and supervision of these schools as well as the administrative reforms made. Chapter six and seven talk about the other miscellaneous aspects of the Normal School including the system of testing and evaluation etc.

This book is virtually a storehouse of information of the teacher education in Goa and hence it has the potential to become a valuable reference book for further research as an important and reliable secondary source especially to those who are not that much conversant with the Portuguese language. Though the study is limited only to the initial preparation of elementary teachers, and does not talk about such training for secondary and superior education teachers, given the gamut of areas covered by the book, these can in turn become independent areas for any aspiring teacher education researcher.

Dr. Surendra Singh
(Senior Research Associate)
Department of Elementary Education
NCERT, New Delhi

Reportage

Some Observations on Educational Research

SHANKAR SHARAN*

The education we receive from our universities takes it for granted that it is for filling the arid land, and that not only the mental outlook and the knowledge, but also the whole language must bodily imported from across the sea. And this makes our education so nebulous, distant and unreal, so detached from all association of life, so terribly costly to us in time, health and means, and yet so meagre in results.

(Rabindranath Tagore)

A research writing workshop was held at a prestigious university in Vadodara. All participants were young lecturers or Ph.D. students of education. As one of them presented a hypothetical research proposal, someone asked the resource person, "Sir, Is this proposal an example of qualitative research?" The resource person, a perceptive Professor, contemplated for a moment as if trying to remember something. Then his face beamed with confidence, 'No. Objective knowledge is OVTR, which are Observable, Verifiable, Testable and Replicable. In qualitative research none of these attributes remains.'

It was one of the numerous occasions that compelled to think and compare. Compare with erstwhile Soviet academics, especially in Social Sciences and Humanities. Russians have not been dumb people at all. In Physics, Nuclear Science, Mathematics, Aeronautics, etc. they were comparable to any country. How it happened that for seven whole decades they failed to produce even a single Educationist, Historian, Philosopher, Political Scientist or a Literary critique worth mentioning? The answer was all too obvious. In these disciplines they were obliged to *believe*, internalise and repeat certain basic principles, the dogmas of Marxism-Leninism. It was to be upheld at all costs. Therefore, all social or academic facts and phenomena must conform to those basics or else they did not matter or even exist. The result was the dismal situation of Social Science and Humanities during the entire Soviet era. In fact, a large part of West Asia and other

**Assistant Porfessor*, DESSH, NCERT, New Delhi-110016

faith-following countries are still under a comparable spell. The conformist regimes there do not brook contradiction to their own basics, resulting in a void in Social Science and Humanities.

To some extent the educational research in India is a reminder of the Soviet tragedy. Otherwise it would be difficult to explain why a familiar word 'qualitative' loses its normal meaning and acquire an artificial one when it comes to educational research? The perceptive Professor was by all indicators an intelligent fellow. But he has learnt, and internalised over the decades, a whole set of jargons and models firmly believing that they are *the* scholarly standard. These terminology and models are almost wholly borrowed from American Psychological Association. In educational research they are considered as the supreme authority to follow. Without much considering how 'Education' and 'Psychology' becomes one for research purposes? It is an unnecessary and complete dependence of a discipline over the other, for which there is little explanation. Secondly, how the terms and concepts arising in a quite different society are just fit to understand historically, culturally and qualitatively? In any case, the jargons used incessantly are not always understood by the readers or listeners and many a times even by the users themselves.[1] But the reverence is that it repeated all the same with full confidence. As if except those limited terms no expression can be used in educational research. This explains some queer or incomprehensible research titles. For instance, "Impact of Soy. Based Intervention Programme on Knowledge of Rural Woman".[2] Or "Effect of Concept Mapping Strategy in Physics on Achievement and Attitude of Students."

This also explains why in a five-day workshop on Education all scholarly references made were those of Western names. Never once any one uttered the names like Rabindranath Tagore, Sri Aurobindo, Vivekanand, Tolstoy, Radhakrishnan etc., who have distinct contribution on education. Even Dayanand, Gandhi or Gijubhai were not mentioned anywhere. These three great men belonged to the very region (where the workshop was on) and earned fame reaching beyond the country. But nowadays at a really good Indian university, a workshop with ten sessions, twenty five learned resource persons and more than sixty research scholars discussing the whole range of educational issues for research failed to mention even a single Indian educational thinker in any context. Nor reminding this lapse would discomfit them. They take as a normal, genuinely believing educational research which activity connected nowhere to a Tagore or a Gijubhai. This was not a happen-stance. The usual bibliographies at the end of thesis, research projects or articles on education also hardly ever include the missing names mentioned above.

It is an indicator of the dreary situation of educational discourse. It is a result of an ideational fixation of an entire discipline. In which repeating a set of terms, imitating a very limited, silly kind

of data collection and surveys with the use of slapdash, pitiable questionnaire/ opinionnaire/interviews etc., some pointless numerical charts and pet jargons little understood even by its users (obvious by going through the whole paper or project report)–and duplicating this activity again and again in universities and institutes–have come to acquire the name of educational research.[3] All this without much contribution for any reader.

Therefore, it is not so much educational research in normal sense of the word, but more a name given to a particular kind of academic activities. Certainly, there are exceptions. In the sense that employing the same procedure of survey/ questionnaire etc., some scholars do present a meaningful study. But they seem to be extremely rare. Any issue of an educational journal or a random look on the Ph.D thesis submitted and awarded in a university would testify it.

After going through countless research proposals, published research papers, research reports and Ph.D abstracts on education and listening to in related seminars and meetings in recent years an ordinary observer comes to the following conclusions. The conclusions are tentative. Some of them might be misplaced; some of them could be a result of exaggerated concern and neglected aspects of education in the country. Yet these observations may help understand the situation of educational research as it exists.

(A) The method of research in medical institutions is taught how to use of thermometers on patients or non-patients as the one and only activity of medical research. And the use different kind of thermometers in different ways, on different people, in different circumstances, weather, locale, institutions etc., were also part of the research. But the use and read thermometers should be prevalent as thy only work in medical research–such would seem a rough parallel if one comparatively observes the situation in educational research in India. Can always interviewing some patients, asking pet questions to doctors or nurses, counting beds in a hospital, studying patient behaviour in different circumstances, patients self-perception, their achievement etc. be taken as *the* 'medical research'? If that is the main activity in medical research then it would be ridiculous. Medical research is done on diseases, remedies, symptoms, medicines, equipments etc. Sampling ward-boys and nurses for asking hackneyed questions and analysing their answers would hardly constitute medical research.

Similarly, would it be called 'political science research' if more than 95 per cent studies just do a survey of political activists, office bearers of political parties, members of legislatures etc., taking their views on a set of questions regarding 'achievement', 'self-perception', 'job satisfaction' etc. and just analyse it to give research findings? This activity is a part of

political studies, but never the beginning and end of it.

Then why in education it is just the opposite? It is almost always restricted to preparing a questionnaire, survey or interview schedule for students, teachers or managers in a school. Get their answers and presenting them in chart as findings complete a research project. This activity is not less than 90 per cent of all educational research being done for years in the country. The problems of education in all its aspects – like philosophy of education; history of education; systems of education; changes in education; life, work and experiences of great thinkers on education; worth of a particular curriculum; problems of Madarsa education; evaluation of textbooks from diverse perspectives; physical punishment to children in schools; role of teachers associations; role of Scouting and NCC in schools; burgeoning tuitions centres and coaching institutes; selection procedure and criteria for teachers and educational officials; the phenomena of 'absentee teachers'[4] in many schools in India; aspirations of different occupational strata in our society regarding the education of their children; Eastern and Western educational traditions; Religious and denominational schools and their role; comparative education in different countries; student politics; and several other exciting issues–are almost never taken up for study and research. If we seriously consider all the missing issues mentioned above, it would seem the whole land for research and study in education is lying fallow. Why?

A sustained perusal by this observer of more than 400 research abstracts mainly of Ph.D. thesis, new research proposals, research project reports, published papers and articles in various educational journals has revealed an absence of such themes. Almost all the research in education is pathetically oriented in doing a rut activity repeated hundreds times over in a similar manner. Perceptive professors are aware that so many institutions and researchers have made it a routine to do the same thing over and over again[5]. What is worth noting is that it is not limited to some scholars and institutions but a reflection of the general scenario in educational research.

(B) To take another simile, what would be the worth of a food exhibition in which every stall presents just a *khichdī*? That is, not different food items but a single one on every counter would hardly befit a food exhibition worth its name. The situation would seem more ludicrous if every participating stall in the exhibition at the same time believed that he is offering something new and others must be showing rather else. The educational research scenario is very much like it. Individual researchers are almost innocent of their situation as they do not care

(despite a claim of 'review of existing studies' on the topic by many of them) about the fact that other researchers are presenting a similar feet, undertaking a research already done umpteenth times by countless others in numerous institutions. With slightly different titles with practically no difference in meaning or intent. Such a corpus of studies-already completed, undergoing and being proposed-make the figurative 'exhibition' of educational research, having mostly just one item in true sense.

(C) In their projects the researchers generally first put forward a number of disparate, understandable or non-understandable, possible or impossible goals, even a goal to formulate policies for government or educational bodies as the OBJECTIVES of one's proposed research. Almost in 95 per cent of research projects the researchers start with taking a SAMPLE of students, teachers or schools for some treatment. Then TOOLs are used to collect some data. Not necessarily useful or even understandable data, but a data as it is a required material. The use of the tools e.g., a questionnaire or interview schedule sometimes also double up as the METHOD of research. Interview, questionnaire or survey is mentioned as the method in at least 80 per cent of the educational research projects or papers published. So, using such methods and tools they collect some information from schools or teachers or parents or a combination of them. The information in most cases are such as already well-known to everyone. For instance, 'girls face more problems than boys in going to school' or 'teachers in private schools feel less secure than in government schools', etc., Then, as the final act, any length of reproducing the received information or/and an explaining of the same, some sermonising on this or that lack in school or social conditions, a list of suggestions to all and sundry with repetitions of common grievances people talk about. This part is called FINDINGS in most research projects and papers.

Thus, writing under the headings of 'objectives', 'method' and 'findings' almost all the research studies are presented. Many researchers are not concerned with being careful about a cogent, sensible and connected presentation of the three in their final document. In many cases sentences and paragraphs are written and chapters are filled as if independently. Just to feed the paper, it would appear. Else, there cannot be any sensible explanation in many cases as to the utter disconnectedness of the 'objectives' and 'findings'. Not infrequently, some objectives mentioned in the beginning of a project are totally forgotten in the findings at the end. Unfathomable sentences or paragraphs spread over the study are beside the point. The most

liberal use of jargons and pet phrases in sentence after sentence and pages after pages are taken self-sufficient as to conveying a meaning or serve a purpose. Since such final research reports are not questioned by evaluating authorities, it seems the unfathomable sentences do serve a purpose. Perhaps they are taken as a token of passable research.

But such produce in the name of educational research are, by and large, a kind of food which contains only one particular ingredient, if at all, needed for our sustenance, and even that not fresh but stale, dried and packed in tins. That is not at all a balanced meal. For that we must have co-ordination of different ingredients – and most of these, not as laboratory products, or in a dehydrated condition, but as organic things, similar to our own living tissues.

(D) A researcher's folly is self-certified in his own writing when he includes under the 'Objectives' of his research proposal so many huge, incongruous and even absurd goals which is impossible to achieve in a single research project. For example, the first objective in a research paper is, "To study the inputs provided by teacher training institution before and during school experience programme to help prospective teachers in developing positive attitude towards teaching." There are many other objectives given in the beginning of the paper. Just by reading the list of such goals make it obvious that the researcher is innocent of the import of the goals he wrote in the 'Objectives'. His innocence is further proved by his 'Findings' at the end of his completed research report where many of the objectives are simply not recalled, as if they never existed. That is, he has quite forgotten some goals he had set in the beginning of the report. Thus, the objectives propounded in the start and findings mentioned at the end have no sensible correlation in many cases. And such 'research' studies are frequently done, reported and filed. To be forgotten, almost always unread by anyone.

Sometimes 'objectives' and 'findings' are neither objectives nor findings but various high goals all at once as objectives, and later bland statements, good wishes, sermons or moralising, all disconnected as the findings. In between, dozens of typewritten pages, unreadable for various reasons, such as lack of coherence, repetition of statements and insertion of quite irrelevant materials at length. Such a poor show in the name of research is a frequent occurrence not only in Ph.D. dissertations but also in published papers and research projects undertaken by faculty members here and there in the country.

(E) Incessant parroting is a most visible ailment in educational research. In an elaborate workshop on Research Methodology in education, for

example, some professors confidently speak in detail about various elements and modes of research. They repeat words, phrases and techniques related to it without ever relating them with actual concerns, thoughts and realities of education in society at large. It is natural, then, that they hardly dwell upon the worth of the outcomes of the prevalent research in terms of its connection, if any, with the society. They resemble the young pupil at an Anglo-Vernacular school in Allahabad who was asked to define a river. The clever little fellow gave a correct definition. But when he was asked what river he had seen, this boy, living in a confluence of the Ganga and Jamuna, replied that he had not seen any. Such examples of sophisticated stupidity abound in educational research fraternity in India.

(F) The tedious situation is also a sign of a mental conditioning in educational thinking. They have accepted certain given as to what makes an education research, without ever discussing it critically. Why a singular pattern of Objectives-Sample-Tools-Findings description model should be considered as the way of educational research; and not, for instance, a contemplative exposition on the thoughts of a great thinker such as Sri Aurobindo, Lev Tolstoy or Maria Montessori - is a non-question to them. Therefore, such a question is not even raised in educational research, much less discussed threadbare in the context of social circumstances. It is an indication of mental conditioning that most of the research projects in education are difficult to differentiate clearly for the purpose of classification. They all look very same, going by mere titles. Even an original research title is difficult to find, they are so alike in appearance and content. It is the other side of the same coin that it is almost impossible to see a research proposal in our midst for a long time (years or decades) intending to do a comparative study of two educational thinkers, or to do a critical study of the thoughts of an educational thinker with reference to the present day social realities. Why such obvious themes for study never come to mind of an educational researcher? Because he has a fixed, mechanical meaning of 'educational research' beyond which he sees nothing.

It is the inevitable result of the artificial arrangement by which a foreign induced and mindlessly copied meaning of educational research tends to occupy all the space of our mind. It necessarily kills, or hampers, the opportunity for the creation of new thought by a combination of truths lying before us in abundance.

(G) A part of the mental conditioning, the research themes or titles essentially carry a materialist outlook. Even though the researchers, in their own lives represent various outlooks. But when it comes to educational research, they all as a rule become

unalloyed materialist in formulating a proposal. They only use materialist categories and indices. As if, non-materialist elements, needs and aspirations can never be a part of education realm. This fetish for materialist concerns while talking education is also a reason behind the monotonous all-alikeness of the researches in education. A mechanical production of so-called research papers and articles with all its defects and uselessness is also a result of this fetish.

Research undertakings are largely unconcerned to non-materialist problems people feel and face in education. As if the researchers have their own world of academic homo- sapiens, needing not worry for the multiple concerns of non-academic people. As a senior professor said in a meeting on educational research, "Everybody is thinking about self, not about the nation. That is a reason of deterioration in every aspect of education."[6] This observation partly explains why the educational research community addresses each other only. They do so by means of using set phrases, 'accepted' theories, terminology and names in their writings. Thus, they support each other in the same rut practice again and again. Their research seldom show any wish to be of any practical value[7] or connected to the society at large. The researchers are satisfied themselves that what they are doing is proper educational research, useful and fit for financial backing from different quarters. As a matter of fact most of the work is rather useless[8].

(H) A good example is that educational research has so far have not taken any notice of the burgeoning tuition centres and coaching industry all over the country. The phenomenon is at least three decades old. Yet it would be rare to find a study on this, although each and every education hand is fully aware of it. What this lack of study on coaching centres show? It is this: while deciding a research topic a researcher does not really look out for existing, real issues. Instead he goes by the ritual, the set pattern of repeat work being done thousands times over. Invariably he begins from the wrong end. The decision to do some research comes first, irrespective of his ability or academic grounding, and then he cast about for a topic. In the imagery of Tagore, "We seat our guests at the table, and afterwards discover that the cooking has not been started."

But educational research fraternity in our country is unmindful of such misery. It is programmed to see the road ahead not without blinkers. Despite having otherwise good sense, the academics are bound to see in a narrow 'educational research' way. Hence, the loss of sight about a number of issues, not only the coaching centres. Under the mental conditioning and the materialist educational outlook the researchers

do not even recognise the real meaning of research per se. For them research is a preset ritual, not what it really is : "a careful study of a subject, especially in order to discover new facts or information about it".

Hundreds of researchers missed out on coaching institutions for any study also because proliferation of coaching institutes even in small towns does not point to the lack of *material* facilities, a fetish badly engulfing the entire educational thinking, academics and policy makers alike. They tend to conclude all educational problems are necessarily related to lack of money and infrastructure etc. But no, the coaching institutes are a big indicator to expose this fetish. They exist in *spite* of and in addition to the rich public schools and well cared government schools. The fast growth of coaching centres point not to any lack of blackboards, drinking water, toilets, books or school buildings–the main theme of materialist outlook overpowering educationists and policy makers. It forcefully indicates the missing *non-material* elements in even well-known schools. These are: poor quality of teaching, lack of respect to the teaching work, careless selection of teachers, non-sincerity of school administrations and teachers, and such factors. These have nothing to do with lack of funds and infrastructure. It is this gap which in part the coaching centres are filling by hard work and commitment. Since the educational research is saddled with a mental conditioning and materialist blinkers, always busy with counting school rooms and blackboards, the size of books and school bags, resource crunch etc., it fails to take notice of coaching centres as a challenging issue for study and research. Because, in doing so the fixed model of educational research would hardly help.

(I) It is not any lack of funding that the educational research is suffering. Despite the repeated offer of liberal funding a good researcher, even for doing a routine objective-tools-sample-questionnaire-findings kind is hard to come by. At official meetings to approve new research proposals for funding, less than 20per cent proposals are found suitable. This is the situation despite taking a very lenient view to the drawbacks of the proposals. Most of the proposals are sent by university and college faculty members. In such meetings senior Professors and experts express concern[9] and could not find the reason for such a dearth of even tolerable researchers.

(J) Whatever is produced under educational research; there is no credible mechanism to evaluate them. Usually the faculties of university education departments do all the work among themselves.Proposing,recommending, supporting, appraising, publishing and listening to each other. In itself, this is normal for any academic

discipline. The problem arises because the content, quality and even numbers are dwindling with time in this particular field. Perhaps a credible, strict evaluation of all the research would have helped to find out what is missing in the enterprise. As Prof Krishna Kumar, Director, NCERT has repeatedly noted, "a great number of education related studies have come out from 'non-educational' institutions and individuals."[10] He also lamented that the social ethos today is not conducive for research. People want quick result whereas a sincere research requires sustained contemplation. He was apparently referring to the impatience of bad researchers.

(K) English as a medium, rather *the* medium, of research and academic activities in this country work as a great stumbling block as well as a ruse to conceal poor work. "Language of research is not the language of teachers. This is a handicap of the education discipline".[11] It is a major constraint. Even intelligent, perceptive farmers or teachers cannot interact and dialogue with academics because of the language barrier. Thus, all the research work, articles, various Commissions' reports on education etc., are not meant to be read by teachers or common people. As a matter of fact, most of them hardly appear a product of Indian mind.

The use of English inevitably tends to turn our mind for its source of inspiration towards the West, with which we can never be in intimate contact. Therefore, our educational writings remain largely sterile, and produce incongruities. The implications of English being the language of educational research are much wider. First, it is secured from a broad public scrutiny. It also serves to conceal, at least on the first sight for many observers, the inanities written and deposited under the name of research. Young scholars even from prestigious central universities do not properly understand the words they use in their writing. Even ordinary words such as 'sociological', 'ethnographic', 'historical', 'process' or 'data'. One cannot help recalling what Rabindranath Tagore said on our plight about a century ago :

.... I repeat that when we are compelled to learn through the medium of English, the knocking at the gate and the turning of the key take away the best part of our life. The feast may be waiting for us inside the room, but the difficulty and delay of admission spoils our appetite and the long privation permanently injures our stomach. The ideas come late and the tedious grinding over grammar, and a system of spelling which is devoid of all rationale, take away our relish for the food when it come at last.[12]

This is not a case of poor ability of ordinary research aspirants, but the whole academic class in general. Which is why even the Ph.D. scholars, selected among hundreds of such applicants for

a fellowship award, show only limited comprehension of the terminology or the language they use. In a review meeting of ongoing research works many scholars failed to give a reply to simple questions regarding the use of terms in their own small presentations. It is not their individual follies, since all of them are doing such research under the guidance of one or another full-time Professor in a university. This should be kept in mind in evaluating the situation[13]. Had they pursued their work in their own languages many follies could have been avoided.

Language English also make the horror less apparent because of a considerable loss of communication between a writer and a reader of a research paper/proposal/report. It happens in multiple ways. For instance, a material written in English by a scholar has much better chance to get a quick approval without a close scrutiny. Meaning and intent of the material is inferred by a cursory glance here and there. It gets a nod without noticing the lacunae, disconnect, flab or other shortcomings which can be detected only by a close reading. The same material, if written in Hindi, may not pass the barrier so easily. As the loss of communication is minimal, meaning or a lack of it in a document is more apparent and on the whole the scrutinising authority is more circumspect. Thus, and in other respects too a presumption or prejudice works in favour of an English text, even though poor in content.

(L) In such a review meeting of continuing Ph.D. scholars, a JNU researcher came to present his progress about his doctoral work. He started his presentation, before a committee of experts at a national level educational institution, saying nonchalantly that he has changed the topic of his research for which he was also awarded a fellowship. It took several experts and not less than ten minutes to make him understand that he is not free to do so mid-way on his own sweet will, once a topic is approved. It remained unknown whether his guide in the most affluent university was aware of his act. It is a technical example, but all the more illustrative of the abilities of the researchers. It alludes to the quality of personnel involved in educational research, undertaking and guiding the work in the area.

(M) The situation of faculty members working in education departments in universities and colleges are not vastly different. After all, they come from the same lot of Ph.D. scholars glimpsed above. A glance of numerous research proposals sent by several faculties, young and old working at different places, confirms it. In many cases such faculties, presenting a five or six page detail of their intended or completed work, fail to give a coherent synopsis or summary of what they intend or have already done. If present in person, for instance in a formal seminar, many researchers fell back to repeat the written sentences if asked to clarify or explain a point he made. In other words, they have little ability to

explain or paraphrase their own sentences or paragraph. More than linguistic inability it smacks of a mechanical reproduction of something, not a well-thought or meaningful work.

(N) Therefore, it is not unjust to call the prevalent research in education as a ritual devoid of seriousness. Ritual also in not knowing what a research basically entails, whence a problem asking for research occur, how to formulate its nature and scope, what a completed research might add to the already available body of knowledge, what use it could be, who might be benefitted from such a research, etc. Ask even a season researcher such discriminating questions about his work. Chances are that, he will be faltering frequently. Expressing inanities and incoherent phrases many would be at a loss for an answer. It is because they have not taken up research in right earnest, but as a necessary rite in order to bolster a bio-data or for other benefits. Such activities, if done in abundance by so many scholars placed in academic institutions as the case seems to be, can be rightly called futile rituals.

The reason for this sad situation is that the Euro-centric educational terms and pedagogy made us mere copycats. As a result, the education itself has become for us mere school learning and not culture. As Tagore said, "Like a box of matches good for various uses, but not the morning light in which utility and grace and the subtle mystery of life have blended in one".

(O) The jargons of educational research, that is a set terms more to the Western psychology than education per se in the normal sense of the word, are repeated ad nauseam. In many cases it is done without conveying a cogent meaning. For example, a research is titled thus: "Emotional Intelligence and Locus of Control of Mainstream and Special School Female Teachers." Sometimes it is done for the form's sake, like repeating esoteric mantras, not necessarily to mean anything for an earnest reader. In this way, the jargons serve as a ruse, both to the researcher himself and a reader of such research, to conceal the emptiness of dozens of type written pages well bound as the final dissertation or report. Read it carefully on and on and no meaning would be forthcoming. It would seem they are not meant for anything. They appear more part of a custom everyone in the discipline seems to respect: professors, supervisors, experts, committees, institutions– all! No one particularly cares to get a proper meaning, much less a new analysis or a new finding or even a new data pertaining to some aspect of education. In the event the combination of the same set of, say, two dozen terms appear again and again in the endless number of research projects undertaken and completed. There is an amazing lack of novelty in the ritualistic repetition of such terms in the research

dissertations, papers and projects alike.

(P) Like the Soviet style social science scholarship, our educational researchers also seem to fulfill a quota in order to write work reports. Preparing a good work-report, as Solzhenitsyn showed in his *One Day in the Life of Ivan Denisovich*, is much more important than the actual work. The work itself seems not of individual or collective concern as the work report. Because, perhaps, the grandeur of the work-report, its said importance for the society etc., would bring reward for a researcher or the institution. The work itself may be shoddy or even a total fake. Therefore, in formal discussions on educational research one often comes to hear or read the assessment reports in terms of only the number of research proposed, accepted, sanctioned, funded and completed. The same numerical reports are indiscriminatingly forwarded and taken as the indicator of the good or not so good state of affairs. As Prof Krishna Kumar noted, most educationists are confused about education as a *concept* and as a *system*.

That may well be a reason why the quality of research works are seldom seriously examined, case by case basis. That who is actually going to benefit from a research seems to be nobody's concern. For reasons unknown, such points are hardly discussed seriously in competent bodies. Still the process goes on. It is but only a notch below the standard Soviet practice in social science studies. Something like a part of lifeless duty new research projects are invited, sanctioned and undertaken. In the same way, with largely the same or similar themes, even titles. Uniformity of the research work all over the country is truly amazing. Taking a macro look of the situation, it seems that generally no one actually reads the completed research projects. They are duly received in designated offices, filed properly, only to be forgotten for ever. Except for the mention of the titles in various reports and journals meant to inform about them. It is another matter, however, that even if someone takes up a newly received research report to study it, he would rarely find anything worth reading. Thus, the whole exercise and its product, like wastepaper bundles, become a burden for us and not nourishment for acquiring knowledge and wisdom.

(Q) In a strict appraisal the ongoing activities under educational research may be considered as a monumental waste of energy and resources, although unintentional. The researchers are simply engaged in ordinary data gathering. Without realising that, "research is not data gathering but contemplation on the data gathered"[14]. Something which most of the researchers in education are

shy or unable to do. They are like travellers not knowing where they are to go. But they are preoccupied in great details about how to arrange the journey, transport, luggage, type of help they would require, food, halt, etc. These things, too, they discuss not as a result of their own open thinking, but as a part of entrusted inert duty. Similar is the situation of educational researchers who spent big time in discussing research, research questions, methodology, research design, time frame, etc. without figuring out what is it all for? Perhaps a part of job doing.

Most faculty members in departments of education involved in research activities believe such a job doing a customary thing as it should be. The researchers are not primarily at fault if they do not fully comprehend their situation as to the worth of their work. In this respect, too, they are like the erstwhile average Soviet scholars: decent, intelligent and perceptible. Still they manufacture, publish, repeat, transmit and multiply platitudes, untruths and largely a meaningless literature devoid of any value. It happens because they have *ab initio* internalised a meaning of educational research in a peculiar sense. A genuine meaning of education in all its facets eludes them. Hence the self-delusion of most educational researchers. As if the meaning of education, as long understood by our great civilisation and fully endorsed by all the great Indian thinkers even in the present age, is a misnomer for them. They fail to comprehend what they are indulged in are pro forma activities, falsely yet authoritatively called educational research. They cannot comprehend it because they lack a standard to check whether some presentation in all its detail is actually a research in education or not. In practice, therefore, educational research is more a name given to a very limited kind of activities undertaken by faculties of education departments of universities and academic institutions. It is doubtful if such activities can stand a hard test of assessment.

(R) Usually in any given subject area a researcher is one who has basic qualification in the subject plus a proven attitude and ability to undertake research. In educational research in our country, as also in the social sciences research, the situation is different. Here it has been a practice to assume anyone competent by holding a formal degree. In itself it may not seem wrong, but given the well-known reality of how degrees are obtained and conferred, especially in social science subjects in various parts of our country, such assumption becomes highly flawed. Therefore, organising research methodology courses for all and sundry is not going to serve any purpose. First, one should find out the genuine,

able and interested scholars, young or old. Only then could a funding or a workshop for them could help. Exactly as a person who has no interest or inclination for warfare has little use of arsenal or training, a person having little interest in educational thoughts and classical literature etc., cannot be a sensible educational researcher. At best he can only be a paper feeder, a part of the malady discussed above.

(S) Educational research has been ritualised also because there is serious lack of proper guidance. There are Research Methodology professors who teach how to do research, but they have never undertaken a research themselves, nor written a readable piece. They only "speak the language of research. Such professors cannot prepare anyone for research."[15] A genuine guide should himself be a good scholar. Otherwise a young researcher under him would not be able to differentiate between valuable from banal. It brings to fore an unattended, yet a central problem: finding right person for a particular work. A serious attention to this issue would help for the betterment of education scenario in general.

At the same time, we must break free from all kind of mental conditioning. We must stop habitually following the deeds and advices of foreign authorities and institutions as to what we should do or not do as regards education in our country. The models, jargons, phrases, goals and means, everything needs an open and critical examination. What the American Psychology Association or an UN agency is propagating as important may or may not suit the reality, needs and temperament of our country. We must ponder what our own contemporary great thinkers observed after acquiring great knowledge, experience and wisdom. "Whether for good or bad, providence has fashioned each race on a different pattern, and to put one into the coat of another results in a misfit."

Therefore, the time has come for us also to break open the treasure-trove of our ancestors and use for our commerce of life. With its help, let's make our future secure, and cease to live as the eternal rag-picker at other peoples' dustbins.

FOOTNOTES

[1] Since our academic activities largely follow the Western paradigms, the observation of a great scholar is pertinent to our situation: "While a great tradition in social science was to express reasoning as clearly and succinctly as possible, the tendency in recent decades has been for social scientists to close themselves off by means of unnecessarily elaborate and strange terminology, often to the point of impairing their ability to understand one another – and perhaps occasionally even to themselves." Gunnar Myrdal, Objectivity in Social Research (London: Gerald Duckworth, 1969), p.42. Thus we are doing the same for at least four decades.

[2] A work done by three scholars. Names of the scholars in this and similar further examples are withheld to save hurt as the examples are in a negative sense.

[3] According to Prof. S Kumar, Dean and Head of the Education department at the M S University of Baroda, a particular-sided research orientation, ignoring so many other issues awaiting study, is mainly due the preferences of the funding agencies. Researchers tend to follow their wishes and leanings.

[4] Prof. Krishna Kumar, Director, NCERT, mentioned in a meeting that a foreign research on this subject is quoted everywhere, because our universities, institutions, state departments have none on it! He also mentioned that data regarding 'private tuitions' in India is utterly sketchy, while regarding Japan the same is available in good detail.

[5] For example, Prof. Mohammad Miyan, the Head of Educational Studies, Jamia Millia Islamia, New Delhi, expressed it in a recent meeting while discussing new research proposals for funding at a national institution.

[6] Prof. Hukum Singh, NCERT, 27 Feb. 2009

[7] Prof M Sengupta, former Head of the Department of Educational Research, NCERT, N. Delhi: "Our system (of educational research) has not gone theory and practice together. I don't know why."

[8] Prof Dahia in an article in the University News, an UGC publication, has mentioned that 80per cent of the Ph.D. theses are 'bogus', 'rubbish' and 'plagiarised'. As reported by Prof R. G. Kothari, M S University of Baroda, in a workshop on research writing held in Sept. 2009 at Vadodara.

[9] Prof. G Ravindra, Deputy Director, NCERT and Prof M Sengupta, former Head of the Department of Educational Research, NCERT expressed concern about this situation on many occasions.

[10] In a meeting of the Advisory Board for the Seventh Survey of Educational Research, 10 Dec. 2007. Repeated again in the general body meeting of the Educational Research and Innovations Committee, 27 Feb. 2009 when he said good research and analyses in education are appearing in non-education journals.

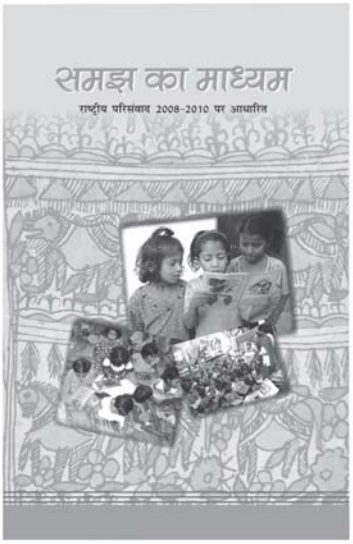
[11] Prof. Krishna Kumar, in a meeting of the Advisory Board for Indian Education Review, 28 Jan 2008

[12] Rabindranath Tagore, "The Centre of Indian Culture", in Towards Universal Man (New Delhi: Asia Publishing House, 1967), p. 212

[13] In a workshop on research writing someone asked a resource person the meaning of 'annotated bibliography'. The resource person, an old professor, could not reply. Many senior faculty members are at a loss to differentiate between a 'research article' and a 'research note', despite they have seen the terms for several years in reputed journals. Is it an inability owing to a foreign language not fully mastered or to mindless repetition of foreign terminology?

[14] Prof. Krishna Kumar, in the meeting of the Educational Research and Innovations Committee (ERIC), 27 Feb. 2009

[15] Prof. Krishna Kumar, in a ERIC meeting, NCERT, 22 May 2009



समझ का माध्यम
रु. 45.00/पेपर बैक/पृष्ठ 56

मानव का निर्माण
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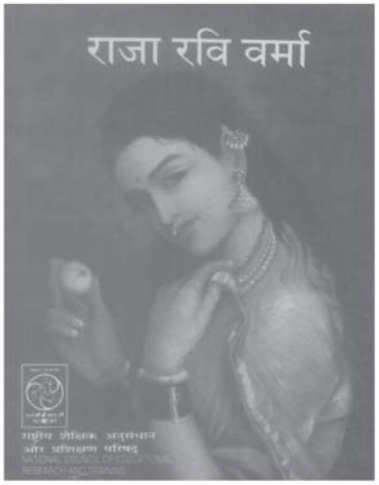

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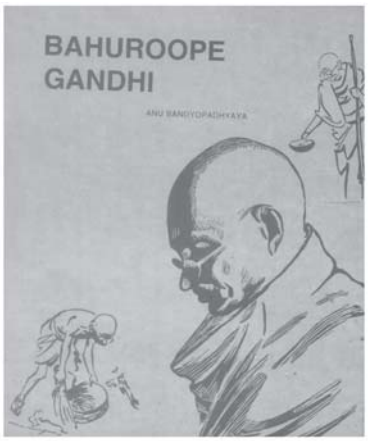

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